Monklands Replacement/Refurbishment Project

OPTION APPRAISAL PROCESS

REPORT ON STAKEHOLDER EVENTS

MONDAY 4 & FRIDAY 8 JUNE 2018

& FINANCIAL APPRAISAL

13 July 18

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1. Introduction

The Monklands Replacement/Refurbishment Project (MRRP) Initial Agreement (IA) was approved by the Scottish Government Health and Social Care Directorates Capital Investment Group (Health CIG) in October 2017 and permission was given to move forward to develop an Outline Business Case (OBC). A key part of this process is a formal appraisal of all the options identified at the Initial Agreement stage which can deliver the stated project objectives plus a do nothing/do minimum option as a comparator.

As part of the agreed option appraisal process two stakeholder events were held on Monday 4 June 2018 and Friday 8 June 2018 at the Excelsior Stadium, Craigneuk Avenue, Airdrie, to assess and score the options identified in the IA in line with Scottish Capital Investment Manual guidance (SCIM) [http://www.pcpd.scot.nhs.uk/Capital/scimpilot.htm] and CEL 4 (2010) [http://www.sehd.scot.nhs.uk/mels/CEL2010_04.pdf]. A group of key stakeholders was established to take forward the review process and the events were attended by 51 scoring delegates.

The process was agreed in advance with Scottish Health Council (SHC) representatives who were in attendance in an observational capacity.

This report sets out the option appraisal process in detail and identifies the conclusions of the process.

2. Background

The IA describes NHS Lanarkshire's ambition to improve services to patients by developing a new clinical model which changes the way services are provided. This is set out in detail in our clinical strategy, Achieving Excellence, which was published in March 2017. The strategy includes proposals which will facilitate a change to the balance of care provided to patients and will include a shift in care away from inpatient treatment to day case, day treatment, outpatient and community based care.

The current accommodation at Monklands is a significant barrier to achieving this strategic objective due to chronic lack of space, on-going risks to business continuity and limitations on what can be achieved within the current footprint. Although the hospital has been the subject of significant investment, £35m over 7 years, which has been necessary to ensure the highest quality of the environment and to mitigate risk to business continuity, there remain a number of significant risks to the quality and effectiveness of services being provided in the current accommodation which are unable to be mitigated entirely.

3. Case for Change

Strategy/Policy Background

The NHSL Achieving Excellence document which details the future service model requirements for NHS Lanarkshire was published in March 2017 following endorsement through public consultation.

The overwhelming majority of responses to this consultation supported the need for investment and redevelopment of University Hospital Monklands. Only a small number believed there was no need to do anything to the hospital.

The factors which respondents felt were important in deciding the future of the hospital were travel and transport, parking, potential for disruption and ensuring the levels of staff and services in the hospital were maintained.

This gave us a mandate to develop an initial agreement to explore these options in more detail.

The key measurables from this process as set out in the initial agreement were used to inform the clinical modelling objectives. These focus on:

- Improving person-centred services
- Improving the safety of patient care
- Improving clinical effectiveness and enhancing patient experience and clinical outcomes
- Improving the quality of the physical environment
- Providing flexible and adaptable facilities across the healthcare system

Any development of MRRP also requires consideration of key national, regional and local strategies, namely:

- A National Clinical Strategy for Scotland (2016),
- A route map to the 2020 Vision for Health and Social Care (2016),
- Health and Social Care Delivery Plan (2016),
- Realising Realistic Medicine (2017),
- Achieving Excellence (2017).

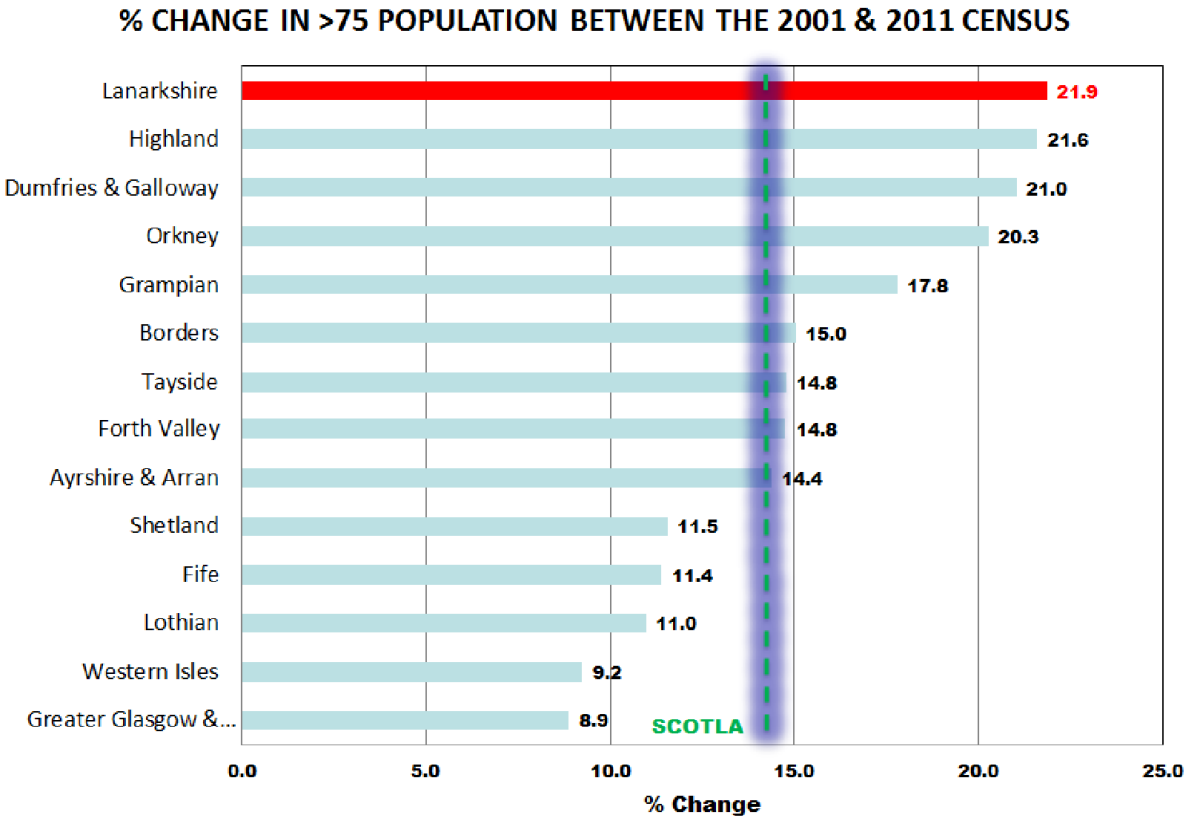
Any redevelopment will ensure that a full Emergency Department (ED) is retained onsite and is supported by critical care and imaging.

Within the IA approval letter is a requirement to take account of the wider requirements of the West of Scotland region when planning a replacement or refurbishment of Monklands. This has been factored into the planning assumptions to ensure that sufficient capacity is provided, or can be made available as strategic plans emerge, and that the facility will fully support the strategic intention to further develop Centres of Excellence.

Clinical Model Development

In November 2017, NHS Lanarkshire began a programme of work with our clinical teams to develop new clinical models which will address the future needs of the population. We developed a process across 15 Work streams with more than 80 clinicians and non-clinicians to formulate a new Clinical Model based on the tenets of "person centred, safe and effective care" and a new clinical paradigm: "minimally disruptive, realistic medicine". In total, over 80 workstream meetings took place to develop the clinical model.

The clinical need for change is being driven by demographic changes. The next two diagrams set out some context around one critical element of this, the increase in the percentage of over 65s which is predicted to rise by approximately 45% by 2025. This is significant as the older population account for a disproportionate amount of bed days. For instance, the over 75 population currently accounts for 7% of the population but take up 46% of bed days.



Given the demographic changes highlighted, with a prediction of a growing over-65 population with complex multi-morbidities, failure to adopt a new clinical approach would lead to sub-optimal care for our patients and the necessity of additional beds, equivalent to a fourth district general hospital in Lanarkshire. This is recognised as unsafe and unsustainable due to a number of reasons including the absence of a workforce to staff an additional hospital.

Development of a new clinical model is therefore a necessity and is the only means by which safe, effective and person centred healthcare will be delivered to our patients and the wider regional catchment area.

In summary, the clinical model has been designed to:

- Ensure the provision of 'best in class' clinical services to our patients
- Deliver the new front door model (Emergency and Assessment Village)
- Meet the challenges in changes in demography particularly increases in demand from over 65s
- Meet the challenges in demand in relation to multi-morbidities
- Support centres of excellence
- Support regional working

Existing University Hospital Monklands Building

The requirement for a new Monklands hospital is based on more than meeting the clinical needs. The existing physical infrastructure also poses significant challenges and risks to NHS Lanarkshire. The current hospital accommodation is a product of 1960s design and 1970s construction techniques. The lack of provision of sufficient space, and of sufficient quality, to develop and expand clinical services prevents NHS Lanarkshire from meeting its strategic objectives and is identified as a key risk to the challenge of improving the quality of outcomes for patients.

Condition and Performance

University Hospital Monklands is an ageing and tired facility which requires a significant on-going and increasing level of investment to make safe and improve its infrastructure (building envelope and services) including heating, water pressure, electrical and mechanical functions. Continued recurring failures of the hospital's assets not only have financial implications but have a direct impact on the delivery of clinical services. In addition, the building contains asbestos, increasing the timescale and disruptive nature of any maintenance required to return an asset to an acceptable condition. Most of the mechanical and electrical infrastructure (for example the electrical systems and building management control system) date back to 1974 and have greatly exceeded their life expectancy and are in need of further upgrading.

A focussed risk-led programme is in place aimed at addressing the highest risks arising from basic building attributes which threaten business continuity; such as roof replacements, theatres refurbishments, improved fire compartmentation which fall well below current standards. This business continuity programme was funded to £5.6m in 17/18 and has been ongoing since 2009. As the programme is risk-led and subject to finite funding availability, in the main it does not and cannot extend to addressing the replacement of the original 1970s fabric and defining aspects of the building, such as insufficient space allocations and inappropriate adjacencies for clinical activity, substandard fire escapes and stairs, ventilation, historic sanitary ware and other Healthcare Acquired Infection (HAI) related issues.

Fire Safety

While considerable investment has gone into improving fire compartmentation and detection across the site, of particular note is the fact that much of the site (especially the two tower blocks) are significantly non-compliant with current Fire Code and building standards. The most noteworthy issue is the lack of provision for progressive horizontal evacuation with appropriate fire compartment sizes, combined with lower than expected adequacy of ability to escape from fire (by today's standards). This is due to the fundamental constraint on the ability to descend narrow stairs.

Whilst major fire events have low probability but high impact, the physical constraints of the narrow access stair network compromises the ability to provide safe patient care. This is especially the case when considering the restricted mobility of patients, who in many cases would need to evacuate on mattresses and would face considerable restriction from the narrow fixed walls of the access stairs.

Infection Control Issues

The main concerns of the Infection Prevention and Control Team are the constraint on isolating patients on the ward, limitations and poor design of ward shower facilities, and regular flooding to ground level departments due to failures of the drainage system.

The design limitations of a typical ward results in operational and infection control issues such as insufficient single bedrooms to isolate patients and increased cross-contamination risks due to short bed spacing.

Each four-bed bay shares only one toilet/shower facility and not all single rooms have en-suite facilities. Infection Prevention and Control risks arise from these limitations as well as the small size of rooms and inadequate ventilation.

The third main infection control risk relates to flooding to ground floor accommodation caused by capacity and design issues with the underground drainage. This occurs several times a month.

Some improvement works have been carried out to improve this, but there remains an intractable risk.

4. Stakeholder Engagement – Pre Option Appraisal

The Scottish Capital Investment manual (SCIM) sets out the process for undertaking a formal option appraisal at OBC stage and also provides guidance on the range of participants who should be involved. This guidance underpinned the development of an option appraisal process and associated programme which was approved by the Project Board and the NHS Lanarkshire Board in December 2017. Approval to proceed to option appraisal was confirmed by the Chief Executive, NHS Scotland on 12 March 2018. A key part of the process is to ensure that an appropriate, and proportionate, level of representation from patients, public representatives, carers and patient interest groups is achieved.

A similar exercise was undertaken internally to ensure appropriate representation from clinicians and service providers. The processes, and the arrangements to select participants, were formally agreed with Scottish Health Council representatives in advance.

A full list of invitees/attendees and programme is appended for information at Appendix 1 and 2.

Stakeholders were issued with a formal invitation, on 16 April 2018, to participate in a scoring capacity at events to be held on Monday 4 June and Friday 8 June 2018. Prior to the scoring events pre-briefing sessions for all participating stakeholders were held at University Hospital Monklands, University Hospital Wishaw and University Hospital Hairmyres. The pre-briefing sessions took place on: 22, 23, 25, 30, 3 1May and 1 June 2018.

The purpose of the pre-briefing sessions was to provide preliminary information on the event programme and clarify the role and responsibilities of a scoring stakeholder. The sessions were attended by 44 representatives.

A formal invite letter and pre-briefing slides are appended for information at Appendix 3 and 4.

In addition a series of presentations to wider stakeholder groups were undertaken in advance of the formal option appraisal events. The purpose of these events was to provide assurance on the detail of the option appraisal process, confirm the options being considered, confirm the participants and set out the process for participant selection.

These events were held on:

Date	Event

Monday 23 April	Staff Briefing Session held at University Hospital Monklands
Friday 4 May	Presentation at the MSP meeting
Monday 7 May	Area Partnership Forum briefing session
Wednesday 9 May	Allied Health Professionals briefing session
Monday 14 May	Staff Briefing Session held at University Hospital Wishaw
Monday 21 May	Presentation to the elected members of NLC
Tuesday 22 May	South Lanarkshire Health and Social Care Forum briefing
Wednesday 23 May	Presentation to the elected members of SLC
Thursday 24 May	Staff Briefing Session held at NHSL HQ Kirklands
Tuesday 29 May	Senior Charge Nurse Forum – University Hospital Monklands
Wednesday 30 May	Presentation to the elected members of SLC
Thursday 31 May	North Health and Social Care management briefing
Friday 1 June	Presentation at the MSP meeting
Tuesday 5 June	North Lanarkshire Health and Social Care Forum briefing
Wednesday 6 June	Allied Health Professionals Advisory Committee

5. Option Appraisal - Day one Monday 4 June 2018

The event was introduced by Graeme Reid, Project Director, who set out the agenda for the day and provided a brief overview of the work undertaken leading up to events. *The full presentation slide deck from Day 1 of the option appraisal is found in Appendix 5.*

Delegates were arranged in small groups to ensure that table discussions could take place during the events and, in particular, during the scoring sessions. Each table comprised an equitable group of delegates representing patients and public, carers, service users and service providers and was

facilitated by an experienced facilitator. Facilitators were drawn from NHS Lanarkshire and Buchan & Associates staff. Table discussions and wider Q&A sessions took place throughout the option event to ensure that delegates had full opportunity seek clarification on any point. -

A detailed presentation on the 'clinical model requirements' was then delivered by Dr Jim Ruddy, Clinical Advisor, Monklands Refurbishment/Replacement Project. This included an overview of that highlighted in section 3 including:

- Setting out the challenges around providing safe and effective healthcare in an aging site.
- Addressing challenges in demography and epidemiology
- Moving to making day case the norm and increasing ambulatory care.
- Improving palliative care and end of life services.
- Providing a safe and welcoming environment for patients.
- Developing centres of excellence.
- Supporting an aging population.

Dr Ruddy explained in detail the process of development of the clinical model and emphasised the high level of collaboration between each of the clinical workstreams. He noted that each of the workstreams produced a "Clinical Output Specification" (COS) detailing their proposed new Clinical Model and therefore their "Target Operating Model" (TOM) to ensure benefits realisation.

Furthermore this process informed the key clinical adjacencies to ensure optimum flow and provide the best patient journey - ensuring patients were seen at the right place, at the right time with minimal transfers between professionals and locations.

These key adjacencies have a significant impact not only on the operation of the hospital but its size and shape.

Following on from the workstreams, two cross check workshops were held May 21 and 24, 2018, to ensure the work was reviewed by representatives from across the wider NHS Lanarkshire workforce. The cross check workshops also included public attendance. This process fed into the Clinical Output Specification (COS) of each group and ensured the new models of care are deliverable.

The culmination of this work in the process so far was the option appraisal process. A major part of option appraisal was an explanation of the proposed clinical model and the extent each of the Options (A to D) could deliver it.

Each of the models was described topographically, clinically and technically e.g. in order to achieve key adjacencies, the new front door model (emergency and assessment village) has a significant footprint on an already confined site. Furthermore some of the options required a decant (and possibly a double decant) of local (endoscopy and David Matthews Diabetes Centre), regional (renal and infectious diseases) and national (pathology with regard to cervical screening) services with the potential for these sites not to return to Monklands following decant.

A key output from this work is the identification of adjacencies for a range of critical clinical departments and from this an assessment of the building size and configuration. The primary output from this is the scale of the physical size of the ground floor which will be required to enable co-location of these key clinical departments.

The optimum size of the ground floor is 35,000m^2 - this will enable all key departmental adjacencies to be achieved and therefore support delivery of the new clinical model.

In summary, the clinical model has been designed to:

- Ensure the provision of 'best in class' clinical services to our patients
- Deliver the new front door model (emergency and assessment village)
- Meet the challenges in changes in demography particularly increases in demand from over 65s
- Meet the challenges in demand in relation to multi-morbidities
- Support centres of excellence
- Support regional working

A further presentation on the service model requirements was then delivered by Iain Buchan, Healthcare Planner, Buchan & Associates. This included:

- Confirmation of the need for service model change
- Development of strategic clinical models.
- Outputs from service planning work and the cross check process
- Target operating models (aims for how speciality areas will operate in the future)
- Service model examples (front door and ambulatory planned/unplanned care model, complex care floor and cancer unit)
- Details of key clinical adjacency requirement (their impact on hospital operation and hospital layout and footprint)

The presentations set out a range of clinical imperatives which had been developed by clinicians from NHS Lanarkshire working in conjunction with clinicians from both health and social Care partnerships. These were developed to improve outcomes for patients, address identified challenges in terms of demand/capacity and facilitate the implementation of NHS Lanarkshire's clinical strategy – Achieving Excellence.

The underlying principle is the development of a holistic approach to healthcare with a particular emphasis on changing the 'front door' model to achieve better patient outcomes by improving the level and type of assessment undertaken on arrival and concentrating a number of services at this point to provide more effective assessment and treatment for patients. This type of model is now well established in modern healthcare and is regarded as a definitive blueprint for future service delivery.

A key element of this approach is a change to the use of physical space with a significant allocation of space aligned to the 'front door' model supporting the development of an 'Emergency and Assessment Village'. The ensures that a number of key clinical departments - emergency department, radiology, assessment beds, critical care, laboratories -are co-located at the beginning of the patient journey and can be configured in the most efficient manner. The impact of this approach delivers significant service improvement, improves patient treatment and outcomes, and makes most effective use of our clinical staff. A particular benefit is that the provision of increased assessment beds will ensure that the number of patients successfully treated at the 'front door' is increased and as a consequence those requiring admission to inpatient accommodation is reduced.

This completely changes the use of space within the hospital. The co-location of these functions and key adjacencies drive the need for a large ground floor area at the 'front door' to deliver this improvement in clinical outcomes and realise benefits in patient safety. The ground floor area is identified as an optimum of 35,000m^2.

Adjacency matrix and Target Operating model example are appended for information at Appendix 6 and 7.

Delegates were given the opportunity to ask questions and discuss any issues arising during the course of the morning to ensure clarity of understanding before moving to the presentation of Options A-D.

A final presentation detailing Options A-D option was delivered by Colin Carrie, Director Keppie Design (Architects). The options approved for consideration within the IA were considered in detail with a focus on their ability to support the new clinical model, quality of patient environment, potential disruption to clinical services, impact on Healthcare Acquired Infection and timescale for delivery assessed. The options are:

- Option A – Do minimum (Existing hospital option)
- Option B – Refurbishment existing hospital
- Option C – New Hospital on current site
- Option D – New Hospital on alternative site

Several themes emerged during the presentation and discussions with delegates. In particular there was a great deal of information on the challenges associated with maintaining/upgrading the existing hospital or building a new hospital on current site due to the significant space constraints. The constraints, arising because approximately 70% of site is already built upon, will require existing departments to be reprovided/relocated before any building work associated with a new or decant facility can be started. This significantly impacts on the space available and, in the case of Options B & C, severely restricts the introduction of the new clinical model as the necessary ground floor space - required to support co-location and adjacency – cannot be delivered.

In addition there were significant concerns that the operation of a live hospital within a construction site, Options B & C, would create disruption for patients and staff and was likely to result in an increased risk of Healthcare Acquired Infections for most patient groups with particular concerns in respect of patients that are immunocompromised eg Renal, Infectious diseases etc. This point was highlighted by a senior consultant in control of infection.

The impact on parking and disruption/compromise to normal operation of the hospital was highlighted with information on potential construction timescales noted. A Scottish Ambulance Service representative noted that this disruption would severely limit site access and egress for an extended period (Options A, B & C).

At this stage the assessment of Option D is purely on its ability to deliver the clinical model and not on specifics around the actual location. Delegates were advised that location specific issues, particularly in respect of transport, access, drive times, etc would be fully considered on Day 2 if Option D emerged as a high scoring option. For similar reasons the locations of alternative sites was not relevant at this point.

It was however noted that all alternative sites would sit within University Hospital Monklands unscheduled care catchment area and would be of a size to fully support the clinical model with the necessary expansion space, as set out in the IA to support our strategic objectives.

The **indicative** timescales for delivery of each option are shown below:

	Option A	Option B	Option C	Option D
OBC approval	July 2019	July 2019	July 2019	July 2019
FBC approval	October 2020	October 2020	October 2020	October 2020
Construction completed	Ongoing	December 2041	December 2029	December 2024
Equipping & commissioning	Ongoing	July 2042	July 2030	July 2025
Migration	Ongoing	February 2043	February 2031	February 2026
Demolition of existing hospital	N/A	N/A	February 2033	N/A

This presentation concluded with a summary of the advantages and disadvantages of each option. The delegates were then given the opportunity to ask questions and make comments prior to reviewing and agreeing the advantages and disadvantages.

These are summarised on the following pages:

Option A – Do Nothing/Do Minimum

Advantages	Disadvantages
• Familiarity • Modern Maggie's Centre and Lanarkshire Beatson buildings retained on site • Established public transport links	• Will not deliver new clinical model • Does not support delivery of the regional model • Current poor adjacencies unchanged • More time and resource required to maintain health care acquired infection (HAI) compliance • No ability to flex of bed usage • Inability to functionally expand • 150 (10%) car parking spaces lost • Continued construction work very close to live occupied hospital: major traffic disruption, noise and dust • Generally very poor compliance with current space standards • Derogates from current Fire Regulations • No endpoint to ongoing maintenance • Poor existing site infrastructure issues remain – e.g. drainage • Significant business continuity issues • Single entry and egress to the site

Option B – Fully refurbish existing Hospital

Advantages	Disadvantages
• Familiarity • Maggie's and Lanarkshire Beatson modern buildings retained on site • Established public transport links • Provides inpatient accommodation to current standards	• Fails to deliver significant elements of the clinical model e.g. front door, planned day care, renal • Does not support delivery of the regional model • Only delivers small proportion of the key clinical adjacencies • Limited opportunities for future flexibility • Only inpatient accommodation provided to current standards (disconnected from main hospital) • Need to relocate Renal, Infectious Diseases and Endoscopy with potential double-decant • Limited improvement in functionality of refurbished elements • Construction work very close to live occupied hospital: major traffic disruption, noise, dust • 13% (150 spaces) loss in parking numbers during construction • Demolition and final roads/parking not complete until two years after occupation • Business continuity issues • Significant disruption for 26 years

Option C – New build on existing site

Advantages	Disadvantages
• Some elements of the new clinical model will be delivered • Familiarity • Maggie's and Lanarkshire Beatson modern buildings retained on site • Established public transport links • Ability to standardise key clinical spaces • All accommodation meets current Scottish health planning standards • New hospital will meet appropriate sustainability targets • Improved staff training facilities • Ability to maximise University status • Potential opportunity for increased staff facilities e.g.childcare	• Failure to deliver key patient benefits and the full clinical model • Significant challenges in delivering key adjacencies within identified expansion zone • Does not delivery all key adjacencies • Need to relocate David Mathews centre, Pathology (national service) with potential double-decant • Maggie's and Beatson relatively isolated and poorly integrated • Potential for complex way finding associated with building over different levels • More time and resource required to maintain health care acquired infection compliance during construction • Increased car parking demand and traffic through construction phase (contractor staff) • Temporary loss of 300 car parking spaces (need for interim parking arrangements) • Construction and demolition work very close to a live operational hospital: major traffic disruption, noise, dust • Demolition, final roads and parking not complete until two years after occupation • Significant disruption for 14 years

Option D – New build on alternative site

Advantages	Disadvantages
• All elements of the clinical model and adjacencies can be delivered • Ability to provide at least 20% expansion • Increased access to green space • Early delivery of patient benefits Achieving Excellence delivered earlier • Ability to delivery of the regional model • Ability to standardise key clinical spaces • Improved staff environment • Ability to maximise University status • Potential opportunity for increased staff facilities e.g. childcare • No construction and demolition work at live, operational hospital • No loss in car parking during construction • All accommodation meets current Scottish health planning standards • New hospital will meet appropriate sustainability targets	• Unfamiliarly • Potential delays in site acquisition • Requirement to establish additional public transport routes.

Scoring

The benefits criteria and scoring process was introduced by Niall Thomson, Healthcare Planner – Buchan & Associates.

The benefit criteria categories were set out in the Initial Agreement and were considered at the Pre-briefing sessions. These support Scottish Government strategic objectives and are:

- Person-centredness
- Improved safety of patient care
- Improved clinical effectiveness
- Enhance the function and quality of the physical environment
- Deliver flexible & adaptable facilities

Niall facilitated a wide ranging discussion on each criterion with group agreement on the final descriptors/assessment measures as follows:

Benefit Criteria	Descriptor	Measure
Person Centredness	The extent to which the option supports service change that reduces the inequalities gap, facilitates realistic medical decisions, allows patients to understand care pathways, and provides improved personal outcomes. Additionally, it allows for best models of care and support to allow seamless transitions through care pathways, recognising equality and diversity. Adjacencies / pathways	• Reduction in delays in transitions between episodes of assessment and care • Supports the effective use of care pathways and transfer of patients across care settings • optimal clinical adjacencies between A&E, combined assessment, imaging and critical care • effective working between front door services and other parts of the hospital e.g. specialty beds

		• ease of access to co-located outpatient and day-care facilities • Minimises / removes cross flows and associated segregations for patients, staff, visitors and facilities management
Improved Safety of Patient Care	The extent to which the option reduces risks to business continuity, through robust service solutions and infrastructure designed to the most modern standards. Reduced risk of healthcare acquired infection through better use of space. Reduced risk to patients through improved fire protection. Provision of care in buildings where no asbestos is present. HAIscribe / disruption / timescales	Hospital environment that supports effective Healthcare Acquired Infection (HAI) issues • Delivers the optimal solution within the shortest timeframe • Minimises service and patient disruption to on-going service provision • Minimises the requirement for on-site service / departmental decants • Minimises the requirement for off-site service / departmental decants

Proved Clinical Effectiveness	The extent to which the option supports the ability to "stream" from community to acute services provision as appropriate and reduce pressure on whole system working. Lowering stress levels for patients, staff, and relatives with easier journeys and care in the right place at the right time. Providing the opportunity to created centres of excellence with better clinical outcomes. Clinical model with key measured benefits.	Reduced number of avoidable inpatient admissions • Reduce hospital length of stay • More treatments delivered on a day care basis • Reduce duplication of inputs e.g. multiple contacts • Ability to attract and retain high quality staff • Ability to optimise travel distances between key departments • Improved patient and staff satisfaction
Enhance the Function & Quality of the Physical Environment	The extent to which the option delivers both improved functional suitability and better utilisation of space. This should be achieved through ensuring there is the appropriate co-location, proximity and inter-relationships of the key departments being considered and with other health and care services. Clearly it should also ensure adherence to current accommodation standards. Meets space and technical standards.	Supports enhanced multi-disciplinary team working • Compliance with current Health specific building standards • Provides facilities that are in good physical condition, eliminating backlog maintenance, and complying with health and safety requirements; • Providing a modern, clean, therapeutic environment • Providing access to external open space • Providing gender specific accommodation and meeting needs of children / young adults

		• Improving way finding including meeting dementia friendly / specific standards
Deliver Flexible & Adaptable Facilities	The extent to which the option is able to accommodate changes in patterns of care and the changing needs of the population over the longer term. It should enable optimal and efficient deployment of all types of resources including staff, facilities and equipment to meet the expansion or contraction of services in the future. It should also provide cost effective services with embedded use of digital solutions to improve inter and intra hospital and wider system interaction. Up to 20% expansion space. Maintaining co-location through expansion.	Ability to deliver the adjacency matrix • Ability to provide up to 20% expansion to accommodate future need • Maintaining key adjacencies in identified expansion zones • Ability to respond to changes in clinical practice, user requirements service changes and development • Ease of delivering standard accommodation for key clinical areas • Ease of adoption of new technology

The group then undertook an exercise to rank and weight the criteria relative to each other to identify their importance and to assess the weighting (out of a total of 100) attributed to each. A methodology, weighted pairs, was adopted to achieve this. The rankings of the criteria were determined by the group as:

Final Rank	Reference	Benefit Criteria
3	A1	Person centeredness
2	A2	Improved safety of patient care
1	A3	Improved clinical effectiveness
5	A4	Enhance the function and quality of the physical environment
4	A5	Deliver flexible and adaptable facilities across the health system

This ranking then allowed the group to define the weighting apportioned to each criterion. This was undertaken collectively using the paired comparison process with the criterion assessed in pairs – 1v2, 2v3, etc. This allows the relative importance of each criterion to be considered and confirmed in the group discussion. The outcome of this exercise is set out below:

RANK GIVEN	BENEFIT CRITERIA / PAIRED COMPARISONS	1 v 2	2 v 3	3 v 4	4 v 5	RAW WEIGHT	%
1	Improved clinical effectiveness	100				100.0	24.7
2	Improved safety of patient care	95	100			95.0	23.5
3	Person centeredness		90	100		85.5	21.2
4	Deliver flexible and adaptable facilities across the health system			85	100	72.7	18.0
5	Enhance the function and quality of the physical environment				70	50.9	12.6
	TOTAL					404.0	100.0

Delegates were satisfied that this weighting did reflect their assessment of the relative importance of each criterion with the top three carrying the majority of the available weighting.

Delegates then undertook the formal scoring exercise allocating a score on a scale of 0 – 10 per criterion – this was completed individually and carried out at each table – with the support of the facilitator. Members of the presentation team, and the wider MRRP Project Team, were available to answer individual queries during this session.

The individual score sheets were collated at the end of the event and an analysis was undertaken to determine the final scoring totals. A summary of the collated weighted scores is shown below:

WEIGHT %	Option A - Do minimum		Option B - Refurbishment of current hospital		Option C - New build on current hospital site		Option D - New build on alternative site	
W	SCORE	W x S	SCORE	W x S	SCORE	W x S	SCORE	W x S
24.7	1.7	41.4	2.7	66.7	5.1	126.3	9.5	235.4
23.5	1.5	35.0	2.3	54.7	4.4	102.7	9.5	223.1
21.2	1.5	31.1	2.3	47.9	4.5	95.9	9.3	197.8
18.0	0.7	11.7	1.7	29.7	4.0	71.9	9.5	171.4
12.6	1.1	13.4	2.7	33.7	5.2	65.5	9.7	121.8
100.0		132.6		232.7		462.3		949.5
RANK		4		3		2		1

The collated weighted scores clearly identify that Option D is the highest scoring option by a significant margin.

Conclusion of Day 1

Graeme Reid confirmed Option D as the highest scoring option to the delegates and advised therefore that an assessment of the alternative site locations for Option D would now take place on Friday 8 June 2018. He noted that all relevant information would be provided on Day 2 and thanked delegates for their input on Day 1.

6. Option Appraisal - Day two – Friday 8 June 2018

The event was introduced by Graeme Reid, Project Director, who set out the agenda for the day and provided a brief overview from day one. *The full presentation slide deck from Day 2 of Option Appraisal is found in Appendix 8.*

Graham Johnston, Head of Planning, set out the process for assessing alternative sites and explained the criteria adopted to assess the suitability of these sites. He explained that a long list of sites was compiled by Montagu Evans, NHS Lanarkshire property adviser, in conjunction with North Lanarkshire Council and noted that this was then assessed relative to the agreed criteria. The long list comprised 37 locations with a final short list of two sites emerging.

He explained that the preliminary assessment, by Montagu Evans, leading to the long list was based upon ability to bring a site to the market (available for purchase) and size criteria. The initial size criterion was set at 30 acres – the size of the current Monklands hospital site.

In order to assess the long list a further set of criteria were then applied with locations which met these being taken forward for consideration.

The additional criteria applied were:

- South Lanarkshire - a small number of the available sites were outwith North Lanarkshire and were therefore rejected.
- Insufficient size – Further to development of the clinical model the size requirement of alternative sites has been increased to 40 acres to accommodate the 'front door' footprint. Sites less than 40 acres have been rejected.
- Outwith University Hospital Monklands catchment – Assurance was given that any alternative location would sit within existing University Hospital Monklands catchment for unscheduled care. Sites outwith this designated area were rejected.
- Impact on other hospitals catchment - this criterion considers the impact on unscheduled care populations of adjacent hospitals. When an alternative site is located close to the boundary of a catchment area there can be unintended consequences for adjacent hospitals (or the primary hospital). A small number of sites were rejected under this criterion.
- Planning issues– The planning status of the location, or ability to achieve suitable planning status, was assessed. Three sites were rejected on this basis
- Road infrastructure issues - this criterion assessed the existing road infrastructure and the ability to upgrade this appropriately recognising value for money financial criteria. 1 additional site was rejected at this point. It is noted that the three sites which were rejected of planning issues would also have been rejected on the basis of this criterion. The criteria were therefore combined.

A summary of the criteria and number of sites rejected is set out below:

The map and table of Shortlisted sites are in Appendix 9 and 10.

	Number of sites	Decision
Total	37	
South Lanarkshire	7	Rejected
Insufficient size (<40 acres)	6	Rejected
Outwith UHM catchment	14	Rejected
Impact on other hospitals catchment	4	Rejected
Planning issues/Roads infrastructure issues	4	Rejected
Remaining Sites	2	To be considered

The delegates were then informed of the location of the alternative sites for consideration - Gartcosh and Glenmavis.

A range of information on the current method of travel for patients, staff and visitors was provided along with a postcode analysis on the home addresses of Monklands staff to identify potential impact on relocating site. Further information setting out the proportion of outpatient attendances by patient's outwith the existing University Hospital Monklands catchment was also provided.

The method of travel information compiled in 2017 by Systra Ltd, Transport consultants, is shown below. It is noted that this is very consistent with previous method of travel studies undertaken in 2009 by Strathclyde Partnership for Transport.

Mode of transport	Percentage
Car	85.12%
Bus	4.98%
Walk	3.72%
Train	3.58%
Taxi	1.82%
Cycle	0.78%
Total	100%

An assessment of where existing Monklands staff lives was undertaken to ensure that any alternative location was within a reasonable travel distance. *The information set out in Appendix 11 shows that both alternative locations are within a short distance of the current site.* It was also explained to delegates that NHS staff are provided with funding to cover excess travel, for a period of four years, if their work base is changed. NHS Lanarkshire will require to ensure that there is a good bus service to and from the existing Monklands locale to the new hospital. If this service is not provided by bus companies, then NHS Lanarkshire will provide a shuttle bus service for staff.

Information on outpatient attendances at Monklands hospital was also provided to set some context around the use of the hospitals facilities for scheduled (planned) care. This shows:

	Annual attendance	Percentage
Within UHM catchment	213,085	73%
Outwith UHM catchment	77,842	27%
Total	290,927	100%

A detailed presentation on the detail of the current site, as a benchmark location, and both shortlisted sites for Option D was delivered by Colin Carrie, Director Keppie Design (Architects). This included a range of information detailing site size, adjacency to roads infrastructure, access to rail network, number of points of access/egress to locations and site history.

This was supplemented by recent drone footage of both shortlisted sites to provide a visualisation of scale, topography and conditions.

A range of information on drive times for University Hospital Monklands catchment population and wider NHSL catchment population was presented by Graham Johnston, Head of Planning, along with information on journey times to a group of surrounding hospitals. The purpose of these datasets was to identify whether there were any significant differential in drive/journey times between the shortlisted options. Information on public transport and access to train stations, and specific train services, was also provided to delegates.

In summary format the key journey time/drive time information present was:

Access for University Hospital Monklands catchment (Unscheduled care)

	Monklands	Gartcosh	Glenmavis
Within 15 minutes	82%	90%	55%
Within 20 minutes	100%	100%	97%
Within 25 minutes	100%	100%	100%

Access for NHS Lanarkshire catchment (Scheduled care)

	Monklands	Gartcosh	Glenmavis
Within 25 minutes	93%	89%	78%
Within 30 minutes	97%	96%	91%
Within 35 minutes	98%	98%	97%
Within 40 minutes	99%	99%	98%

Journey times (minutes) to surrounding hospitals

	Monklands	Gartcosh	Glenmavis
University Hospital Wishaw	30	25	28
University Hospital Hairmyres	34	29	39
Queen Elizabeth University Hospital / Royal Hospital for Children	42	27	38
Glasgow Royal Infirmary	25	18	21
Forth Valley Royal Hospital	29	19	20

On the day a representative from Scottish Ambulance Service explained that travel time between sites is a key factor and that access to the strategic motorway network is very important in supporting this.

Public Transport - Buses

The two alternative locations, Gartcosh and Glenmavis, currently have limited access via public buses. This is a consequence of their current development status, essentially large plots of unused land. With the creation of a new hospital and associated bus terminal, supporting the over 2000 staff plus patients and visitors who will use the hospital every day, the demand for public transport will change fundamentally.

NHS Lanarkshire would expect the private operators of the bus companies to provide significant services to the new facility due to this demand. If this does not match or exceed the level of public bus transport to the existing Monklands hospital site, then NHS Lanarkshire will support services to ensure that there is no drop in service provision.

The mechanism for doing this was noted at the option appraisal event, as it is a requirement of planning regulations for bus services to a new hospital to be comparable with the bus service to the existing hospital. This is known as Section 75 and will require NHS Lanarkshire, as a developer, to make financial provision to achieve this comparability. There is therefore no differential between Monklands and the alternative site options in terms of bus services.

In terms of access to train services it was noted that Monklands and Gartcosh both have access to train stations. Glenmavis does not have a train station. It was also noted by a senior clinician and a

senior GP that travel to the site from Glasgow by train is the primary mode of transport for a large proportion of junior doctors and doctors in training and that this should be considered when scoring.

The group then discussed and agreed advantages and disadvantages for each location. These are noted below:

Monklands

Advantages	Disadvantages
Established existing Public Transport Links Rail in close proximity (not easily accessed on both sides by all abilities) Embedded in the local community 82% Monklands catchment area less than 15 minutes' drive No disruption to existing travel arrangements for those who live locally	Local road capacities serviced by A roads only Poor linkage to strategic road network Single road entry point

Gartcosh

Advantages	Disadvantages
Good access to strategic motorway network New link road to local network (North Coatbridge) Two access/egress roads (Increased resilience) Close proximity to train station (2 train lines) 90% Monklands catchment area less than 15 minutes' drive Significantly improved access time to surrounding hospitals (less than 30minutes) Proximity to 7 lochs community parkland	Local road and junction capacities would require improvement Bothlin burn culvert Remaining steelworks substructure Potential impact of unscheduled care demand from east Glasgow

Glenmavis

Advantages	Disadvantages
Potential size of available site – largest available Two access/egress roads (Increased resilience) 55% Monklands catchment area less than 20 minutes' drive Limited improvement in travel times	55% Monklands catchment area less than 15 minutes' drive Local road and junction capacities would require improvement High pressure gas main No rail links

Scoring

The benefits criteria and scoring process was introduced by Niall Thomson, Healthcare Planner – Buchan & Associates.

The benefit criteria categories were specific to location and were not considered prior to the day. Niall set out a number of proposed benefits criteria and a wide ranging discussion on each took place with group agreement on the final descriptors/assessment measures as follows:

Reference	Title	Description	Key features
B1	**Getting in and out of the site by road**	The extent to which the site location can be easily accessed by patients, staff and visitors by road	Proximity to strategic road network Proximity to local road network number of site access points
B2	**Journey times**	The extent to which the site location is placed in relation to the catchment population of patients and staff	Within 20 minutes' drive time for 85% of the catchment population (specific Design Statement requirement) Proximity to centres of population(improvements in journey times) Proximity to current staff complement
B3	**Public transport infrastructure**	The extent to which the site location is supported by public transport	Proximity to rail network Proximity to road network (bus routes and patient transport)
B4	**Ability to support centres of excellence and regional services**	The extent to which the site can support centres of excellence (identified within Achieving Excellence) and regional services	Journey times to NHSL hospitals Journey times to Glasgow Royal Infirmary, Queen Elizabeth / RHC and Forth Valley

The group then undertook an exercise to rank and weight the criteria relative to each other to identify their importance and to assess the weighting (out of a total of 100) attributed to each. A methodology, weighted pairs, was adopted to achieve this. The weightings agreed are set out below:

RANK GIVEN	BENEFIT CRITERIA PAIRED COMPARISONS	1 v 2	2 v 3	3 v 4	4 v 5	RAW WEIGHT	%
1	Getting in and out of the site by road	100				100.0	29.0
2	Journey times	95	100			95.0	27.6
3	Public transport infrastructure		90	100		85.5	24.8
4	Ability to support centres of excellence and regional services			75	100	64.1	18.6
	TOTAL					344.6	100.0

Delegates then undertook the formal scoring exercise allocating a score on a scale of 0 – 10 per criterion – this was completed individually and carried out at each table – with the support of the facilitator. Members of the presentation team, and the wider MRRP Project Team, were available to answer individual queries during this session.

The process from day one was carried over with no changes to groups or facilitators for consistency.

The individual score sheets were collated at the end of the event and an analysis was undertaken to determine the final scoring totals. A summary of the collated scores is shown below:

BENEFIT CRITERIA		WEIGHT %	Option 1 - Monklands		Option 2 - Gartcosh		Option 3 - Glenmavis	
		W	SCORE	W x S	SCORE	W x S	SCORE	W x S
1	Getting in and out of the site by road	29.0	3.3	94.6	8.7	251.3	6.0	174.1
2	Journey times	27.6	5.6	153.3	8.7	239.8	5.8	159.3
3	Public transport infrastructure	24.8	5.7	140.9	8.1	200.5	3.4	83.4
4	Ability to support centres of excellence and regional services	18.6	4.4	82.2	8.9	165.2	6.1	113.5
	TOTAL	**100.0**		**471.0**		**856.8**		**530.3**
	RANK			**3**		**1**		**2**

The collated weighted scores clearly identify that Option D2 - Gartcosh is the highest scoring option.

Combined Day 1 and Day 2 Scoring

At this point the group discussed, in some detail, the approach to developing a combined total of the scoring of Day 1 and Day2 and, in particular, the relative weighting of both events. This was briefly discussed on Day 1 and concluded that it should be undertaken at the conclusion of scoring on Day 2. The group agreed that final scoring would be:

Day 1 70 %

Day 2 30%

This proportion reflects the importance of delivery of clinical model as assessed on Day 1 and reflects the importance of access to the location as considered on Day 2. This proportion reflects the importance of delivery of clinical model as assessed on Day 1 and relative to the importance of access to the location as considered on Day 2. A summary of the collated scores is shown below:

	Option A - Do minimum	**Option B - Refurbishment of current hospital**	**Option C - New build on current hospital site**	**Option D1 New Build at Gartcosh**	**Option D2 New Build at Glenmavis**
Day 1 Score	132.6	232.7	462.3	949.5	949.5
70% Day 1	**92.8**	**162.9**	**323.6**	**664.6**	**664.6**
Day 2 Score	471.0	471.0	471.0	856.8	530.3
30% Day 2	**141.3**	**141.3**	**141.3**	**257.0**	**159.1**
Collated scores	234.1	304.2	464.9	921.6	823.7

The collated scores clearly identify that Option D1 – New Build at Gartcosh is the highest scoring option.

Conclusion of Day 2

Graeme Reid advised delegates that Option D1 – Gartcosh is the highest scoring option by a significant margin and thanked delegates for their input. He advised that a full financial appraisal would now be undertaken to determine the cost per benefit point.

7. Financial Appraisal

The Option Appraisal considered the non-financial benefits and this section will cover a Financial Appraisal of the options. The Scottish Capital Investment Manual guidelines require that the highest scoring option is confirmed as the leading option by subjecting it to a cost and benefits analysis to assess each option to finalise the leading option. This is to ensure that there is a proper appraisal of value for money and can mean that while an option may not be the least costly option, the benefits it delivers will outweigh the cost and render it the leading option. The opposite is true where the option with the lowest cost may not deliver sufficient benefits to make it the leading option.

For the purpose of this exercise all costs that are incurred in delivering each option will be identified and used in the appraisal:

- The full capital cost of delivering the building net of any land sales
- Life cycle costs to maintain the building over its economic life
- Any additional recurring revenue costs incurred net of any revenue savings
- Any non-recurring revenue cost to support the development of the building

Fuller examples of what is included are noted below:

Capital Costs

- Enabling costs in identifying site, conducting ground condition surveys, demolition etc.
- Land acquisition
- Construction costs for the building including inflation and risk allowance
- Planning condition costs e.g. contribution to road access, temporary car parking
- Architects Fees
- Technical advisor fees e.g. project management, cost advisors, fire safety etc.
- Legal & financial advisors fees
- Medical and non-medical equipment
- Any non-recoverable VAT
- Staff costs for dedicated project team
- Reduction in respect of land sales

Life Cycle Costs

- Costs to maintain the fabric of the building e.g.
- Roof replacement
- Heating and ventilation renewal
- Doors and window renewals
- Electrical systems renewal

- Fire safety systems renewals

Recurring Revenue

- Additional nursing costs for single room accommodation
- Additional cleaning costs for single rooms
- Local authority rates
- Reduction in costs resulting in any efficiencies from improved clinical adjacencies

Non-Recurring Revenue

- Decant costs in emptying old facility
- Disposal of redundant furniture and other equipment
- Removal costs to move staff and related equipment to new facility
- Purchase of minor equipment e.g. waste baskets, soap dispensers,
- Double running costs for move to new facility while still running existing buildings
- Costs to increase nursing levels to the requirements for the new facility
- Induction training for moving to new building e.g. familiarisation of new layout
- Health and safety and fire training

The above is not an exhaustive list but is provided to inform participants at the Option Appraisal Event of the areas that we require to consider when moving to a new hospital facility.

Capital Cost

The costs contained within the IA were revised to take account of factors which had changed since the IA was approved. This review was undertaken with the support of the cost advisors appointed for the project and considered the additional information that we now have in terms of all the options considered. This covered the following main areas:

- Changes to floor area for options B,C and D
- More site specific information in respect of the 2 sub-options considered under D including land purchase, ground conditions, road infrastructure and consideration of other planning requirements

This resulted in a range of capital costs for each option as noted below:

Option	Low £000's	High £000's
Option A – Do Minimum	326,221	334,376
Option B - Refurbishment	851,185	872,465
Option C – New Build @ Monklands	613,492	628,829
Option D1 – New Build @ Gartcosh	562,360	576,419
Option D2 – New Build @ Glenmavis	567,976	582,176

Life Cycle Costs

The costs contained within the IA have been reviewed to reflect the changed floor areas of options B, C and D. And these costs have been profiled over the full life of each option.

Revenue Costs

Clinical service costs for the new build have been calculated to allow for the increased nursing costs required to manage 100% single bed ward accommodation. This has been estimated at 10% of ward based nursing staff in line with increased costs experienced by NHS Greater Glasgow and Clyde in respect of the new Queen Elizabeth University Hospital. This would equate to an increase in nurse staffing costs of £1.9m. Work on developing a more detailed appraisal of these costs is currently being progressed with workforce planning, lead nurse MRRP and finance.

Non- clinical operating costs will increase as a result of the increase in clinical accommodation and the extended working week and the requirement to have 100% single bed provision. This is estimated at £0.25m.

Work on producing a more detailed appraisal of these costs is currently being progressed with property and support services and finance staff. This estimate is primarily to cover increased domestic services costs to provide the additional cleaning requirements resulting from 100% single bed en-suite accommodation and an increase in the use of the building.

Building running costs are also anticipated to increase. This is estimated at £0.75m and covers potential cost increases in local authority rates, utilities, facilities and the requirement to have 100% single bed provision. Work on producing a more detailed appraisal of these costs is currently being progressed with property and support services and finance staff.

While clinical adjacencies under Option D will be optimised to support more efficient working no revenue savings have been assumed at this stage but this will be fully explored during the development of the OBC.

For each option of an appraisal a calculation of its Net Present Value (NPV) should be included. The NPV is the key summary indicator of the comparative value of an option. It is the name given to the sum of the discounted benefits of an option less the sum of its discounted costs, all discounted to the same base date. Where the sum of the discounted costs exceeds the discounted benefits, the net figure may be referred to as Net Present Cost (NPC). These costs should exclude VAT and Inflation.

Equivalent Annual Costs (EAC) are used for appraisal of a capital asset, where there is a need to compare alternative options with different lives. This methodology has been used in the financial appraisal of the options and a cost per benefit point has been calculated to derive the leading option as shown in the Table below. The capital, life cycle, associated revenue costs and land sales were used to carry out an economic appraisal of the options, using discounted cash flow techniques as outlined in the Scottish Capital Investment Manual. In line with this guidance a discount rate of 3.5% has been used in the appraisal. http://www.pcpd.scot.nhs.uk/Capital/scimpilot.htm

Applying this methodology results in a range of costs for each option recognising that there are a number of factors which impact upon the development of final costs. In particular a detailed assessment of the cost of developing and delivering both alternative sites has been undertaken and these costs are set out in Appendix 12.

A summary of the key costs for each option as given below along with the weighted benefit points for each option and the Annual Equivalent Cost per Benefit Point:

	Option A Do Minimum £000's	**Option B Refurbishment £000's**	**Option C Monklands £000's**	**Option D1 Gartcosh £000's**	**Option D2 Glenmavis £000's**
Capital Cost	326,221	851,185	613,492	562,360	567,976
Net Present Cost	166,976	456,473	472,977	463,559	467,655
Annual Equivalent Cost	10,637	17445	17,676	17,449	17,448
Total Benefit Points	234.1	304.2	464.9	921.6	823.7
Cost per Benefit Point	45.437	57.347	38.023	18.934	21.219

8. Sensitivity Analysis

SCIM guidance requires that in order to finally confirm the leading option, a sensitivity analysis should be conducted. Sensitivity analysis was broken down in three sections, Scoring on day 1, Scoring on Day 2 and Financial Sensitivity.

For the two option appraisal scoring days, four sensitivity tests have been undertaken to check the validity of the scoring. These tests review the 'sensitivity' of the outcome based on altering an element of the scoring process - this process is used to confirm that the process undertaken is representative, provides an opportunity to test the robustness of the process and the assumptions adopted and ensures that the outcomes were not influenced inappropriately by any of the groups scoring. The tests applied are as follows:

- Sensitivity test 1, reviews the outcome should all benefit criteria be weighted equally.
- Sensitivity test 2, reviews the outcome should the scores for the top ranked criteria be ignored.
- Sensitivity test 3, reviews the outcome with only patient scorers included (with those NHS staff scoring ignored). This sensitivity test allows a review to determine if patients scored the same or different from the overall group.
- Sensitivity test 4, reviews the outcome should the scorers from the top 10 scoring staff be removed. This test allows a check if the overall score is skewed by these scorers.

For the financial sensitivity analysis, a review was undertaken of the cost differences which would be required to alter the result.

Sensitivity 1 - Equal weighting assigned to all benefit criteria

BENEFIT CRITERIA		WEIGHT %	Option A - Do minimum		Option B - Refurbishment of current hospital		Option C - New build on current hospital site		Option D - New build on alternative site	
		W	SCORE	W x S	SCORE	W x S	SCORE	W x S	SCORE	W x S
1	Improved clinical effectiveness	20.0	1.7	33.5	2.7	53.9	5.1	102.0	9.5	190.2
2	Improved safety of patient care	20.0	1.5	29.8	2.3	46.5	4.4	87.3	9.5	189.8
3	Person centredness	20.0	1.5	29.4	2.3	45.3	4.5	90.6	9.3	186.9
4	Deliver flexible and adaptable facilities across the health system	20.0	0.7	13.1	1.7	33.1	4.0	80.0	9.5	190.6
5	Enhance the function and quality of the physical environment	20.0	1.1	21.2	2.7	53.5	5.2	104.1	9.7	193.5
	TOTAL	100.0		126.9		232.2		464.1		951.0

Sensitivity 2 - Exclude Benefit Scores from Top Ranked Criteria (I.e. Benefit Criteria 1 - Improved Clinical Effectiveness)

BENEFIT CRITERIA		WEIGHT %	Option A - Do minimum		Option B - Refurbishment of current hospital		Option C - New build on current hospital site		Option D - New build on alternative site	
		W	SCORE	W x S	SCORE	W x S	SCORE	W x S	SCORE	W x S
1	Improved clinical effectiveness									
2	Improved safety of patient care	23.5	1.5	35.0	2.3	54.7	4.4	102.7	9.5	223.1
3	Person centredness	21.2	1.5	31.1	2.3	47.9	4.5	95.9	9.3	197.8
4	Deliver flexible and adaptable facilities across the health system	18.0	0.7	11.7	1.7	29.7	4.0	71.9	9.5	171.4
5	Enhance the function and quality of the physical environment	12.6	1.1	13.4	2.7	33.7	5.2	65.5	9.7	121.8
	TOTAL	75.3		91.2		166.0		336.0		714.1

Sensitivity 3 - Include only patient rep scorers

BENEFIT CRITERIA		WEIGHT %	Option A - Do minimum		Option B - Refurbishment of current hospital		Option C - New build on current hospital site		Option D - New build on alternative site	
		W	SCORE	W x S	SCORE	W x S	SCORE	W x S	SCORE	W x S
1	Improved clinical effectiveness	24.7	1.6	32.9	3.4	67.1	5.5	110.0	9.4	187.1
2	Improved safety of patient care	23.5	1.6	32.9	3.0	60.0	5.1	101.4	9.3	185.7
3	Person centredness	21.2	1.6	31.4	2.6	51.4	4.5	90.0	9.0	180.0
4	Deliver flexible and adaptable facilities across the health system	18.0	0.9	18.6	2.0	40.0	4.4	87.1	9.2	184.3
5	Enhance the function and quality of the physical environment	12.6	1.4	28.6	3.2	64.3	5.6	112.9	9.5	190.0
	TOTAL	100.0		144.3		282.9		501.4		927.1

Sensitivity 4 - Remove top 10 scoring staff

BENEFIT CRITERIA		WEIGHT %	Option A - Do minimum		Option B - Refurbishment of current hospital		Option C - New build on current hospital site		Option D - New build on alternative site	
		W	SCORE	W x S	SCORE	W x S	SCORE	W x S	SCORE	W x S
1	Improved clinical effectiveness	24.7	1.6	40.6	2.8	69.2	5.1	126.3	9.4	232.3
2	Improved safety of patient care	23.5	1.5	35.0	2.5	59.1	4.3	101.9	9.4	220.0
3	Person centredness	21.2	1.5	30.9	2.2	46.1	4.3	91.7	9.2	194.2
4	Deliver flexible and adaptable facilities across the health system	18.0	0.7	12.5	1.7	30.4	4.2	75.2	9.4	169.3
5	Enhance the function and quality of the physical environment	12.6	1.2	14.5	2.8	34.9	5.3	66.8	9.6	120.7
	TOTAL	100.0		133.5		239.7		461.9		936.6

Completing the sensitivity analysis for Day 1 shows that for all four sensitivity tests, option D scored the highest by a considerable margin.

Sensitivity Analysis – Day 2

Sensitivity 1 - Equal weighting assigned to all benefit criteria

BENEFIT CRITERIA		WEIGHT %	Option 1 - Monklands		Option 2 - Gartcosh		Option 3 - Glenmavis	
		W	SCORE	W x S	SCORE	W x S	SCORE	W x S
1	Getting in and out of the site by road	25.0	3.3	81.5	8.7	216.5	6.0	150.0
2	Journey times	25.0	5.6	139.0	8.7	217.5	5.8	144.5
3	Public transport infrastructure	25.0	5.7	142.0	8.1	202.0	3.4	84.0
4	Ability to support centres of excellence and regional services	25.0	4.4	110.5	8.9	222.0	6.1	152.5
	TOTAL	100.0		473.0		858.0		531.0

Sensitivity 2 - Exclude Benefit Scores from Top Ranked Criteria (I.e. Benefit Criteria 1 - Getting in and out of the site by road)

BENEFIT CRITERIA		WEIGHT %	Option 1 - Monklands		Option 2 - Gartcosh		Option 3 - Glenmavis	
		W	SCORE	W x S	SCORE	W x S	SCORE	W x S
1	Getting in and out of the site by road							
2	Journey times	27.6	5.6	153.3	8.7	239.8	5.8	159.3
3	Public transport infrastructure	24.8	5.7	140.9	8.1	200.5	3.4	83.4
4	Ability to support centres of excellence and regional services	18.6	4.4	82.2	8.9	165.2	6.1	113.5
	TOTAL	71.0		376.4		605.5		356.2

Sensitivity 3 - Include only patient rep scorers

BENEFIT CRITERIA		WEIGHT %	Option 1 - Monklands		Option 2 - Gartcosh		Option 3 - Glenmavis	
		W	SCORE	W x S	SCORE	W x S	SCORE	W x S
1	Getting in and out of the site by road	29.0	3.9	114.3	8.3	241.2	5.9	172.3
2	Journey times	27.6	5.4	148.2	8.4	230.9	6.3	172.3
3	Public transport infrastructure	24.8	5.9	145.8	7.7	190.7	4.0	99.2
4	Ability to support centres of excellence and regional services	18.6	4.4	82.6	8.7	161.6	6.6	122.1
	TOTAL	100.0		490.7		824.4		565.9

Sensitivity 4 - Remove top 10 scoring staff

BENEFIT CRITERIA		WEIGHT %	Option 1 - Monklands		Option 2 - Gartcosh		Option 3 - Glenmavis	
		W	SCORE	W x S	SCORE	W x S	SCORE	W x S
1	Getting in and out of the site by road	29.0	3.3	94.3	8.5	245.9	6.0	174.1
2	Journey times	27.6	5.6	154.4	8.5	235.0	5.9	163.3
3	Public transport infrastructure	24.8	5.6	138.3	7.8	192.9	3.5	86.2
4	Ability to support centres of excellence and regional services	18.6	4.5	83.3	8.8	162.8	6.4	118.2
	TOTAL	100.0		470.3		836.6		541.8

Completing the sensitivity analysis for Day 2 shows that for all four sensitivity tests, option 2 - Gartcosh scored the highest by a considerable margin.

Financial Sensitivity Analysis

SCIM guidance requires that in order to finally confirm the leading option a sensitivity analysis should be conducted. This has already been outlined in respect of the non-financial benefits. This analysis will now consider the level of change to costs which would be required to change the outcome.

Option A – Do Minimum could not under any realistic circumstances be the leading option as the scale of change in costs is so large that even doubling the capital cost of delivering the leading option would increase the cost per benefit point to £33,923 against the £45,437 for Option A.

Option B - Refurbishment could also not under any realistic circumstances be the leading option as the scale of change in costs is so large that even doubling the capital cost of delivering the leading option would increase the cost per benefit point to £33,923 against the £57,347 for Option B.

Option C – New Build at Monklands could also not under any realistic circumstances be the leading option as the scale of change in costs is so large that even doubling the capital cost of delivering the leading option would increase the cost per benefit point to £33,923 against the £38,023 for Option C.

This leaves Option D2 – New Build at Glenmavis as the only potential option that may become the leading option if costs were to change and it would require an increase in capital costs in excess of 15% (£84.5m) before option D2 became the leading option. The chances of an increase of this magnitude are extremely low as, the design and layout of the facility will be the same on each site. The only factor that could cause costs to increase would be site or planning conditions in relation to the site and this would more likely be a factor in respect of Option D2 – New Build at Glenmavis.

It should be noted that Option D1 still emerges as the leading option for both Capital Cost and NPC per benefit point (BP)

	Option A Do Minimum £000's	**Option B Refurbishment £000's**	**Option C Monklands £000's**	**Option D1 Gartcosh £000's**	**Option D2 Glenmavis £000's**
Capital Cost per BP	1,402	2,798	1,320	610	699
Net Present Cost per BP	713	1,501	1,017	503	567

In conclusion the sensitivity analyses on both scoring and financial appraisal indicate that:

- There is a significant degree of consistency with the scoring processes
- Excluding high scoring delegates does not affect outcome
- Public representatives and clinicians scored the options similarly

- The scale of benefits points for Option D eliminates Options A, B and C
- Costs associated with Option D1 – Gartcosh would require to increase by more than £80m to alter outcome

This provides a high level of confidence in the process and outcome.

9. Outcome

The cost per benefit point indicates that Option D1 – Gartcosh – has the lowest cost per benefit point by a considerable margin and as a consequence is therefore confirmed as the leading option.

This assessment is based upon the application of a rigorous two stage process which ensures the consideration of each of the options against a set of agreed benefits criteria. This process is designed to achieve objectivity and is enhanced by the active involvement of a number of external stakeholders, patients/public representatives, carers and advocates.

The Scottish Health Council has confirmed it is satisfied that NHS Lanarkshire proceed to consultation and has provided detailed evaluation reports on both Day 1 and Day 2 based on delegates responses to SHC evaluation questionnaires. These are set out at Appendix 13 to 18 with most respondents indicating they were given appropriate information in advance to help them prepare for the session and all noting that NHS Lanarkshire clearly explained the reasons for the proposed replacement/ refurbishment of Monklands and the detail of clinical model.

The sensitivity analyses carried out on both the quality scoring and the financial appraisal indicates that the outcome is very robust and would require significant change in scoring and/or costing to affect the outcome. This level of change is deemed most unlikely and consequently the sensitivity analyses information confirms that the selection of Option D1 – Gartcosh as leading ooption is valid.

10. Next steps

This report will now form the basis for a public consultation process which will begin in July 2018 and run for a three month period.

At the end of this consultation period a formal report, including detailed feedback from the consultation will be presented to Lanarkshire NHS Board in autumn 2018.