



NHS 24: Technology Transformation Programme

Programme Business Case

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Version Control

Version	Author	Comments
V1.0	Margo McGurk	First draft
V1.1	Alan Blackburn	Updated, with assigned roles
V1.2	Paula Speirs	Updated for Board – outlines description of content that will sit within each of the five cases

Introduction

This document sets out the programme level business case for the NHS 24 Technology Transformation Programme (TTP), using the Five Case approach set out within HM Treasury and Scottish Capital Investment Manual (SCIM) for the development of business cases.

NHS 24 is preparing this Programme Business Case (PBC) using the well-established Five Case Model. This approach will provide the NHS 24 Board and other decision makers and stakeholders with a proven framework for structured 'thinking' and assurance that the programme:

- Provides a strategic fit and is supported by a compelling case for change. This dimension of the five cases focuses on the need for the investment and key objectives for the TTP and is the '**strategic case**' section within the PBC.
- Will maximise social value to society through the selection of the optimal combination of projects and related activities and will consider whether best value can be demonstrated. This dimension of the five cases focuses on options appraisal and is the '**economic case**' section within the PBC.
- Is commercially viable and attractive to suppliers. This dimension of the five cases focuses on the development and ensuring that appropriate contractual and commercial arrangements are in place and is the '**commercial case**' section within the PBC.
- Is affordable and is fundable over time. This dimension of the five cases focuses on the whole life costs, and affordability, of the preferred option and is the '**financial case**' section within the PBC.
- Can be delivered successfully by NHS 24 and our partners. This dimension of the five cases focuses on the implementation arrangements for the preferred option and is the '**management case**' section within the PBC.

This Technology Transformation Business Case is being developed as a Programme Business Case, rather than Project Business Case, because there are a number of inter-related workstreams and activities that will require to be scoped, planned and costs justified from the outset and therefore managed as a Programme.

1. EXECUTIVE SUMMARY

This section will be completed following completion of the Five Cases. It will set out a summary of each case and a summary of the output of the options appraisal process, including the preferred way option.

2. STRATEGIC CASE

This section will be set out a clear statement of the need for this investment and demonstrate alignment and fit with delivery of our strategic portfolio.

The purpose of this Strategic Case is to make the case for change and to demonstrate how it provides strategic fit with NHS 24 and NHSScotland stated strategic priorities.

To make this robust case for change, we will set out a clear understanding of the rationale, drivers and objectives for this investment. This will include:

- an understanding of the existing arrangements (Business As Usual (BAU)), business needs (related problems and opportunities); potential scope (the required organisational capabilities); and*
- the potential benefits, risks, constraints and dependencies associated with the proposal.*
-

This Strategic Case will look to demonstrate that the proposal is required and that it will further the aims and objectives of the organisation. Essentially the business case requires to prove that there is a clear case for change.

2.1 Strategic Context

Note that the following is work in progress, using content from May 2019 Board paper, as starting point. Work will continue, as set out in the above introductory narrative, clearly articulating the case for change with key stakeholders.

The case for change is fully made in the context of the ageing infrastructure and application suite currently provided. The infrastructure and applications underpinning the delivery of the technology platform which support the core service have been deployed and operational since August 2013.

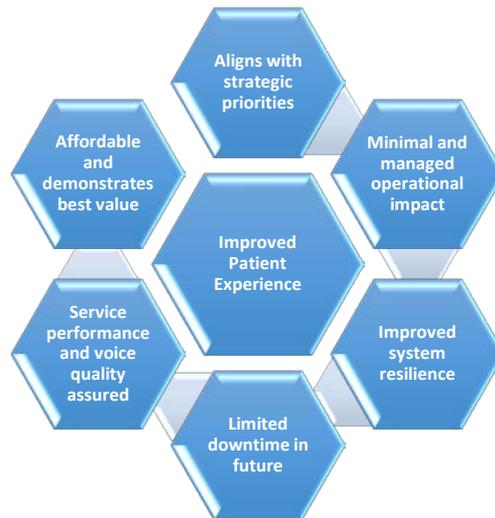
It is imperative that NHS 24 ensures that this final aspect of the new direct contracts is considered and agreed through a full options appraisal with a high level of scrutiny

to enable the final decision on this matter to be taken in the context of what has happened in the past but also to be clear that whatever is agreed now will bind the organisation to a material change to the contracts which will be in place until 2025.

This appraisal will be focused on delivering the best possible level of patient experience and quality of care through the delivery of enabling technical infrastructure and applications which will support the organisation in delivering its key strategic objectives. Given the scale of investment the business case will deliver a financial and economic model over a 10-15 year period.

2.2 Investment Objectives

Through a number of stakeholder discussions, we have identified the following as key objectives for the required investment.



- To create enabling technical infrastructure and applications which **maintain and improve patient experience**.
- To ensure a clear path to deliver the change with **minimal and managed service delivery operational impact**.
- To ensure the change **aligns with strategic priorities including digital transformation**.
- To ensure **service performance including voice quality will be delivered to acceptable standards**.
- To ensure there will be **limited downtime in future to support system upgrades and patching**.
- To deliver **improved system resilience**.
- To ensure costs are **affordable and demonstrate best value in the short and long-term** (modelling over a 10-15 year period). To also ensure that there is **flexibility in the commercial model** to avoid fixed costs regarding infrastructure and legacy applications, and which enables funding streams for change and improvement.

We have also agreed a further two **critical success factors** that need to be addressed:

- To ensure a clear path in **determining the level of change to current processes and staff training** requirements.
- To deliver **productive opportunities due to more efficient use of systems**.

3. ECONOMIC CASE

The purpose of the economic dimension of the business case is to identify the proposal that delivers best value. To do this, we will identify and evaluate a range of realistic options, in terms of how well they meet the identified spending objectives and critical success factors for the TTP.

The 'short-list' will include the 'Do Nothing' option, as a baseline option against which to compare all other options. We will also describe a "Do Minimum" option. To ensure an optimal best value solution, we will look to identify options on scope, solution, service delivery, implementation and funding. Developing the "Do Nothing" option will enable us to measure and monetise the benefits and risks of the other identified options.

Following a number of meetings with key internal stakeholders and our suppliers, we have now developed five options, which are being worked up in more detail. The key aim of the scoping and options definition stage is to set out a full detailed description of each option and to establish overall feasibility and timeline. As part of the evaluation, we will consider the economic costs and impacts associated with each option, along with Net Present Values to identify the preferred option.

Sensitivity analysis will also been undertaken to test the robustness of key assumptions including cost, level of optimism bias and impact estimates.

3.1 Short-listed options

Following a number of stakeholder workshops, and discussions with suppliers, we have identified six options for further development and evaluation:

3.1.1 Maintain Existing Estate

3.1.2 On Premise - Like for like – New for Old

3.1.3 Hybrid Private Cloud (BT & SAP Apps) and Public Cloud (Azure)

3.1.4 Hybrid Private Cloud (BT & SAP Apps) with replacement of SAP Contact Centre (telephony)

3.1.5 Full Public Cloud ‘Lift & Shift’

3.1.6 Full Public Cloud Re-architected for Cloud Environment

Our work to refine the options is continuing. We have outlined below the current narrative for each of the six identified options. The final version of this business case will provide a full description of each option, together with a SWOT assessment and a conclusion of how well each option meets the stated objectives and critical success factors agreed for the programme.

3.2 Summary of options (draft)

Option 1	Maintain Existing Estate
	<ul style="list-style-type: none"> • This is the Do Nothing option to sustain the current infrastructure and applications on a best endeavours basis. • This would result in a gradual degradation of the service. • Back office telephony is out of supported and on a best endeavours basis. • Email exchange infrastructure would continue to be managed by NHS 24. • O365 under the national programme being delivered by NSS is out of scope. • Continue with existing estate with minimum level patching and extended support for critical aspects on a best endeavours basis. • Scheduled and unscheduled interruption to service will continue for planned and unplanned downtime. • <u>This is an active: passive solution, so there would still be planned downtime.</u>
Option 2	On Premise - Like for like – New for Old
	<ul style="list-style-type: none"> • This option involves the upgrade of the existing infrastructure with new equipment and upgrading applications to the latest versions (essentially ‘new for old’ replacement). • This would provide a supported service with obligation by BT and Cap Gemini to meet their respective Service Level Agreement for hardware and software. • <u>This is an active: passive solution, so there would still be planned downtime.</u> • VDI would be out of scope. • Email exchange infrastructure would continue to be managed by NHS 24. • O365 under the national programme being delivered by NSS is out of scope. • Scheduled and unscheduled interruption to service will continue for planned and unplanned downtime.
Option 3	Hybrid Private Cloud (BT & SAP Apps) and Public Cloud (Azure)
	<ul style="list-style-type: none"> • This option involves the upgrade of the existing infrastructure and applications, but also with some use of public cloud services. • BT Data Centre would be used to host SAP applications, WFM; Verint recordings; and volume of data currently held. • Public Cloud (Azure) used to host: file shares; Business Intelligence and data warehousing; back office telephony, and O365. • The Private Cloud (Software as a Service) would be used to host Sugar, Quality Centre, WFM and Respond. To determine if WFM is hosted in the BT DC or as SaaS? • This would be a fully supported service, which would include: <ul style="list-style-type: none"> • Back office telephony • Virtual Desktop Interface, which would enable remote working and flexible working • O365 would be in scope • Reduction in the need for email exchange service to be managed by NHS 24 staff • Remove resource required by external supplier to run and maintain NHS 24 email exchange service

	<ul style="list-style-type: none"> • This would provide an active:active setup, thereby reducing the need for both planned and unplanned downtime.
Option 4	Hybrid Private Cloud (BT & SAP Apps) with replacement of SAP Contact Centre (telephony)
	<ul style="list-style-type: none"> • As with Option 3, this option involves the upgrade of the existing infrastructure and applications, but also with some use of public cloud services. • BT Data Centre would be used to host SAP applications, WFM; Verint recordings; and volume of data currently held. • Public Cloud (Azure) used to host: file shares; Business Intelligence and data warehousing; back office telephony, and O365, Sugar, Quality Centre, and Respond. To determine if WFM remains hosted in the BT DC. • This would be a fully supported service. This would include: <ul style="list-style-type: none"> • Back office telephony • Virtual Desktop Interface, which would enable remote working and flexible working • O365 would be in scope • Remove need for email exchange infrastructure to be managed by NHS 24 • This would provide an active:active setup, thereby reducing the need for both planned and unplanned downtime. • The main difference from Option 3 is that SAP Contact Centre (SAP CC) application would be replaced with omni channel Cloud App (e.g. Odigo or Avaya)
Option 5	Full Public Cloud 'Lift & Shift'
	<ul style="list-style-type: none"> • Enable the SAP applications to be delivered by public cloud. • Replace SAP Contact Centre (SAP CC) telephony application with a cloud-native software as a service (SaaS) solution. To determine if SAP CC should be replaced with a SaaS option, or should SAP telephony remain on premise. • This option would involve the 'Lift and Shift' of applications as-is (SAP telephony remains on-premise) and then upgrade, followed by swap out of apps. • SAP must be delivered by public cloud infrastructure as a service (IaaS) due to this application not being designed for a Cloud based environment. • O365 would be in scope, removing the need for email exchange infrastructure to be managed by NHS 24 staff. • <u>This is an active: passive solution, so there would still be planned downtime. Active: active could be available with an appropriate setup, however costs are likely to be prohibitive.</u>
Option 6	Full Public Cloud Re-architected for Cloud Environment
	<ul style="list-style-type: none"> • Enable all applications to be delivered by public cloud. Replace SAP telephony with a cloud-native software as a service (SaaS) solution & everything else delivered by public cloud. • This option 6 would involve the re-architecture of current SAP apps for Cloud environment. • O365 would be in scope, removing the need for email exchange infrastructure to be managed by NHS 24. • <u>This is an active: passive solution, so there would still be planned downtime. Active: active could be available with an appropriate setup, however costs are likely to be prohibitive.</u>

As part of this, key assumptions will be identified (and subsequently evaluated):

- Technical Assumptions (within Options)
- Workforce Assumptions
 - o External capability

- Internal capability
- Impact of solution on operational workforce

3.3 Evaluation of options

3.3.1 Assess each option for advantages and disadvantages

In order to evaluate the options, we will undertake a SWOT assessment of each option and evaluate it against how well each option meets the stated objectives and critical success factors agreed for the programme. This will be presented, as follows:

3.3.2 Summary assessment of options (example only)

The next step will be to assess each proposed solution for its advantages (strengths & opportunities) and disadvantages (weaknesses & threats). The assessment will provide an evaluation of each option, with a conclusion on the preferred way forward. The following summary table is provided as an example only at this stage.

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
Description of options:	Do Nothing	Do Minimum	Intermediate	Intermediate	Intermediate	Maximum
Objectives						
1. To add	Red	Yellow	Red	Green	Yellow	Green
2. To add	Red	Yellow	Green	Green	Yellow	Green
3. To add	Red	Green	Green	Green	Yellow	Green
4. To add	Yellow	Yellow	Yellow	Green	Yellow	Green
5. To add	Red	Green	Yellow	Red	Yellow	Green
6. To add	Red	Yellow	Yellow	Red	Yellow	Yellow
Critical success factors	Yellow	Yellow	Yellow	Green	Yellow	Yellow
Summary	Red	Yellow	Yellow	Green	Red	Red

3.3.3 Prepare indicative costs for option

Indicative costs and benefits for each of the above options will be provided at this stage to test the affordability of the programme before a more detailed appraisal takes place (in Financial Case). The costs will include some allowance for ‘optimism bias’ and the ‘cost of risk’, and together with the benefits, be discounted to provide indicative net present social values for the short-listed options, as required.

Following identification of related costs, indicative costs will be developed for each option and presented as follows:

<i>DRAFT</i>	Undiscounted (£m)	Net Present Cost Value (£m)
Option 1: Do Minimum, No Change		
Opportunity Costs		
Other costs		
Lifecycle costs		
Optimism Bias & Risk Register		
Capital Costs		
Revenue Costs		
Total Costs		
Less: Cash-releasing benefits		
Costs: Net Cash Savings		
Non-cash Releasing Benefits		
Total		

3.4 Non-financial benefits appraisal

*There are a number of approaches to the appraisal of costs and benefits. The **weighted scoring** method is the one generally recommended by SGHSCD and is the approach being used within this PBC. This involves*

- *identification of all the non-monetary factors ('attributes' or 'criteria') that are relevant to the Programme;*
- *the allocation of weights to each of them to reflect their relative importance; and*
- *the allocation of scores to each option to reflect how it performs in relation to each criterion.*

The result is a single weighted score for each option, which will be used to indicate and compare the overall evaluation of the options in non-monetary terms. The results of the non-financial benefits appraisal exercise can be presented in a similar table to the example below:

Benefit Criteria	Weighting (%)	Weighted Score			
		Option 1	Option 2	Option 3	Option 4
Total Weighted Score:					
Rank:					

Definitions of the benefit criteria and how they were developed will be explained; along with key considerations that influence the weighted scores.

*Following the initial scoring, we will use **sensitivity** analysis to determine how reactive the results are to changes in the weights and scores used.*

These scores should act as indices for comparing the options' overall performance on non-monetary factors, indicating not only how the options rank but also how great the differences between them are. Thus they should serve a similar purpose in respect to non-monetary factors as NPVs do in respect to monetary factors.

3.5 Risk assessment

SCIM guidance requires a risk assessment of the short-listed options to be undertaken. The risks related to each option will be estimated and quantified in monetary terms and then fed into the evaluation of options.

As part of this risk assessment, we will also make an allowance for **Optimism Bias**. We will consider a number of elements and confirm adjustment percentages for the key factors of uncertainty.

3.6 Confirm preferred option and why chosen

3.6.1 Identifying the preferred option

The business case will present the information succinctly and clearly for each option to support clear decision-making. We are in the course of developing a summary format of the costs and benefits by key category.

While not all of the costs and benefits will apply to every option, it should be considered as a starting point for the presentation of cost benefit information.

3.6.2 Sensitivity Analysis

As a minimum, we will undertake sensitivity analysis on the preferred option, thereby testing its robustness in relation to switching values and different scenarios for costs and the delivery of benefits. Where alternative options are significantly different in some key respects and realistically need to be considered, then they too will undergo sensitivity analysis.

3.6.3 Final selection of preferred option

The preferred option will be a balanced judgement based on the net present value (NPV), the cost benefit ratio (BCR) and the level of risk involved.

We will also consider other factors that may also affect the selection of the preferred option; in particular, any unvalued costs, risks and non-monetised benefits. In these circumstances we will involve key stakeholders in the decision making process about whether any additional cost is value for money.

The results for each short-listed option will be presented as follows:

Evaluation results	Option 1	Option 2	Option 3	Option 4 etc...
Net present value				
Qualitative benefits appraisal				
Qualitative risk appraisal				
Overall ranking				

4. COMMERCIAL CASE

4.1 Formal Procurement Position

4.1.1 BT

- *Set out summarise the recommended commercial offer.*
- *Outline the main contractual arrangements of the recommended offer, covering:*

- *Confirmation of the standard form of contract being used.*
- *Key contractual issues, covering similar items included within the OBC.*
- *Any contractually based personnel implications.*
- *Details of how any payment structure will function.*
- *An update of the project risk allocation table.*

4.1.2 Capgemini

- *Set out summarise the recommended commercial offer.*
- *Outline the main contractual arrangements of the recommended offer, covering:*
 - *Confirmation of the standard form of contract being used.*
 - *Key contractual issues, covering similar items included within the OBC.*
 - *Any contractually based personnel implications.*
 - *Details of how any payment structure will function.*
 - *An update of the project risk allocation table.*

5. FINANCIAL CASE

Work on this section will begin once we have costed the options within the Economic Case.

The purpose of the financial case is to determine the affordability and funding requirements of the preferred option and to demonstrate that the recommended programme and its supporting projects are affordable.

The focuses of the financial and economic appraisals are completely different. The economic appraisals focus on the Value for Money (VfM) of the overall programme. The financial appraisals focus on the affordability and fundability of the programme and its constituent projects and activities.

The costs and benefits appraised in the financial case will reflect an accountancy based perspective. Consequently, both resource and non-resource costs and benefits are factored into the analysis. For example, whereas VAT and depreciation are excluded from the economic appraisals, these costs are included in the financial appraisals, because they have a direct bearing on the affordability of the programme.

5.1 Financial modelling

Due to the complexity of this programme, a financial model of the proposed expenditure will be developed. The model will provide an informed best guess of the likely impact and outcomes of the proposed programme in its early stage of development. However, the reliability and robustness of the model will increase as it is kept under continuous review and updated to reflect the latest information.

6. MANAGEMENT CASE

The purpose of the management case is to put in place the arrangements for the successful delivery of the programme and its constituent activities, both now and in the future. This will include:

- *Confirmation (with details) that the following management arrangements are in place to ensure the project's successful implementation:*
 - *Project management arrangements.*
 - *Organisational, service, and facilities change management arrangements, including details of the management of impact on existing service delivery during implementation.*
 - *A comprehensive benefits realisation plan.*
 - *A comprehensive and up to date project risk register.*
 - *A Commissioning Master Plan.*
 - *A Full Project Monitoring and Service Benefits Evaluation plan.*
 - *A Project Monitoring Report.*