# NATIONAL TREATMENT CENTRE
# NHS AYRSHIRE & ARRAN

## Strategic Initial Agreement
## August 2021
## V2

Capital Investment Group Approved 13 October 2021

**Website Publication**

## Table of Contents

# 1.0 Context and Background

## 1.1 Context

This Strategic Initial Agreement (SIA) presents an initial proposal to expand the provision of Elective Orthopaedic services across NHS Ayrshire and Arran. It provides a unique opportunity for the Board, as part of the national programme, to expand the local delivery of elective care for the benefit of its residents and the wider West of Scotland. Within the relatively short timescale to produce this initial proposal, the Board has sought to develop a clinically led model to optimise the expansion proposal. This will ensure that it addresses the accumulated backlog of patients waiting in a timely manner, uses resources effectively and efficiently and provides for an improved patient experience.

The impact of the Covid-19 pandemic on elective waiting times, and in particular Orthopaedics has been significant. As at July 2021 there are over 2,000 patients waiting for inpatient and day case treatment which is likely to grow further over the short and medium term. The Board need to urgently address this backlog in a timely manner and therefore seek to develop a proposal that can be put in place in the shortest possible timescale. There is a need however to recognise the workforce challenges that will be encountered in building additional capacity and this will inevitably have a significant bearing on the pace at which the service backlog can be addressed.

This project will likely require some flexibility and the need to expedite the business case process. The Board is committed to working with the Capital and Infrastructure Team within Health Finance, Corporate Governance & Value Directorate to agree an acceptable approach to business case governance and approvals.

On the basis that this SIA is approved, it is the Board's intention to prepare a detailed business case by the end of February 2022.

## 1.2 NHS Ayrshire and Arran Background

NHS Ayrshire and Arran covers an area of some 2,500 square miles and serves a population of around 368,000 citizens (approximately 7% of the population of Scotland). The Health Board area is co-terminus with the three local authorities of East, North and South Ayrshire and includes the island communities of Arran and Cumbrae.

The Board invests around £750 million annually in health improvement and service delivery on behalf of its population. It employs around 11,000 staff (9,000 WTEs).

NHS Ayrshire and Arran currently delivers elective surgical services across its two main acute sites located at University Hospital Ayr (UHA) and University Hospital Crosshouse (UHC), near Kilmarnock.

## 1.3 Elective Care Expansion Programme

The demand for surgical procedures has been steadily increasing in recent years due to changing demographics, epidemiology, and advancing technology which enable more conditions to be surgically treated. National trends reflect an increasing demand over the previous 10 years for common elective procedures, in particular in Orthopaedics, General Surgery, Urology and Ophthalmology. Application of this growth rate to the current population and age profile projections reflects that further activity increases should be anticipated.

The Covid-19 pandemic has placed further significant pressure on the delivery of elective care across Scotland resulting in cancellation of planned surgery, delays in scheduling procedures, restrictions on the number of treatments / outpatient consultations and potentially latent demand arising from delays in patients accessing and being seen in general practice.

The Scottish Government has recognised the challenges faced by NHS Boards in addressing the healthcare demand associated with the projected increase in population and has committed to investment in new elective care capacity through the National Treatment Centre Programme.

Within this context, NHS Ayrshire and Arran, as one of nine Treatment Centre projects, has developed strategic expansion plans to sustainably provide the required elective care capacity to meet the anticipated increasing demand for elective surgery (with the initial focus being on Orthopaedics) across the Board area, and potentially wider West of Scotland, over the next 20 years. Undoubtedly the pandemic has significantly increased the challenge with a sharp rise in the backlog of patients waiting for treatment further increasing the need to expand capacity as rapidly as possible.

## 1.4 Orthopaedic Services

Orthopaedic services are currently provided on both the University Hospital Ayr and University Hospital Crosshouse sites. The West of Scotland (WOS) Major Trauma Network is due to commence on 30 August 2021 having been delayed from March 2021 due to the COVID-19 pandemic.

For NHS Ayrshire & Arran, successful implementation of this programme requires Orthopaedic Trauma inpatient services to be located at Crosshouse Hospital. To free up the required inpatient bed and operating theatre capacity requires local orthopaedic service reconfiguration resulting in the need to concentrate Elective Orthopaedic inpatient services at University Hospital Ayr. This will optimise efficiency and safety for patients and maximise satisfaction for all staff involved in delivering the orthopaedic and trauma service. The Board has developed a formal proposal which sets out the reform aims, objectives and service models to deliver a reconfigured orthopaedic service to enable NHS Ayrshire & Arran to fully participate in the WOS Major Trauma Network.

In recent years, significant pressure on trauma service at UHC in particular has resulted in cancellation of elective patients with the subsequent impact to

both the patient experience and outcomes. Waiting lists for surgery had grown over the preceding 2 years by 8% with data suggesting that at least half of this growth may be as a direct result of elective activity cancellation in favour of trauma activity.

The outcome of this service redesign proposal is the provision of a high-quality sustainable trauma service and trauma unit based at University Hospital Crosshouse (UHC) and a centre of excellence for elective inpatient orthopaedic surgery for adults at University Hospital Ayr (UHA). At the NHS Board meeting held on 16th August 2021 this proposal was formally endorsed. This is important in the context of this investment proposal as it impacts on the potential location of the treatment centre. To support the Board's strategic intent it will be necessary to locate the expansion capacity on, or in close proximity to, the Ayr Hospital campus.

Further details are provided within Section 2 of the document.

### 1.5 Other Relevant Considerations

This Strategic Initial Agreement forms the first part of the case to develop a Treatment Centre within NHS Ayrshire and Arran. The Board is working closely with the Health Finance, Corporate Governance & Value Directorate in Scottish Government to agree the scope of the work required and the business case governance and approvals process.

What makes this project unusual is the potential for the proposed expansion to be delivered through the adaptation of an existing healthcare facility, located at the University Hospital Ayr site. Whilst no final decision has been reached, it is the Board's intention to consider this as part of the formal option appraisal process incorporated within the next stage of the business case process.

In developing this Strategic Initial Agreement the Board have worked closely with the national team to ensure alignment with the NHS Scotland Treatment Centre Programme. The Board have also included the Scottish Government Access Support team.

# 2.0 Current Arrangements

## 2.1 Orthopaedic Services across NHS Ayrshire and Arran

Whilst Orthopaedic Services are currently provided at both UHA and UHC, as set out in the previous section, the Board has recently endorsed a proposal to centre adult elective orthopaedic inpatient care at Ayr. The current arrangements set out therefore reflect this strategic intent and the anticipated impact it will have on service provision and associated resources.

There are some external dependencies in relation to the proposal linked to changes in the provision of Vascular Services across the West of Scotland. This means that the precise timing of the proposed reconfiguration is not yet confirmed, however, it is anticipated this will be completed by the spring of 2022.

The Board undertakes regular benchmarking of elective orthopaedic service quality and performance which shows that it compares very favourably against other hospitals in Scotland.

## 2.2 Service Details

In order to present an accurate baseline service position data has been extracted to show elective orthopaedic activity being delivered by the Board. Activity levels have clearly been significantly impacted over much of 2020 and 2021 as a result of the Covid-19 pandemic. To counter this, data for the calendar year 2019 has been used to provide an analysis of service volumes.

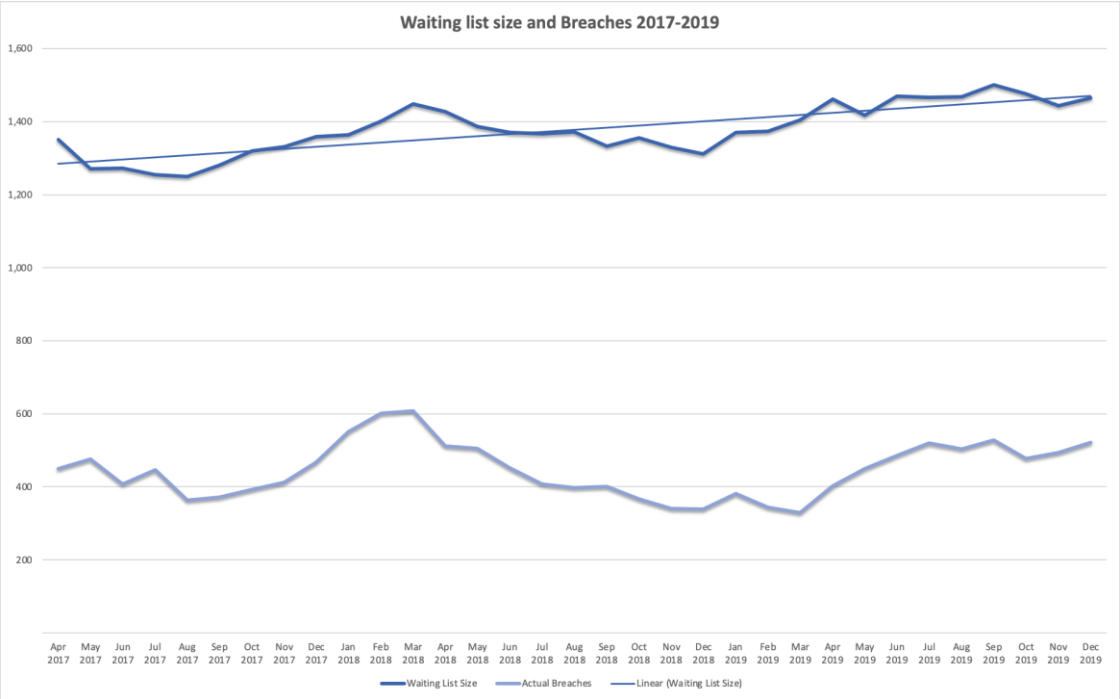
In addition to the activity delivered by the Board additional support is provided through a Service Level Agreement with the Golden Jubilee National Hospital. There is also a small volume of activity delivered by the independent sector. Furthermore the Board undertake waiting list initiatives by providing service outwith normal operating times as well as making use of external providers (Golden Jubilee National Hospital and Independent Sector).

The table below provides a summary of total admitted patient care activity levels delivered over calendar year 2019. It shows where this was delivered, presents inpatient and daycase volumes and also provides a split of arthroplasty (joint replacements) and other inpatient and day case procedures.

| Site / Location | Inpatient | Daycase | Arthroplasty | Other |
|---|---|---|---|---|
| Ayr | 720 | 613 | 584 | 749 |
| Crosshouse | 569 | 1,213 | 438 | 1,344 |
| Golden Jubilee | 377 | 458 | 317 | 520 |
| Other | 20 | 35 | 18 | 37 |
| Total | 1,687 | 2,319 | 1,357 | 2,650 |

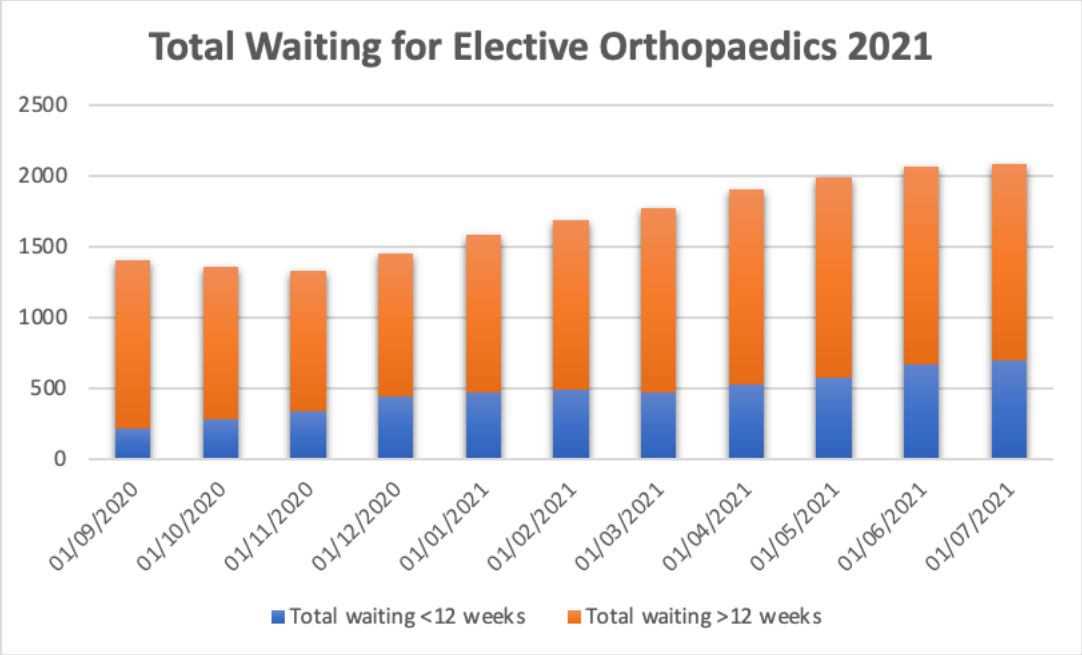
The Board faces major challenges in relation to both the numbers waiting for treatment and the length of time patients are spending on waiting lists.

In the period prior to the Covid-19 pandemic the Board saw a steady increase in the total numbers of patients waiting for treatment. Through the use of waiting list initiatives, funded through significant multi-year non-recurring investment, it was able to stabilise waiting times, albeit at a level that saw significant numbers of patients waiting longer than the 12 week Treatment Time Guarantee (TTG). The diagram below shows the trend in waiting list volume and numbers of patients waiting for the period 2017 to 2019.




From this it can be concluded that there was insufficient supply side capacity to address the delivery of the TTG. Further analysis of the data shows that by the end of 2019 there were a total of 1,465 patients waiting for orthopaedic treatment of which 36% were waiting in excess of 12 week.

The Covid-19 pandemic has had a further, and more significant impact on waiting lists and waiting times. With the need to pause much of the elective care provision across Scotland and focus treatment on patients requiring emergency and urgent treatment has resulted in significant increases in service backlog. The diagram below shows the impact this has had on Elective Orthopaedics – it shows the total numbers of patients waiting over the period from September 2020 to July 2021.




Further analysis of the data shows that as of July 2021 the total number of patients waiting had increased to 2,086 – of these 66% were waiting over 12 weeks, 45% over 26 weeks and 23% over 52 weeks. Over the period September 2020 to July 2021 the numbers of patients waiting over 12 weeks has increased by 17%.

It is anticipated that as a result of continued restrictions the backlog of cases will continue to increase. This would be exacerbated by any further delay to the implementation of the West of Scotland Vascular Service changes.

## 2.3 Service Assets

Orthopaedic activity is delivered from a range of care settings including theatres, inpatient beds and day cases spaces. Following the implementation of the service reconfiguration arrangements the assets and capacity in place to support the service is summarised in the table below.

| Location / setting | Capacity | Area | Anaesthetic room | Other |
|---|---|---|---|---|
| ***University Hospital Ayr*** | | | | |
| Theatre 4 | 10 sessions | 34m$^2$ | Yes | Laminar flow |
| Theatre 5 | 10 sessions | 34m$^2$ | Yes | Laminar flow |
| Theatre 6 | 6 sessions | 44m$^2$ | No | Minor cases only |
| Station (ward) 16 | 22 beds (plus 6 admissions beds) | N/A | N/A | Access to shared day case unit |
| ***University Hospital Crosshouse*** | | | | |
| Theatre | 5 sessions | | | Day case only |

The Elective Orthopaedic service in NHS Ayrshire and Arran compares favourably with the rest of Scotland in terms of performance and productivity.

In 2019/20 Orthopaedic theatre utilisation showed that 93% of available lists for the year were utilised (there is no national target but the Board aim for 95%), and procedural hours performance was 89.3% (national target is 85%). In terms of '4 joint days' in theatre NHS Ayrshire and Arran achieved this on 25% of full day planned arthroplasty sessions compared to a national average of 17% and is working towards a local aim of 40% by 2022.

In terms of utilisation of the bed base, inpatient length of stay for primary hip and knee replacements is in line with the national average performance.

There is very little capacity available within the wider theatre suite at Ayr Hospital, and any limited capacity available would provide little benefit for Orthopaedics as it does not incorporate appropriate Laminar Flow ventilation. The limited available capacity falls significantly short of the demonstrated orthopaedics requirement.

With reference to theatres used by Orthopaedics, as indicated in the table above, Theatre 6 at Ayr Hospital is not equipped with Laminar Flow ventilation which restricts the range of procedures which can be undertaken. In terms of planning future service provision and proposed expansion it will be important to build in appropriate laminar flow provision, specifically to ensure the safe delivery of additional arthroplasty activity.

# 3.0 Need for Change

## 3.1 Problems with Existing Arrangements

Whilst the proposed service reconfiguration set out earlier in this document will help to address some of the challenges faced in delivering Elective Orthopaedics there are a number of issues that will continue to impact adversely on the future service provision. These can be summarised across the following themes:

- Treatment backlogs
- Inadequate capacity
- Service vulnerability to cancellation resulting from other acute service pressures
- Reliance on external service provision
- Difficulties with recruitment and retention of the workforce
- Need to increase throughput (particularly arthroplasty).
- Some accommodation is functionally inadequate

Further analysis is provided in the table below.

| What is the cause of the need for change? | What effect is it having, or likely to have, on the organisation? | Why action now: |
|---|---|---|
| Significant backlog in patients waiting for treatment | Longer waiting times for elective treatment, more breaches of Treatment Time Guarantee and potentially poorer patient outcomes | Backlog will increase further through on-going impact of Covid-19, other service pressures and any delay to the proposed changes to Vascular Services across the West of Scotland |
| Existing capacity is unable to address current service demand | Aside from dealing with backlog of cases we know that existing capacity is unable to cope with on-going core service demand | Patients will face unacceptably long waits for surgery resulting in increased levels of patient anxiety, pain and potentially poorer outcomes. Treatment time guarantees will not be able to be achieved for a significant proportion of patients |

| | | |
|---|---|---|
| Service vulnerability to cancellation resulting from other acute service pressures | Planned orthopaedic cases are cancelled at short notice and treatment is delayed. Patients are added back to waiting list | This will place further pressure on numbers of patients waiting and the ability to meet treatment time guarantees |
| Significant reliance on external provision to support service needs and address future growth in demand | Reduced need for patients to undertake significant travel out of area | Opportunity to be more self sustaining in meeting local population need and supporting wider West of Scotland service needs |
| Difficulties with recruitment and retention of workforce | Lack of staff with specific skills in orthopaedics (specifically arthroplasty) will limit the rate of service expansion | There is an opportunity to build on the developing Centre of Excellence model as a means of attracting skilled staff |
| Need to increase elective care throughput, particularly arthroplasty work | By moving to a '4 joints per day' model the Board can improve throughput, deliver more activity and make better use of resources | This requires improved capacity and infrastructure to deliver consistently |
| Some of the accommodation is not adequate to support service needs | Likely to compromise service provision and throughput | There is an urgent need to provide more storage and better staff facilities. This issue will become more significant as we expand service provision |

### 3.2 Other Drivers for Change

Whilst the key factors impacting on the need for change are highlighted above there are a number of other considerations that will have a bearing on the proposals. These include:

- Caring for Ayrshire - is an exciting and ambitious programme that will transform health and care services across Ayrshire and Arran. The vision is that care shall be delivered as close to home as possible, supported by a network of community services with safe, effective and timely access to high quality specialist services for those whose needs cannot be met in

the community

- Orthopaedic Inpatient Centre of Excellence – as part of the reconfiguration of Trauma and Orthopaedic Services the Board has committed to create a Centre of Excellence focussed on the Ayr Hospital Campus. Its purpose is to enhance the standard of care for orthopaedic patients through a shared commitment to improving the future of service provision through innovation and collaboration.

### 3.3 Investment Objectives

Reflecting on the current service arrangements and the associated challenges, the table below provides a summary of the investment objectives which define the required changes and the steps necessary to achieve these.

| Effect of the need for change on the organisation: | What has to be achieved to deliver the necessary change? (Investment Objectives) |
|---|---|
| Existing capacity is unable to cope with current and future demand resulting in a significant backlog, increases in patient waiting times for surgery and the need for patients to travel for treatment | **Objective 1**<br>Right-size the elective operating capacity to ensure that it matches the ongoing demand requirement<br>Incorporate additional capacity to clear the backlog of patients over an agreed period of time, address future growth, increase local provision of care and contribute towards wider service expansion across the West of Scotland<br>Deliver more care locally reducing the travel burden on patients requiring surgery |
| Streamline scheduled patient flows to improve efficiency, reduce variation and produce high quality results | **Objective 2**<br>A resilient service model, to deliver the best possible patient experience, enhanced productivity and throughput, through improved services and enhanced facilities |
| Minimise the cancellation of elective surgery which is both disruptive to service users and wasteful in terms of Health Board resources | **Objective 3**<br>Provides a 'protected' elective surgical service with good resilience and minimising impact of future unscheduled care / winter / pandemic pressures |
| The need to align future service | **Objective 4** |

| | |
|---|---|
| provision with the Board's strategic aims in relation to the delivery of health and care across NHS Ayrshire and Arran | A solution which supports the Board's strategic vision set out in 'Caring for Ayrshire'.<br><br>Augments the UHA Centre of Excellence for Orthopaedic surgery, enhancing the prestige and attraction of the facility and increasing recruitment prospects |
| A facility which offers functional suitability and effective utilisation of space, good patient flow, easy accessibility, optimal service adjacencies and minimal disruption. | **Objective 5**<br><br>Ensuring there is the appropriate co-location, proximity and inter-relationships of the key service functions with other supporting services. Clearly it should also ensure adherence to current accommodation standards. Can be delivered in a timely manner with minimal disruption to on-going service delivery |

### 3.4 Benefits and Risks

There are a number of benefits and risks associated with this proposal. These are summarised below.

***Key Benefits***

- Eliminate significant backlog of patients waiting for treatment
- Address on-going service demand and meet waiting time requirements on a sustainable basis
- Contribute towards the expansion of elective care capacity across the West of Scotland
- Support and enhance the proposed Centre of Excellence for Inpatient Elective Care on the Ayr Hospital campus
- Provide an environment and associated capacity to optimise patient throughput and make most efficient use of resources
- Reduce the number of patients needing to travel outwith the Board area for treatment

***Key Risks***

- Inability to secure adequate numbers of appropriately skilled and experienced staff
- The timescale for all activities to support business case development is realistic and deliverable

## 3.5 Constraints and Dependencies

There are a number of key constraints and dependencies associated with this proposal. These are summarised below.

***Key Constraints***

- Rate of service expansion is matched by recruitment of key staff
- The proposed approach to business case development can be aligned to the requirements of the Scottish Capital Investment Manual (SCIM) process

***Key Dependencies***

- The proposed Trauma and Orthopaedic reconfiguration is successfully implemented
- Changes to the provision of Vascular Service across the West of Scotland is implemented in a timely manner
- Any assumptions regarding service repatriation are aligned with wider West of Scotland planning and agreed with the national team

# 4.0 Potential Service Solutions / Options

## 4.1 Do Nothing Option

The Do nothing option is reflective of the position set out within the Current Arrangements section of the business case. This is summarised in the table below.

| Strategic Scope of Option: | Do Nothing |
|---|---|
| Service provision: | Significant and increasing backlog of patients waiting for treatment. Baseline historic demand resulting in increasing waiting times and growing backlog of cases. Continued impact of winter and other pressures on service provision. Ongoing need to use waiting list initiatives to manage waiting times |
| Service arrangements: | Current clinical model with all inpatient care plus daycase work delivered at University Hospital Ayr with some daycase work remaining at University Hospital Crosshouse |
| Service provider and workforce arrangements: | NHS Ayrshire and Arran plus GJNH with some Independent Sector support |
| Supporting assets: | 2.6 theatres at UHA plus 0.5 theatres at UHC<br>22 inpatient beds plus access to shared daycase spaces at UHA / UHC |
| Public & service user expectations: | Significant and growing waiting times resulting in delays to treatment. Continued need to travel out of Board area for treatment. Poorer outcomes resulting from extended waits for treatment. |

## 4.2 Alternative Service Solutions

In order to address the challenges set out in the Do Nothing option and to address the requirements of the Investment Objectives, the Board has considered a range of service solutions to support its future requirements for Elective Orthopaedic services.

The Board have adopted a two stage approach in developing alternative service solutions, firstly considering the Clinical Model to support the required service expansion, and secondly to assess the alternative scope of service to be provided. Further details and analysis is provided below.

***Stage 1***

As part of Stage 1, the Board considered a range of solutions which included:

- Expanding use of external providers including GJNH
- Greater use of waiting list initiatives
- Establishing additional capacity within NHS Ayrshire and Arran

As indicated within the current arrangements, the Board already use the GJNH to meet the Orthopaedic service needs of the NHS Ayrshire and Arran population. Although the GJNH are part of the National Treatment Centre Programme and have plans to expand services to support the West of Scotland, these do not include any provision for dealing with the significant backlog of cases. This would therefore require additional expansion which is not in the current plans.

The Board also use Waiting List Initiatives as a means of expanding core capacity and addressing waiting time pressures. As these rely on existing physical and staffing resources, there is little if any capacity within the Board to expand these further. The waiting list initiative approach is voluntary, based on existing staff working additional hours and so is not reliable. Changes in recent years to pension arrangements has also resulted in very little staff willingness to work these additional voluntary sessions.

On the basis of this analysis the Board do not feel that either of these approaches to expansion offer feasible solutions. As such it proposes to explore options that deliver additional capacity within NHS Ayrshire and Arran by expanding the asset base through the establishment of a National Treatment Centre. This will provide access to both the local population and potentially additional capacity to support the wider needs across the West of Scotland.

Considering the above, members of the Board's Executive Team along with key service / clinical stakeholders sought to assess alternative configuration arrangements for establishing additional capacity within NHS Ayrshire and Arran. In the absence of specific implementation options this exercise sought to establish the best way of using the legacy University Hospital Ayr resources with the additional capacity to support expansion. On the basis that it was unlikely these could be co-located there is a need to consider how two physically separated 'units' could operate safely, productively and efficiently whilst maximising service resilience.

As part of this discussion the Board considered two options as follows:

- Option 1 – utilise the current facilities at University Hospital Ayr and the enhanced capacity to both provide inpatient care and daycase procedures

- Option 2 – utilise the current facilities at University Hospital Ayr as the focus for inpatient care (incorporating all arthroplasty work) and use the enhancement capacity to concentrate on the delivery of daycase procedures.

A set of pros and cons for each option were established and then used to assess against the Investment Objectives. The results of this analysis are shown in the table below.

| | Clincal Model Option 1 | Clinical Model Option 2 |
|---|---|---|
| **Advantages (Strengths & Opportunities)** | • Provides increased resilience from future unscheduled care / winter / pandemic pressures through creation of separate, dedicated 'cold' facility<br>• Provides sustainable solution that is not reliant on voluntary activities (e.g. WLIs)<br>• Provides additional, purpose designed inpatient / 23 hour capacity<br>• Provides opportunity to fully support service redesign through use of peri-operative model<br>• Standalone nature results in no disruption to existing services during construction period | • Provides sustainable solution that is not reliant on voluntary activities (e.g. WLIs)<br>• Arthroplasty expertise (all staff groups) focussed on one site<br>• Supports a more efficient staffing model with all staff on single site<br>• Provides additional inpatient bed capacity within current ward accommodation |
| **Disadvantages (Weaknesses & Threats)** | • Splits inpatient service over two locations requiring staffing of 2 separate ward and specialist (arthroplasty) theatres areas<br>• More complex management & control of specialist theatre equipment & consumables (arthroplasties) over two facilities | • More vulnerable to cancellation of elective surgery in response to excess unscheduled care and other pressures<br>• Would require additional UHA theatre capacity and associated infrastructure in an already constrained environment<br>• Peri-operative model of care would not be deliverable for the arthroplasty workload on the UHA site<br>• Requires delivery of two concurrent projects<br>• Disruption to service at UHA during refurbishment of existing UHA facilities |
| **Assessment against Investment Objectives** | | |
| Investment Objective 1 | Yes | Yes |
| Investment Objective 2 | Partially | Partially |
| Investment Objective 3 | Yes | Partially |
| Investment Objective 4 | Yes | Yes |
| Investment Objective 5 | Yes | No |
| **Preferred / Possible / Rejected** | **Preferred** | **Possible** |

Having considered the pros and cons of each option the conclusion has been reached that Option 1 is the preferred model. Although Option 2 would deliver some improvements it maintains the risk of cancelling planned surgery through the impact of wider pressures and has the potential for significant disruption. Option 1 offers better overall resilience for the organisation (potentially for all specialties, not just orthopaedics) through having an annexe facility capable of maintaining inpatient surgery in the event of other adverse service pressures. It provides an opportunity to support service redesign through the implementation of a peri-operative model in the new facility and the ability to provide a dedicated environment for enhanced treatments which will optimise throughput and create the best patient experience. Finally it is minimally disruptive to on going service delivery as it does not require improvements to the current Ayr Hospital theatre complex.

Irrespective of the service solution selected, the Board recognise the real and practical challenges in expanding activity at a rate that aligns with the numbers of staff and skills required to deliver the service expansion in a safe and sustainable manner. This will likely be secured through a combination of recruitment, training and education, upskilling and the use of alternative roles.

This will be a specific challenge in relation to arthroplasty provision where specific workforce skills and experience are critical to successful delivery. It is therefore expected that the initial focus of service expansion will be centred in non-arthroplasty work. Arthroplasty expansion will reflect the rate at which the necessary skills can be secured by the Board although every effort will be made to achieve this in a timely manner. This will have an impact on how the required theatre and inpatient / daycase facilities are utilised. It may also mean that capacity is available to address waiting time pressures in other elective surgical specialties.

***Stage 2***

Having reached a conclusion on the preferred Clinical Model,work was then undertaken to establish a range of alternative service solutions reflecting differing levels of service scope and content.

A summary of the alternative service solutions / options is shown in the table below.

| Solution | Proposed Scope |
|---|---|
| Solution 1 – baseline plus backlog | Service to address historic service demand and eliminate accumulated backlog of patients waiting post Covid-19. |
| Solution 2 – baseline plus backlog and future growth | Service to address historic service demand, eliminate backlog of patients waiting post Covid-19 and address future NHS Ayrshire and Arran demographic growth |
| Solution 3 – baseline plus backlog and growth and all external activity | Service to address historic service demand, eliminate backlog of patients waiting post Covid-19 and address future NHS Ayrshire and Arran demographic growth. Following elimination of backlog then to seek to repatriate activity from the Golden Jubilee as reflected in the Service Level Agreement |

A number of assumptions have been made in assessing the service scale and capacity required to support these solutions. A summary of these is provided in the table below. The Board have worked closely with the National Programme team and the access team within the Centre for Sustainable Delivery in validating the service solutions and associated assumptions to ensure alignment with the other projects and the wider regional perspective.

| Area | Assumption |
|---|---|
| Backlog management | Service backlog (patients waiting over 12 weeks) is eliminated over a 3 year period. Non arthroplasty backlog eliminated within 2 years from opening. Commence addressing arthroplasty backlog 1 year after opening and eliminate within a further 2 years. Assume that growth in backlog continues up to new capacity coming on stream |
| Service expansion | Demographic growth +10% included from year 1 but repatriation only taking place once backlog cleared |
| Theatre operating and throughput | 48 weeks per year 5 days per week operation<br>Arthroplasty 4 joints per all day session on 80% of occasions<br>8% session cancellation rate |
| Elective bed occupancy / length of stay | 85% occupancy<br>3 days average inpatient length of stay |
| Daycase throughput | 1.5 cases per space per day |

### 4.3 Longlist of Service Solutions

Taking together the outputs of the two stages of analysis, the table below summarises each of the proposed service solutions setting out service provision, service arrangements, service providers, supporting service capacity requirements and infrastructure and impact on service users.

| Strategic Scope of Option | Proposed Solution 1 | Proposed Solution 2 | Proposed Solution 3 |
|---|---|---|---|
| Service provision: | Historic demand and clear accumulated backlog<br>Potential to address pressures in other specialties | Historic demand plus future growth and clear accumulated backlog<br>Potential to address pressures in other specialties | Historic demand plus future growth, repatriation of external activity and clear accumulated backlog<br>Potential to address pressures in other specialties |
| Service arrangements: | Inpatient and daycase provided from both UHA and new facility to support expansion delivered on a phased basis | Inpatient and daycase provided from both UHA and new facility to support expansion delivered on a phased basis | Inpatient and daycase provided from both UHA and new facility to support expansion delivered on a phased basis |
| Service provider and workforce arrangements: | NHS Ayrshire and Arran plus GJNH. Enhanced facilities and Centre of Excellence will support recruitment and retention of staff | NHS Ayrshire and Arran plus GJNH. Enhanced facilities and Centre of Excellence will support recruitment and retention of staff | NHS Ayrshire and Arran only. Enhanced facilities and Centre of Excellence will support recruitment and retention of staff |
| Supporting assets: | 4.9 Theatres over backlog period reducing to 3.1 on-going<br>0.3 Enhanced Treatment | 5.4 Theatres over backlog period reducing to 3.7 on-going<br>0.4 Enhanced Treatment | 5.4 Theatres over backlog period reducing to 4.9 on-going<br>0.4 Enhanced Treatment |

| Strategic Scope of Option | Proposed Solution 1 | Proposed Solution 2 | Proposed Solution 3 |
|---|---|---|---|
| | Room<br>25 Inpatient beds over backlog period reducing to 16 on-going<br>Access to day case spaces | Room<br>27 Inpatient beds over backlog period reducing to 20 on-going<br>Access to day case spaces | Room<br>28 Inpatient beds over backlog period reducing to 25 on-going<br>Access to day case spaces |
| Public & service user expectations: | Reduce waiting times | Reduce waiting times plus more care delivered in NHS Board area<br>Frees up some limited capacity for other WoS Boards | Reduce waiting times plus all care delivered in NHS Board area<br>Frees up significant capacity for other WoS Boards |

## 4.4 Assessment of Service Solutions

Each of the service solutions, along with the Do Nothing (existing arrangements) has been assessed in terms of its advantages and disadvantages, fit with the Investment Objectives and affordability check with a view to identifying the preferred solution(s). This is summarised in the table below.

| | Do Nothing: As existing | Proposed Solution 1 | Proposed Solution 2 | Proposed Solution 3 |
|---|---|---|---|---|
| **Advantages (Strengths & Opportunities)** | • Can be delivered with existing capacity / workforce | • Capacity meets on-going service demand<br>• Will address backlog in 3 years<br>• Provides sustainable solution that is not reliant on voluntary activities (e.g. WLIs)<br>• Increases service resilience | • Capacity meets on-going service demand<br>• Provides capacity to address future growth<br>• Will address backlog in 3 years<br>• Provides sustainable solution that is not reliant on voluntary activities (e.g. WLIs)<br>• Increases service resilience<br>• Frees up some capacity for wider WoS<br>• Provides some potential to address waiting time pressures in other specialties | • Capacity meets on-going service demand<br>• Provides capacity to address future growth<br>• Will address backlog in 3 years<br>• Provides sustainable solution that is not reliant on voluntary activities (e.g. WLIs)<br>• Increases service resilience<br>• Delivers all care within NHS Ayrshire and Arran<br>• Frees up significant capacity for wider WoS<br>• Provides significant potential to address waiting time pressures in other specialties |
| **Disadvantages (Weaknesses & Threats)** | • Offers no additional capacity and will therefore not meet on-going demand<br>• Will not address significant service backlog<br>• Continued reliance on WLIs and external provision<br>• Continued impact of wider service pressures | • Creates need for significant workforce enhancement<br>• Continued reliance on WLIs and external provision<br>• Would potentially have surplus capacity beyond the period to clear the backlog | • Creates need for significant workforce enhancement<br>• Continued reliance on WLIs and external provision<br>• Would potentially have surplus capacity beyond the period to clear the backlog | • Creates need for significant workforce enhancement |

| | Do Nothing: As existing | Proposed Solution 1 | Proposed Solution 2 | Proposed Solution 3 |
|---|---|---|---|---|
| | **Does it meet the Investment Objectives (Fully, Partially, No, n/a):** | | | |
| Investment Objective 1 | No | Partially | Partially | Yes |
| Investment Objective 2 | No | Partially | Partially | Yes |
| Investment Objective 3 | No | Partially | Partially | Partially |
| Investment Objective 4 | No | Partially | Partially | Yes |
| Investment Objective 5 | No | Yes | Yes | Yes |
| | **Are the indicative costs likely to be affordable? (Yes, maybe / unknown, no)** | | | |
| Affordability | Yes | Unknown | Unknown | Unknown |
| **Preferred / Possible / Rejected** | **Rejected** | **Possible** | **Possible** | **Preferred** |

Having reviewed the assessment of the service solutions the Board's preferred strategic solution is Option 3 - Creation of a new Treatment Centre for Elective Orthopaedics in-patient and day surgery located on, or in close proximity to, the Ayr Hospital Campus.

Whilst Options 1 and 2 do provide additional capacity they provide limited future flexibility in terms of wider NHS Ayrshire and Arran and West of Scotland requirements. They also run the risk of having underutilised capacity beyond the period required to clear the service backlog.

Option 3 addresses on-going elective care demand, service backlog and growth and all activity currently delivered outwith the Board area thus reducing the need for patients to travel outwith the area for surgery. It provides a sustainable solution over both the period required to clear the service backlog and to meet the on-going needs of NHS Ayrshire and Arran. It also frees up capacity across the West of Scotland to address waiting time pressures in other Boards.

As detailed above this option fully meets all but one of the investment objectives. If approved, this solution will be taken forward to the next stage in the business case process where the implementation of the solution shall be further developed and tested for value for money.

A summary of the proposed service solution is provided in the tables below which shows, for Elective Orthopaedics, what the Board currently has, what the impact of the service changes will be and what is needed to deliver the proposal. Table 1 shows the position associated with clearing the accumulated backlog of patients waiting over 12 weeks. Table 2 shows the on-going position where, having cleared the backlog, the Board are meeting the total service demand for their residents. This provides a small amount of headroom to support waiting time pressures in other specialties and / or provide additional support to the wider West of Scotland.

| Metric / requirement | Current state | Future state | Impact / change |
|---|---|---|---|
| NHS A&A activity delivered[1] | 3,115 | 4,676 | +1,561 |
| - Arthroplasty activity delivered | 1,022 | 1,618 | +596 |
| - Other activity delivered | 2,093 | 3,058 | +965 |
| Patients waiting over 12 weeks | 1,388 | 0 | -1,388 |
| Theatre provision | 3.1 | 5.4 | +2.3 |
| Bed provision (excluding day case) | 22 | 28 | +6 |

1. Future state reflects position at end of 2025 when it is anticipated all of the backlog will be cleared
2. Excluding access to Enhanced Treatment room

| Metric / requirement | Current state | Future state | Impact / change |
|---|---|---|---|
| NHS A&A activity delivered[3] | 3,115 | 5,109 | +1,994 |
| - Arthroplasty activity delivered | 1,022 | 1,806 | +784 |
| - Other activity delivered | 2,093 | 3,303 | +1,210 |
| Patients waiting over 12 weeks | 1,388 | 0 | -1,388 |
| Theatre provision | 3.1 | 4.9[4] | +1.8 |
| Bed provision (excluding day case) | 22 | 25 | +3 |

3. Future state reflects position to 2035 and includes repatriation from GJNH which frees up capacity for other Boards
4. Excluding access to Enhanced Treatment room

### 4.5 Implementation Options

Although implementation options would normally be assessed as part of the Option Appraisal within the Outline Business Case (OBC) it is worth highlighting the likely list of options to be considered. In light of the Board's strategic intent to focus elective Orthopaedic services on the University Hospital Ayr Campus any off site options not in close proximity to Ayr Hospital are unlikely to be feasible. The provisional list of options to be considered at the next stage are:

- Do nothing
- Buy local premises and refurbish for health use
- Refurbish another facility owned by NHS Ayrshire and Arran
- New build (including a modular option)

These will be subject to a full and robust option appraisal at next stage in the business case process.

# 5.0 Proposed Delivery Arrangements

## 5.1 Procurement Strategy

The procurement strategy will be developed to address the following requirements:

- Delivery of a high quality, sustainable and technically compliant facility that meets the needs of the service.
- Delivery of a fully commissioned and defect free facility that can be operated effectively following handover.
- Utilisation of an experienced supply chain of contractors, consultants and specialist with the appropriate technical capability and fair working practices, to design and construct a successful facility.
- Appointment of a project team with the capacity and capability to deliver the project at pace, to achieve an early operational date.
- Ensure compliance with public procurement legislation, guidance and codes of practice.
- Ensure best value is achieved for the commissioning authority, including where possible the delivery of community benefits.
- Where possible provide opportunities for suppliers and contractors from the local community as outlined in the Ayrshire Community Wealth Building strategy.

Procurement action will be undertaken in conjunction with the Procurement Department specialists within NHS Ayrshire & Arran.

Consultation and discussion has been held with Health Facilities Scotland to utilise Frameworks Scotland 3 where practicable. Should the use of this framework not be able to meet the deliverables set out in this procurement strategy, in particular the delivery of the project at pace, it is intended that other forms of established public frameworks shall be considered including Hub South West, Crown Commercial Services or SCAPE.

It is anticipated that the construction works shall exceed the World Trade Organisation's (WTO) Government Procurement Agreement (GPA) threshold of £4,733,252 (formerly recognised at OJEU Threshold) and therefore the use of an established framework route to market is essential to expedite the procurement programme. The selection of consultants will utilise existing frameworks or tendering as appropriate to ensure that best value is achieved.

It is proposed to appoint a main construction partner end September / early October 2021 who would take on responsibility for completing the design and specification of the project and take on the appointment of the design team who have been developing the feasibility proposals. The construction partner would therefore enter into a contract with the Board for the design and construction of the project. The selection of the construction partner would include both price and quality criteria, balanced to meet the project deliverables. The price element would include the contractor's on cost, profit and prelims that would seek to recover on the works.

Following appointment, the construction partner would be responsible for working closely with the appointed independent cost advisor to tender individual packages of

work, to achieve best value and ensure that appropriately skilled sub contractors are appointed. The construction partner would remain responsible for the whole project, including the performance of their subcontractors. The form of contract has still to be selected but it is anticipated to utilise NEC4 Option A or Option C or equivalent, on a collaborative approach.

Initial market intelligence has indicated that the construction market is subject to considerable risk and pressures around the availability of materials and labour. This is impacting upon contractor and supplier engagement and submitted tender prices. It is anticipated that a proactive procurement approach will be implemented to mitigate these risks and ensure positive engagement by the supply chain.

Further work will be undertaken at the next stage of the business case process to confirm the Board's proposed procurement arrangements.

## 5.2 Management Arrangements

The National Treatment Centre project will be delivered within NHS Ayrshire and Arran's well established procedures and protocols around the governance, scrutiny and management of major capital projects.

Approval of the project is reserved to NHS Ayrshire & Arran's Board, with scrutiny undertaken by a number of committees and groups which meet at a regular frequency, and listed hierarchically as follows:

- NHS Board
- Performance Governance Committee
- Corporate Management Team
- Infrastructure Programme Board
- Infrastructure Programme Board Advisory Group
- National Treatment Centre Programme Board

These groups include representation from across the organisation including Acute, Finance, Health & Social Care Partnerships, Workforce / HR, and Infrastructure and Support Services (Capital Planning, Property, Digital, Clinical Support Services, Estates), to ensure that appropriate experience and specialist knowledge is available to scrutinise the project and ensure that the key deliverables are achieved.

The National Treatment Centre Project Board will be the primary project management and scrutiny body and will be chaired by a Senior Responsible Officer (SRO), the Director of Acute Services. This group shall ensure that all workstreams are co-ordinated and progress as programmed to meet the project objectives. Regular performance and monitoring reports prepared by the project team will be reviewed and scrutinised.

The Infrastructure Programme Board and Infrastructure Programme Board Advisory Group shall ensure that the project aligns with NHSA&A's Caring for Ayrshire Programme and the investment meets the strategic aims of the Board and Partnerships.

The Corporate Management Team, Performance Governance Committee and Board shall scrutinise the project, particularly around capital costs, revenue costs and workforce.

In addition to this internal NHSA&A Governance approval will be required from the SGHSC Capital Investment Group at key project decision points including the Strategic Initial Agreement and Business case. It is noted that to deliver the project at pace, some Scottish Capital Investment Manual (SCIM) stages will need to be combined to accelerate the project programme (aggregating the Strategic Assessment and Initial Agreement into a Strategic Initial Agreement and combining Outline and Full Business Cases into a single stage).

Consultation will be undertaken with HFS to meet the requirements of the NHSScotland Design Assessment Process (NDAP) and NHS Assure. The team are also liaising with a number of groups aligned to the National Treatment Centre Programme and NTC staff have been included within project groups and workstreams.

The NHSA&A project team is supported by external professional consultants including Healthcare Planners, Property and Legal Professionals, and an extensive Design Team to ensure that the project is appropriately resourced with the necessary capability, capacity and expertise. These external consultants will be managed by an experienced inhouse Property and Capital Planning team, familiar in the delivery of major health capital projects.

### 5.3 Draft Timeline

The table below summarises the key activities and anticipated milestones for the project covering the period from Strategic Initial Agreement completion through to the proposed facility becoming operational. Note that for the purposes of the timeline presented, this is based on the work undertaken in relation to the “purchase and refurbishment of alternative facilities” implementation option. It is anticipated that the other options would have a longer overall duration.

| Activity / milestone | Timeline |
|---|---|
| Strategic Initial Agreement completed | 27/08/2021 |
| NHS Ayrshire and Arran internal governance | 02/09/2021 |
| Strategic Initial Agreement to Capital Investment Group | 10/09/2021 |
| Capital Investment Group meeting | 06/10/2021 |
| OBC / FBC development | Sep 2021 to Feb 2022 |
| Appointment of Contractor | Sept / Oct 2021 |
| NHS Ayrshire and Arran internal governance | Feb 2022 |
| OBC / FBC to Capital Investment Group | Feb 2022 |
| Capital Investment Group meeting | Feb 2022 |
| Construction programme | Mar 2022 to Oct 2022 |
| Commissioning and go live | Oct 2022 |

# 6.0 Financial Implications

## 6.1 Overview

Some initial work has been undertaken by the Board to provide a high level indication of the likely capital and revenue costs associated with the National Treatment Centre NHS Ayrshire and Arran. These are presented as a range of costs reflecting the likely implementation options set out in section 4.4 of this proposal. It is proposed that further, more detailed work is undertaken on each of these options as part of the next stage in the business case process.

Further details of estimated capital and revenue costs is provided below.

## 6.2 Capital Costs

Initial capital costs have been developed by the Board's appointed design team reflecting the range of possible implementation options.

The initial work undertaken estimates initial capital costs in the range of £11.8m to £14.5m.

The estimated expenditure is based on cost allowances applied to an indicative building footprint and does not reflect any detailed design work which will be undertaken at the next stage. Costs reflect current day fixed prices at 3rd Quarter 2021 levels and do not include any future inflation.. The costs include a design and construction contingency of 10%.

## 6.3 Revenue Costs

Estimated revenue costs have been developed by the Board's finance team reflecting the required capacity and range of additional expenditure headings. Depending on the final working arrangements it is estimated that additional annual revenue costs will be between £7.4m and £8.8m. Scottish Government have separately agreed to fund £1.25m to increase elective orthopaedic capacity at University Hospital Ayr.

These costs represent a fully operational solution and will build up over time reflecting the rate at which additional capacity can be brought on stream which will largely be influenced by the pace of staff recruitment.

It is expected that the revenue funding required to staff and run the NHS Ayrshire and Arran centre will be provided as additional resources to the Board from Scottish Government funding earmarked for treatment centres.

# 7.0 Next Steps

## 7.1 Proposal for Next Stage of Business Case Process

On the basis that this strategic paper demonstrates a credible case to progress as quickly as possible to the next stage, the Board is committed to working with the Capital and Infrastructure Team within the Health Finance, Corporate Governance & Value Directorate to explore options to expedite the business case processes.

On the basis that an approach can be agreed it is the Board's intention that, by the end of February 2022, it will develop and submit a detailed business case incorporating the following:

- A full option appraisal to assess the alternative implementation options in terms of value for money
- Review and update capital and revenue cost estimates
- Identify a preferred implementation option
- Confirm the proposed procurement route for the project
- Set out the anticipated timescales and milestones up to operational go live

In developing the next stage business case the Board will continue to work with a range of internal and external stakeholders including the Design Team and ensure engagement with Health Facilities Scotland and NHS Assure.