



East Midlands
**Academic Health
Science Network**

Igniting **Innovation**

Igniting Innovation

Improving Health, Creating Wealth

**Preparing a successful
business case: A practical guide
for suppliers of innovative
products and services**

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Business case guide

Purpose

Organisations that supply to the NHS are often challenged by the process, timescales and documentary requirements of this market sector. One of the most common 'blockers' cited by both the supplier and their potential NHS customer is 'the business case.' This can often seem like an unnecessary complication, or simply a reason to not issue a purchase order. This is wrong. **A good business case is fundamental to a long term business partnership.** However, they can be difficult for your NHS contacts to write because they are busy or not experienced in their preparation.

The opportunity for you therefore is to help with this process. That is, to translate the value of your proposition into the particular requirements and constraints of the NHS, and to work collaboratively on preparing the business case. This guide intends to help you do this.

Who is this guide for?

The guide is intended for use by small and medium sized organisations (i.e. private companies, and third sector organisations) with limited experience of supplying their products and services to the NHS. Whilst the guide will have relevance to all suppliers, it is aimed primarily at those providing technology led innovation, rather than clinical or consultancy services. It is also focused on business cases for contracts that can be authorised internally by an NHS trust i.e. without external approval.

So what is a business case?

A business case is a proposal seeking authorisation for the allocation of resource (i.e. money, people, time) by an NHS organisation. One is required when the proposal involves delivering something new, purchasing something new, or making a change to an existing process. The business case sets out the case for undertaking a project, weighing up the objectives and benefits against the estimated costs and risks. It aims to make a compelling case to the stakeholders tasked with judging its merits and will be subject to a thorough appraisal process. Whilst the detailed structure and format may vary, the purpose of the business case is to:

- Centralize and document all knowledge regarding the project
 - ✓ In order to provide consistency and understanding to all those involved or effected by the project
- Secure the resources and funding required to progress the project
 - ✓ Whilst ensuring the organisation knows the full impact of progressing (or not progressing)

What does this mean for you?

- Without an approved business case your project will not progress
- An NHS business case is not a technical or commercial proposal
- Approval will involve multiple stake holders, you need to know who

Why is the business case so important for the NHS?

Over 98% of the money to fund the NHS comes from the Treasury, who collect it through general taxation and national insurance contributions. The decision as to how much the Department of Health (DoH) is allocated is made every two or three years as part of the spending round process.

The DoH allocates the bulk of the money to NHS England which receives about £100bn every year. Of this it retains £30bn. This is used to fund the services that it commissions (i.e. purchases) directly such as primary care (GP services). The remaining £70bn is passed through to clinical commissioning groups (CCGs) whose share of the budget is allocated on a 'weighted capitation' basis (i.e. relating to the size and health characteristics of the population they serve). The CCG's then commission providers (hospitals, ambulance services etc.) to deliver healthcare services to their community.

Historically, providers were paid on the basis of a block contract, (i.e. a lump sum, regardless of the volume or quality of service they delivered). Increasingly however, payment is linked to the quality and volume of the services provided. The key mechanism for this is known as payment by results (PbR) which now constitutes about 30% of total provider reimbursement. Current policy is to increase the level of 'performance related pay' for providers. There are multiple initiatives and mechanisms to do this such as outcomes based commissioning, value base purchasing, and the establishment of ACO's (accountable care organisations).

Certain tools such as Commissioning for Quality and Innovation (CQUINs) reward providers financially for meeting particular policy or quality goals. The Quality and Outcomes Framework (QOF) provides a similar incentive for GP practices.

Every year the providers (e.g. NHS trusts) agree their budget and annual operating plan. This is to ensure that they can deliver the services CCG's require within cost and resource constraints. Foundation trusts have some financial independence, whilst non foundation trusts are more constrained. Both are overseen by NHS Improvement (previously Monitor and the Trust Development Authority) that is responsible for ensuring financial and operational efficiency.

All funds are public and centrally allocated so the need for control and scrutiny is high. From top to bottom within the NHS it is the business case process that delivers this. At the macro level DoH will put forward a business case as to why it should have an increased budget allocation from the Treasury. At the micro level, each trust will require a departmental manager to make a business case to buy your particular product. If budget has been allocated to buy your products the relevant business case that will be used to ensure it delivers the expected benefits this year, or that project costs are not over running. If no budget is allocated this year, a business case will be used to authorise 'unbudgeted' expenditure, or make a provision in next year's budget for project funding.

What does this mean for you?

- NHS funding is public, fixed and centrally allocated. Business cases provide control and governance
- Understand the funding routes for your proposal and who is making the business case e.g. is it aimed at primary or secondary care, are they a foundation trust or not?
- Your business case may be successful this, but budget not allocated until next year
- Identify any commissioning incentives that exist and see if your proposal can be funded from here

The business case and procurement, what's the difference?

A business case is the process by which an NHS organisation makes an investment decision. Procurement is the process of engaging with the market to deliver any part of the project that cannot be done internally. One does not happen without the other, but they are discrete processes.

There are many different ways your product and services can be purchased by the NHS, but regardless of the route, a business case will have to be made at some point. Increasingly NHS procurement is moving towards purchasing 'frameworks.'

This is in order to simplify and standardise purchasing across the Service, as well as reducing the cost of supply.

[NHS Supply Chain](#) is effectively a catalogue of 700,000 approved products from which NHS organisations can procure centrally. NHS Supply Chain operates in accordance with EU Procurement rules. This means that in order for your product to be listed in the NHS Supply Chain Catalogue, it must be procured through a compliant tender and, if successful, will be listed on a framework agreement.

An alternative is [G-Cloud](#), a digital marketplace through which the NHS can procure Software as a service (SaaS) / cloud based services from suitably qualified vendors. Other specific frameworks exist and are usually related to a specific 'Lot' or type of product into which your products may fit.

It is still possible to have a direct procurement, outside any framework. Depending on the total contract value (i.e. annual fee multiplied by contract term in years) this will take the form of:

- a competitive tender in adherence to EU procurement rules where spend is above the EU threshold, (£111,676)
- a competitive tender inviting pre- qualified vendors to participate
- a procurement in accordance with the organisation's own procurement policies (e.g. three written quotations)
- a direct purchase on the basis of no other suitably qualified suppliers

In order for you to become listed on a framework you will have to either participate in a formal tender, or provide detailed information to ensure that you are a 'suitably qualified supplier.' You may have to wait until these tenders arise or a process is run to invite suppliers in a specific product or service line. They can be onerous to complete, and critically, to be listed in a framework is no guarantee of ongoing or future contract success.

This is because, regardless of your product being approved, you being a qualified supplier and your commercial proposition being understood by the NHS, each individual purchase will still require the budget holder to go through the business case discipline.

What does this mean for you?

- Make the decision as to whether you need to be on a specific procurement framework, it can be a lot of work and does not necessarily secure ongoing business
- Procurement is simply a mechanism for buying; your potential customer still needs to make the business case before any buying can occur
- Understand what procurement route your prospect is taking. Understand the status of the internal business case, before putting too much work into a competitive process

Who reviews the business case and how are they evaluated?

The review process is determined by the amount of expenditure involved and the potential risk of the project. For larger business cases this is clearly specified: for example within NHS England purchases up to the value of £3m require sign off by either the Chair or CEO or CFO, whilst those between £3m and £10m require the full board and investment committee.

However, investment decisions made by an individual NHS trust are approved under their own processes and thresholds. There will be certain constraints (such as guidance from NHS Improvement) and they do vary, but are always available for review.

It should also be noted that for larger or more complex business cases the process may well go through stages. Typically:

- initial agreement (IA)
- outline business case (OBC)
- full business case (FBC)

With each stage requiring greater specificity and detail.

It is also the case that for many projects the business cases are simple and can get approved quickly and easily.

What does this mean for you?

- Calculate the total cost of the project. This is not just the value of the purchase order to you, but also the internal costs that result from this project. Consider things like staff redeployment and training, writing down of legacy assets etc
- Clarify the business case authorisation process used by your prospect, and confirm which contract value or project risk 'bracket' your project fits into
- If you are told the business case is 'signed off' make sure this is for the full business case and not just an intermediate stage

The specific manner in which the business case is evaluated will vary; however, (consciously or unconsciously) the evaluation panel will use the 'Five Case model.' This provides a framework to enable effective decision making when scoping and planning spending proposals in a robust and thorough manner. It has been widely used across central government departments and public sector organisations over the last 10 years.

The methodology requires that the business case is:

- supported by a robust Case for Change – **the strategic case**;
- able to deliver Value for Money – **the economic case**;
- commercially viable – **the commercial case**;
- financially affordable – **the financial case**; and
- capable of being delivered – **the management case**.

Looking at each case in more detail will help you prepare the content and structure of your material in the best way, and increase the chance of your NHS sponsor getting the business case approved.

Making the five cases - how you can help

The strategic case

The strategic case describes the current situation and makes the case for change. It provides context with particular emphasis on how the proposed project fits in with wider public policy objectives and the organisation's corporate plan. It explains the project in terms of: the reason to do it, what it is, where it fits, why it is wanted, what will be achieved and who wants it.

The strategic case should also describe the measurable outcomes and improvements that will be used to monitor success in terms of fulfilling the stakeholders' expectations.

What does this mean for you?

- Whatever your products, you must identify the strategic context into which they fit. Research key healthcare documentation e.g. The NHS Constitution, the Health and Social Care Act 2012 and the Five Year Forward View etc.
- Keep up to date with latest health policy and initiatives. Current thinking is dominated by cost reduction such as The Carter Review, Sustainability and Transformation Plans (STP) etc. Avoid articulating your proposition solely in these terms, however think about your product in terms of how it supports cost reduction, rather than how good it is versus your competition.
- Think laterally into other initiatives that you may be able to support (such as specific trade policies supporting SME's, or commitments to increase digital access across government for example).

What does this mean for you? (continued)

- Do not use product marketing materials as 'supporting documentation' for the strategic business case and avoid the temptation to explain what is wrong with current NHS policy or practice
- Identify KPI's and other measurement criteria by which you can show success (i.e. improved outcomes) and how your product contributes to this

The economic case

The economic case describes the financial cost, benefit to public health and considers the whole project lifecycle. Economic costs and benefits are calculated for each year of the project and the total expressed in net present value (NPV) terms. The economic case gives full consideration to all the alternate options, including doing nothing. All alternative options are reviewed and a recommended option is selected. The basis for recommendation should be transparent and expressed in economic terms.

What does this mean for you?

- Think about the impact of your product innovation on the wider health economy. Can you demonstrate the impact of key outcomes such as waiting times, mortality and morbidity rates, patient satisfaction etc? Do you have case studies, trial data or published literature evidence?
- Identify the level of economic case your project requires. If it is a discrete and limited project then the financial and commercial case is where you should focus
- The health economy is a closed system so you need to think holistically about any economic benefits and costs. For example, you may identify a way to reduce costs and improve clinical outcomes in the acute sector, but implementation will drive up the costs in primary care, or increase the complexity of commissioning. Developing the economic case therefore requires input and engagement with all stakeholders
- Use the economic case as an opportunity to determine honestly if the health sector is where you want to focus. If a viable economic case can be made for doing nothing, then you need to decide if healthcare is where you want to concentrate your sales effort
- Understand the different type of cost savings and reductions in human resources claimed by the business case. An innovation or change which saves, for example, clinician time may seem compelling. However, you may also need to show how this can lead to an overall reduction in actual headcount. If this can be quantified, the case to fund the innovation from this cash saving will be more credible, as opposed to the general case that the innovation provides more capacity for the same headcount to undertake additional healthcare activities

The commercial case

The commercial case considers whether a real and credible supply contract could be achieved. It identifies external procurement requirements (i.e. the possible purchase of products from you and others) and describes the preferred procurement process. If there has already been a pre-qualification or full tender process the results of this would be described. The commercial case also picks out the key contractual terms such as delivery and payment milestones. Furthermore, it considers any risks associated with external supply such as ownership of intellectual property, cost overruns and contingency planning.

What does this mean for you?

- Helps you prospect with an honest evaluation of the market and do not be alarmed if details of your competitors are requested. On the whole, a business case is considered less risky if the market has multiple vendors
- Determine early what the recommended procurement route is. This will determine which contract terms are used. If it is NHS Supply Chain or a framework, these will prevail. You need to review them, and identify if any clauses are unacceptable to you. If the contract will use your terms, highlight early clauses you can be flexible on, and those you cannot
- Where possible provide outline project plans, payment milestones and the like so that the business case reflects the real project if it is successful
- Successful NHS case studies, reference sites and testimonials provide invaluable support to the whole business case but particularly the commercial case

The financial case

The financial case considers the overall cost to the organisation and so ultimately the public purse. The financial case has to demonstrate that the option recommended is fundable and affordable. It will set out the capital and revenue requirement over the expected project life span. It also must include an assessment of how the project will impact upon the balance sheet, income and expenditure account and pricing (if applicable) of the NHS organisation. Requirements for external funding must be adequately supported together with any funding gaps. Adjustments for inflation and transferable charges (VAT and Capital) must also be shown.

What does this mean for you?

- Develop a number of financial options that you offer the NHS and establish quickly their specific financial constraints or opportunities with respect to this business case
- Build relationships with the financial team in the trust and use the expertise of your own financial director when developing your commercial proposition and the business case
- In the current climate the business case may need to show a breakeven within a single financial year taking into account only true cash releasing factors (e.g. reduction in cost of goods and services purchased, whole headcount saved in an area where staffing can be rapidly reduced, etc.). In other situations acceptance of some increase in year one cash costs may be acceptable as long as there is a significant reduction in future year costs
- The distinction between capital and revenue costs is important – the approval process (and available budgets) for each are different. There may be flexibility as to whether the same purchases are treated as capital or revenue purchases (except for obvious items such as buildings versus disposables). The sign-off process for capital expenditure is generally more onerous, potentially involving additional parts of the NHS outside of the purchasing trust
- For revenue based purchases then cash flow is generally more important than overall Return on Investment (ROI). For example, over 5 years a particular business case may deliver a very healthy ROI, but if it requires substantial net investment in years 1 and 2, then approval and funding may be difficult
- Always look for other sources of funding, such as research grants, research trials.

The management case

The management case is concerned with the deliverability of the proposal and so also acts as the overall programme or project plan. The management case must clearly set out responsibilities (and identify the senior responsible owner), governance and reporting arrangements. It will include detail on the resources requirements, change management, risk assurance and sign off/handover. It will also detail the mechanisms for communications and monitoring and as well as the auditing and reporting of benefit realisation. It will also include equality and diversity commitments.

What does this mean for you?

- If you have previously delivered your product or service into an NHS client then share the details of the project plan with your prospect. This will provide reassurance and also shorten the process in terms of developing the management case
- Clearly articulate where responsibilities begin and end between you and the client (in terms of training, support, change management etc.) so these are not 'grey' areas in the management case
- Develop a set of metrics and KPI's (Key Performance Indicators) and define how they can be measured. If you know what 'good looks like' (e.g. a 10% reduction of disposable items in the A&E ward, or a 15% reduction in 'Did Not Attend' (DNA's) in physiotherapy) develop a simple measurement tool and include this as part of your proposal and business case
- Identify the senior business owner in the trust and nominate your own early on. Where possible think about personal chemistry, workload and seniority, as well as functional competence
- Reporting and governance requirement can be more onerous in the NHS than other sectors so factor the cost and time overhead for this into your

Further advice

For further information and support contact East Midlands Academic Health Science Network:

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Annex 1: Example structure and content of a typical business case

You will find multiple examples and templates that the NHS use to prepare a business case. However, the structure and headings below are fairly typical so will give you an idea of the content and structure of a completed document.

Section 1 or Cover Page

This will name the department, division etc. sponsoring the business case and include the project title. It will also nominate the project manager and include the names of those responsible from a clinical, financial etc. perspective. It may also include details of a larger project or work stream that this project is a part of. It may also define the approval level or group as well as version control and revision history details. It is an important section in terms of stakeholder mapping and understanding the approval process.

Section 2 Executive Summary

Provides a succinct description of the overall business case and brings out the key points from the five cases (Strategic, Economic, Commercial, Financial and Management) made elsewhere in the document. It will probably include a summary table of the total financial impact i.e. planned cost reductions and/or incremental income (e.g. additional tariff income, grant funding etc.) less total costs (capital and revenue) across a three or five year period.

Section 3 - Strategic Objectives, Background and Context

This can be quite long and detailed as it will cover the clinical and operational background to the business case and consider it from multiple viewpoints (i.e. national and local policy, best practice versus current methods; clinical objectives versus financial constraints etc.) There will be plenty of reference to external documents, published literature and data derived from pilot projects and the like. The primary objective is to make a compelling '**case for change**' so the greater the evidence base, and the better the congruence with current policy the more powerful the argument.

The scope and scale of the investment (or change in service delivery) will be defined here, as will all identified risks and constraints.

Section 4 – Options Assessment

All business case documents will include an options appraisal. This will identify (and describe in some detail) several alternative solutions to the stated problem. Doing nothing is invariably an option. Each alternative will then be evaluated against a number of parameters. This is often in the format of a benefits analysis i.e. benefit sought versus overall project costs, degree of disruption to the current service and project complexity/risk etc.

The business case will state clearly the preferred option. Needless to say the more compelling the case for one option over the others the greater the likelihood of success.

Section 5 Economic and Financial Considerations

Often the economic and commercial case merge in single section that defines the benefits (in financial terms) as well as capturing in detail all the costs associated with delivering the preferred option. It is one of the hardest sections to complete for the sponsor and often takes the longest. This is because it requires accurate and recent data about current processes (activities staffing levels, workflows etc.) and costs, expenditure and income and this can be hard to obtain. It will also require the development of a reasonably detailed financial model. The summary output of this model (demonstrating overall affordability) will be included here, along with any assumptions that have been made. Any significant non-financial benefits will also be stated.

Section 6 Project Management, Delivery and Risk Mitigation

This section will cover how the project will be delivered. It will include details on the preferred procurement process and the project management methodology including details on timescales, performance measurement (KPI's), governance and risk mitigation. It will also consider any impacts on the workforce (e.g. TUP, training, relocation etc.) as well as equality and diversity considerations. It will also describe the exit strategy.

Section 7 Annexes

The document can include multiple annexes which provide additional detail such detailed financial analysis, relevant published literature, completed risk assessments, survey results and the like.

Annex 2: Example of a business case for the procurement of a cardiac CT and MRI by an NHS trust

Cardiac CT and MRI Business Case

Author(s): [REDACTED]

Version No:8

Issue Date:

REVIEWED BY	DIVISION BOARD	IM&T	ESTATES	CLINICAL SUPPORT	OTHER	OTHER
DATE	NOV 15			NOV 15		

	AMOUNT 2015/16	2016/17	2017/18
CAPITAL FUNDING REQUESTED	£3,000,396		

SOURCE OF FUNDING	SOURCE
REVENUE	
CAPITAL	X

VERSION HISTORY

Version	Date Issued	Brief Summary of Change	Owner's Name
1	27/11/2014	Business Case	[REDACTED]
2	12/10/2015	Updated numbers	[REDACTED]
3-7	22/10/2015 on-going	Updated finance section and other sections	[REDACTED]
8	23/12/2015	Updated following comments at Finance and Performance Committee	[REDACTED]

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1. Purpose of Business Case

This business case seeks approval for the capital investment of £3,000,396 including VAT.

The investment is for the establishment and provision of a Cardiac Computed Tomography (CCT) and Cardiovascular Magnetic Resonance (CMR)service at Watford General hospital.

The investment includes the purchase of a new CTT and CMR scanner, installation of the scanners, the associated staff and running costs to enable the trust to run its own in house CCT and CMR service.

This will improve the patients' experience and the care they receive on both in-patient and elective pathways.

CMR technology is at the cutting edge of cardiac diagnostics. It produces high-quality static and moving images and means more accurate diagnoses for many heart conditions, reducing the need to repeat diagnostic tests, and in some cases may mean that multiple diagnostic tests can be replaced by a single CMR scan procedure.

CCT is a painless test that uses an x-ray machine to take clear, detailed pictures of the heart. During the scan the machine will take a picture of each part of the heart with a computer, it will then assemble the pictures together to make a three-dimensional (3D) picture of the whole heart. Commonly an iodine-based dye (contrast dye) is injected into one of the patient's veins during the scan. This dye highlights the coronary arteries on the x-ray pictures. The Cardiologists and radiologists will then use this information to form a diagnosis and treatment plan for their patients.

2. Strategic Context

2.a. CT:

- The increase in cardiac CT in the UK follow on from NICE guidance CG 95. Coronary Calcium scoring and CT coronary angiography were recommended for the assessment of patients with recent onset chest pain. The recommendation was that patients with an estimated risk of coronary artery disease of between 10% and 30% $\geq$ should undergo CT for Coronary Calcium scoring. If the score is 0 a CT coronary angiography is indicated unless there is evidence for extensive coronary calcification (score > 400). Since this guidance was issues, there has been a clear expansion in indication, with many specialists (including our own) routinely performing CT angiography if the calcium score is zero, and up to a calcium score of about 1000. Many higher risk patients who are not suitable for invasive coronary angiography are also being refer
- According to the Cardiac Network Survey results for rapid access chest

pain clinics, cardiac diagnostics and a national network survey, show that about 15% of all patients who attend a rapid access chest pain clinic fall in the low risk category for which CaScoring/CT angiography would be indicated by the current NICE guidelines. For the [REDACTED] the percentage was slightly higher at 20%. In [REDACTED] from Jan'14-Dec'14 858 pts were seen in RACPC =172 CT's annually if the NICE guidelines were applied. However, as above, many specialists are using CT outside this guidance, reflected in local numbers of referrals for CT being much higher than this.

- In the last rolling year to date [REDACTED] cardiologists and radiologists have performed 649 cardiac CTs on the NHS contract at [REDACTED]. [data from spreadsheet at [REDACTED]]. The locally agreed price is £750. This is paid for by the CCG via the Trust. This gives a total cost of £486,750 for CT for the year which is lost income for the Trust.
- Although 649 CTs were performed, there is a considerable (> 10 weeks) waiting time, and the numbers of scans are determined solely by the number of slots at [REDACTED]. In a month where all lists happen (no public holidays etc), 45 scans happen a month. This gives a total of 540 outpatient CTs a year. Of note there has been a steady increase in referral since the service was established so this is expected to grow considerably, particularly when the service moves onsite.
- As well as outpatient elective work (and lost income from this service being contracted out), a new CT scanner on site will reduce acute bed occupancy, reduce length of stay improve patient flow from level 1 to level 3, improve patient satisfaction, and free capacity in the cath lab which can then be used for elective outpatient work, increasing income further.
- An audit carried out in June 2014 has revealed that over one month 30 patients with chest pain who had not had a heart attack (so called "troponin negative" patients) were kept in hospital for invasive coronary angiography. This equates to 360 patients a year. These patients are potentially suitable for CT rather than invasive angiography. This is quicker, lower risk, and cheaper, as well as being more acceptable to patients. Our audit showed that these 30 patients had a mean inpatient wait of 2.5 days. This equates to 75 bed days for the month. However, in a winter month our *mean* inpatient wait has been as long as 5 days during the winter. This indicates that in a winter month up to 150 bed days may be taken up with troponin negative patients awaiting angiography. Given that we have 24 beds, this means that 20% of our beds can be taken up with troponin negative patients awaiting angiography – who could potentially have CT.
- Our audit also showed that only 4 of these 30 patients went on to need coronary intervention. The other 26 were discharged after their angiography, often on the next day. Furthermore, patients allocated to CT can also be discharged same day after a normal scan (see [REDACTED])

reference attached), and no groin care is required, only an iv line, so nursing care is less detailed, and level 3 green and purple beds can be more efficiently allocated to patients with access site needs.

- The catheter lab capacity freed up by the reduced use of diagnostic invasive angiography can of course be used to reduce the very long elective (some 3 month) waiting time for EP procedure, complex devices, and elective PCI. Thus increasing income and better patient experience.

2.b. MR

- Despite the advances in CMR over the last five years, and the fact that a CMR Scanner is now standard equipment in many tertiary care centres world-wide, there are still only a score of dedicated CMR scanners in the UK. CMR has come of age as a technology and more CMR facilities are needed nationally. CMR roll out is taking place to secondary care, and the leading secondary care / non-surgical cardiac centres now have this hardware available. Therefore as a centre with two cath labs it is essential for us to have this technology on site. Our neighboring units ([REDACTED]) both have plans well advanced to get cardiac MRI on site.
- According to [REDACTED] in 2010 from every million population there would be 2275 referrals for CMR. In [REDACTED] with 700 000 we would be expected to generate 1592 CMR referrals if NICE guidelines were applied. Note this guidance is from 2010 and clear expansion has taken place since then.
- Over the last 12 months rolling year [REDACTED] has referred 467 patients to two Tertiary centers for CMR scans as per NICE guidelines. This is at a tariff of £730 per patient – a lost profit to the Trust of £340,910. The tertiary services are struggling to keep up with the demand of our patients and waiting lists are rising. It has however demonstrated that a service is both clinically necessary and financially feasible, and is an important data source for this business case.
- The trust has only recently started referring in-patients for CMR. If the guidelines were applied to all appropriate inpatients the rate of referrals is estimated to be 2 patients per week, this equates to approximately 104 patients per annum. However this is a major underestimate of the inpatient demand, as is shown by practice at centres with CMR on site. if CMR were available locally then numbers would be expected to increase significantly, to at least 5 a week. This again will free cath lab time and allow us to increase our Elective capacity thus increasing elective income.

The establishment of a CCT and CMR service would support the Trusts strategic business objectives by: Evidence presented in Section 7

- **Providing safe patient care:** A key point. Cardiac CT and MRI are both safe tests. It is much safer for patients to have coronary assessment by cardiac CT than by invasive coronary angiography. Patients will also avoid the risk of heart attack and stroke with invasive testing. Also, current figures show that nationally only 24% of patients requiring testing actually receive these tests. The Trusts own figures indicate that at least 25% of patients who did not have the scan should have.
- **Improve outcomes and quality of care:** Reduced stay. Having state of the art imaging available locally for [REDACTED] patients so we do not have the reputational damage of having to refer out. More rapid assessment.
- **Improve the patient experience:** It is a universal experience that non-invasive testing is much more acceptable to patients who in general do not enjoy invasive testing. Patients will also avoid the risk of heart attack and stroke with invasive testing. This technology should be available on site for [REDACTED] patients as it is at many centers locally.
- **Sustain and improve performance:** by making better decisions earlier performance will improve and RTT targets will be met. More accurate EDDs – this is because the length of a cardiac CT is predictable (10 minutes in the scanner) unlike invasive angiography which is unpredictable. Better and more efficient bed utilisation should help with more predictable bed management and reduce waiting time breaches.
- **Be financially sound:** At the moment significant income has been lost as outlined above. There are opportunities for the Trust to be able to provide a service to other Trusts and generate new income. It will shorten the patients length of stay (LOS) freeing bed days.
- **Work in active partnership:** a review of the ways the service is provided will open up opportunities for the Trust to work more collaboratively both internally and may also present opportunities for the wider health economy.
- **Attract, retain and motivate an appropriately trained workforce:** the provision of a CCT and CMR service, which is not widely available locally, would significantly improve the profile of the Trust within the local and wider health economy.

The establishment of a CCT and CMR service will also support the Trust's business objectives:

- **Sustain market share:** Currently no other Trust within the [REDACTED] performs CMR on site. [REDACTED] has a mobile scanner and [REDACTED] is seeking to establish a service. An onsite CMR scanner will therefore put us ahead of local competitors and could potentially attract referrals.
- **Reshape and rationalise services to ensure financial viability:** the establishment of the CCT and CMR services will provide the Trust with an

opportunity to review the current provision of scanning services to ensure the best model of service is adopted.

- **Increase market share at the periphery:** see sustain market share above. The Trust would be in pole position to become the provider of choice for CCT and CMR Services.
- **Increase the range of specialist care provided locally:** the establishment of an in house CCT and CMR service would significantly increase the range and quality of specialist care the Trust would be able to provide to its local community.
- *In house CCT and CMR will also provide safer practice and ensure greater governance of the service that outsourcing.*

3. Case for Change

3.1 Business Needs

By providing an inhouse CCT and CMR service as suggested above this will significantly improve the Patients' experience and path way. It will also provide a service which we can have control over in order to achieve the RTT targets and provide the governance and assurance of best practice and safe care. The strategic and financial benefits have been discussed in Section 2 above and Financial Benefits will be demonstrated in section 7.

In order to deliver and accommodate this service there are a number of Business Needs.

Capacity

A new area is required to accommodate the CT and MRI scanner, along with associated plant room, control room, patient recovery areas, offices, waiting area, changing cubicles and toilets. It has been proposed and plans drawn up and work costed to convert the current Radiology MDT meeting room area, clinic preparation area and Pink Suite in [REDACTED].

Staffing

Radiologists

A 10 PA Consultant Radiologist post will be required to report this additional work. This increases by 2 PA's in year 5 to match growth in demand.

Cardiologists

An additional 6 PA's of a Consultant Cardiologist will be required to carry out this work. This increases by 2 PA's in year 5 to match growth in demand.

Nursing

2.00 WTE additional nurses will be required to support this service. They are needed to staff the recovery area as patients need to be cannulated; drugs administered pre

procedure for some patients and monitored post procedure. These posts can be integrated with the Radiology nursing staff in order to provide annual leave and sickness cover. This will ensure the nurses have a governance and management structure in order to support them in the service being provided.

Radiography

Additional Radiographers will be required:

1.00 WTE Band 8a Radiographer to manage the overall cardiac imaging service – this Radiographer could either be expert in CT or MRI. It is envisaged that this 8a would line manage the radiographers rotating between the cardiac catheter laboratory and the new scanners.

1.00 WTE Band 7 Radiographer either CT or MRI expert – opposite skill to Band 8a
2.00 WTE Band 6 Radiographers increasing in year 5 to 4.00 WTE Band 6 Radiographers to allow for extended working

Clerical Staff

1.00 WTE Band 2 clerical officer

IT Requirements

Additional PACS storage will be required.
10 additional PC's will be required, a scanner and 2 printers.

3.2 Benefits

It is anticipated that the preferred solution will result in a more efficient, profitable and economical model of service for the Trust.

Investment in this technology and the staffing required to operate the scanners and to report on the images will benefit patients and the Trust. These benefits are detailed in section 3.2, impact of those benefits are:

Benefits for the patients of [REDACTED]

- Patients currently are referred to [REDACTED] for CCT and to two tertiary centres in [REDACTED] for CMR. Repatriation of this outsourced work will mean a favourable patient experience with specialist facilities provided locally.
- In-patients currently wait on average a couple of days for CCT and up to five days for CMR before being transferred for these diagnostic tests. Local facilities will enable patients to be scanned either the same day as referral or the following day greatly improving the patient experience.

- In the event of mechanical failure of the existing MRI scanner on the [REDACTED] site patients will be able to be scanned on the new MRI scanner which will act as a backup in this scenario ensuring patient safety is not compromised.

Benefits for [REDACTED]

- Reduces length of stay and unblocks beds, a snapshot taken when the Trust was in “black” status regarding bed availability demonstrated that five patients were waiting in beds waiting to be transferred for diagnostic cardiac imaging.
- There is currently not enough routine capacity to maintain non-cardiac CT and MRI waiting lists at 6 weeks without putting on additional capacity at weekends and during evenings. Cardiac referrals will not completely fill the new scanners and there will be excess capacity for Radiology to use which will enable Radiology to decrease waiting times. This will have a positive effect on the Trust RTT (referral to treatment) position.
- It will greatly improve the flow of patients through AAU L1 and AAU L3 by reducing length of stay thus reducing potential breaches and inpatient waits for cath Lab procedures. It will free cath lab capacity which is currently used for Invasive coronary angiography and allow more elective work to be carried out, resulting in increased income and reduced RTT.
- The increased catheter lab capacity will also allow more in patient EP and Complex Device procedures and reduce these patients length of stay again improving patient flow and lengths of stay.

Summary of benefits

- Keeps the Service Local for [REDACTED] Patients
- Improves patient Experience and Care Pathway both Elective and
- Inpatients Improves Patients Safety
- Improves governance processes
- Supports the trusts RTT objectives and performance in diagnostic
- services. Reduces length of stay and frees bed days.
- It will greatly improve the flow of patients through AAU L1 and AAU L3 by reducing length of stay thus reducing potential breaches and inpatient waits for cath Lab procedures.
 - It will free cath lab capacity which is currently used for Invasive coronary angiography and allow more Elective work (eg Devices and EP higher income procedures) to be done, resulting in increased income and reduced RTT.
 - The increased cath lab capacity will also allow more in patient EP and Complex Device procedures and reduce these patients length of stay again improving patient flow and lengths of stay
- Reduces Trust loss of income
- Increases income for the Trust by providing this service to other Commissioning areas.

- Being one of the few providers of CMR will increase the Trusts reputation in the Area

4. Available Option

1. Stay same.

The disadvantages of this are:

- a. Lost income which totals £827,660 for the last year (MRI and CT). Both services are developing rapidly so this is set to increase. Leading to potential further loss of income.
- b. Inpatients are undergoing an invasive procedure (angio) which could be replaced by a safer non-invasive CT procedure.
- c. Patients are being referred out for hundreds of scans leading to poor patient experience and causing reputation damage to the Trust for not having this technology available.
- d. We are reliant on cooperation with [REDACTED] who have recently cancelled many NHS contracts, and we do not want to be so dependent on third party providers for such a key service as cardiac CT.
- e. The lack of an on-site CMR service is becoming an embarrassment for a major regional centre such as [REDACTED] which aspires to lead in cardiac work. We have many exceptional features for a secondary care unit such as two cath labs, an onsite complex device and EP service, 10 consultants, two EP specialists, two imaging specialists, coordination of a regional heart failure service, and unless our complex imaging capacity (especially CMR) keeps pace with this, we run the risk that these services may be decommissioned and moved into tertiary care.

2. Hire mobile scanner

This is at best a temporary solution. Staffing is by third-party agencies. Finally this is financially disadvantageous as money has to be paid to a third party organisation.

3. Buy CT only

On site CT has advantages for both our inpatient and outpatient work, but would mean that we would not have on site CMR which is essential for a centre covering 700,000 population (see above). Also we would lose the financial advantages of installing both scanners together with single building costs.

4. Buy CMR only

As for 3, but we would also lose the advantage for reducing inpatient length of stay that CT brings, and further elective work.

5. Buy both together

The preferred option as maximises use of staff in centralised area with combined control room.

5. Preferred Option

Option 5 – purchase both together

6. Procurement Route

Procurement of equipment

The purchase of the MRI/CT scanner has gone through a competitive process linked with NHS Supply Chain and our procurement advisors at [REDACTED] Procurement. It is envisaged that the purchase of the equipment will be made in the new financial year 16/17 due to the procurement timetable, the availability of manufacturing time and the construction programme itself.

Construction programme

The Trust had already investigated a turnkey project for the creation of the new areas and had liaised with both suppliers of the equipment. On review of these costs it was felt that a baseline offer was unacceptable and this was backed up by an external review of the cost elements by a [REDACTED]. The Trust as part of its ongoing commitment and partnership with the campus agreement had the option of offering the project through the campus agreement which was previously procured through OJEU channels. We then looked at the SCAPE framework which exists for use of the NHS. [REDACTED] are already a member of the SCAPE procurement route and given the close proximity the Trust has moved forward with a proposal to carry out all construction works of the MRI/CT scanner and the endoscopy works under the SCAPE contract.

The SCAPE contract was set some 3 plus years ago and the rates that were set through the framework. These rates are due to finish at the end of April in 2016 and therefore by entering into a contract we can maintain these rates throughout the whole of this installation which will lead us up to September/October 2017.

The Trust has undertaken a review of the framework costs and have had a tentative view from SWEETTS (acting as quantity surveyors) as to whether or not the prices offered represent value for money. The SWEETTS report is favourable. [REDACTED] have confirmed that they believe that they can stay within the budgetary constraints for both of the projects. The Environment department are confident that this project will stay within its budgetary control limits.

7. Funding, Affordability and Financial Analysis

5.1 Capital Costs

Equipment has been evaluated by clinical staff and these scanners are considered to meet the clinical requirement. [REDACTED] procurement have been fully involved in the evaluations as have NHS Supply Chain. The equipment costs may vary slightly post award of Business as we are then in a position to be able to talk to the suppliers regarding specific requirements.



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[REDACTED] - 1



[REDACTED] (Si

	Net cost	VAT	VAT recoverable 20%	VAT recoverable	Total costs
Construction	600,000	120,000	20%	24,000	696,000
Fees	100,000	20,000	100%	20,000	100,000
Incidentals	130,000	26,000	0%	0	156,000
Enabling work	140,000	28,000	20%	5,600	162,400
Contingency	5,000	1,000	0%	0	6,000
Total Building works					1,120,400
MRI	707,303	141,461	0%	0	848,764
CT	859,360	171,872	0%	0	1,031,232
Total equipment costs					1,879,996
Total capital requirements					3,000,396

5.2 Revenue Costs

Revenue costs will be £8,143,380 over the 10 year asset life. This is offset by the income generated, as shown in the table above.

Purchase of Cardiac CT / MRI scanners

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Indicative Costs	2015-16	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026
Capital Costs	-3,000,396										
Revenue Impact		319,842	290,972	307,279	325,298	281,974	263,183	302,721	341,845	380,585	816,110
Net Impact	-3,000,396	319,842	290,972	307,279	325,298	281,974	263,183	302,721	341,845	380,585	816,110

NPV	629,414
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Further calculations are in appendix 2

Assumptions:

- Positive NPV
- Does not include depreciation or capital charges within NPV

Assumptions:

- Activity costs are based on 2015/16 costs which have been incurred YTD. 790 referrals were made for CT in 2014/15 therefore 649 as year one activity is realistic as not all referrals convert into contacts.
- Assumed 10% for the first 3 year's worth of activity and a 5.5% growth from year 4 onwards for both Cardiac CT and MRI. Current waits – CT cardiac 10 week wait and growing not meeting 6 week target. MRI Cardiac – 10 week wait not meeting 6 week target
- Growth in general CT and MRI direct access is based on growth which has been seen year on year. There are 1163 CT slots available and have assumed 492 will be used for general CT direct access work and other slots for in house activity to reduce turnaround times. Have not assumed any growth for general MRI.
- General CT and MRI direct access has been costed up as per unbundled PBR tariffs for 2015/16.
- Assumed staffing levels will increase in year 5 due to increased activity.
- Assumed the income delivered is the same as cost as it is a locally agreed tariff.

5.3 Activity and Income

	YR0 2015/16	YR1 2016/17	YR2 2017/18	YR3 2018/19	YR4 2019/20	YR5 2020/21	YR6 2021/22	YR7 2022/23	YR8 2023/24	YR9 2024/25	YR10 2025/26
Activity											
Cardiac MRI Activity		488	537	591	623	658	694	732	772	815	860
Cardiac CT Activity		680	748	823	868	916	966	1019	1075	1134	1197
Growth in Direct access (general CT)		103	111	120	130	140	151	163	177	191	206
Total Activity	0	1,271	1,396	1,534	1,621	1,713	1,811	1,915	2,024	2,140	2,262
Revenue cashflows											
Income											
Cardiac MRI Activity		294,505	323,956	356,351	375,951	396,628	418,442	441,457	465,737	491,352	518,377
Cardiac CT Activity		490,123	539,135	593,048	625,666	660,078	696,382	734,683	775,090	817,720	862,695
Growth in Direct access (general CT)		42,307	52,884	66,105	82,631	86,763	91,101	95,656	100,439	105,461	110,734
CCT - additional procedures carried out (1 angio and 3 pacemakers)		39,204	39,204	39,204	39,204	39,204	39,204	39,204	39,204	39,204	39,204
Total Income	0	866,139	955,178	1,054,708	1,123,452	1,182,672	1,245,129	1,310,999	1,380,470	1,453,737	1,531,009

- Activity is based on 2015/16 activity which has been sent to 4 providers year to date There has been an increase of 10% for Cardiac CT and MRI combined compared to last financial year where 649 CT and 466 MRIs were sent away.
- Referrals for last year for Cardiac CT were 790.
- Growth in general CT and MRI direct access is based on growth which has been seen year on year. There are 1163 CT slots available and have assumed 492 will be used for general CT direct access work and other slots for in house activity to reduce turnaround times. Have not assumed any growth for general MRI

5.4 Profitability

The purchase of a new CT and MRI scanner will generate £1,013,519 benefit to the I&E before overheads are attributed, over the 10 year period.

Impact on I&E	1	2	3	4	5	6	7	8	9	10	Total
Income	866,139	955,178	1,054,708	1,123,452	1,182,672	1,245,129	1,310,999	1,380,470	1,453,737	1,531,009	12,103,494
Pay	-377,455	-377,455	-389,661	-419,661	-513,452	-583,260	-583,260	-583,260	-583,260	-583,260	-4,993,986
Non Pay	-157,647	-266,027	-324,361	-330,504	-334,324	-338,350	-342,593	-347,065	-351,778	-356,745	-3,149,395
Contribution to operating costs	331,037	311,697	340,686	373,287	334,897	323,519	385,146	450,144	518,699	591,004	3,960,114
Depreciation	-229,874	-229,874	-229,874	-229,874	-229,874	-229,874	-229,874	-229,874	-229,874	-229,874	-2,298,735
Dividend	-100,991	-92,945	-84,900	-76,854	-68,809	-60,763	-52,718	-44,672	-36,626	-28,581	-647,860
Cost of capital	-330,865	-322,819	-314,773	-306,728	-298,682	-290,637	-282,591	-274,546	-266,500	-258,454	-2,946,595
Net I&E	172	-11,122	25,913	66,559	36,214	32,882	102,555	175,599	252,199	332,549	1,013,519

YR2 negative I&E due to maintenance costs coming online in M4, however if another 18 procedures are carried out, this would generate a positive NPV

5.5 Financial Analysis

Purchase of Cardiac CT / MRI scanners

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Indicative Changes	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026
Activity	1,271	1,396	1,534	1,621	1,713	1,811	1,915	2,024	2,140	2,262
Income	784,628	863,091	949,400	1,001,617	1,056,706	1,114,824	1,176,140	1,240,827	1,309,073	1,381,072
Additional income generated through DA & extra activity	81,511	92,088	105,309	121,835	125,967	130,305	134,860	139,643	144,665	149,938
Less income from outsourcing	-853,426	-938,769	-1,032,646	-1,089,441	-1,149,360	-1,212,575	-1,279,267	-1,349,627	-1,423,856	-1,502,168
Net additional income	12,713	16,409	22,063	34,010	33,312	32,554	31,733	30,843	29,881	28,841
Additional Pay / Non Pay costs	-535,102	-643,481	-714,022	-750,165	-847,776	-921,610	-925,854	-930,325	-935,039	-940,006
Capital cost and depreciation	-330,865	-322,819	-314,773	-306,728	-298,682	-290,637	-282,591	-274,546	-266,500	-258,454
Less costs from outsourcing	853,426	938,769	1,032,646	1,089,441	1,149,360	1,212,575	1,279,267	1,349,627	1,423,856	1,502,168
Net Costs	-12,541	-27,532	3,850	32,548	2,903	328	70,822	144,756	222,318	303,708
Difference	172	-11,122	25,913	66,559	36,214	32,882	102,555	175,599	252,199	332,549
Total Difference	1,013,519									

5.6 Source of Funding

3m allocated in 2015/16 capital programme for this project.

8. Risk Appraisal

5.7 Main Risks Associated with Implementing the Business Case

- Successful relocation of Pink Suite and Data Clerks before January 2016 so that building works can commence.

5.8 Main Risks Associated with NOT Implementing the Business Case

- Datix Risk 3189 – Inability to scan in-patients requiring MRI at [REDACTED]. Current score 4 x 3 = 12.
There is only one MRI scanner at [REDACTED]. The unit is used Monday to Friday and some weekends to provide an in-patient MRI service (and some out-patients). There can be up to ten in-patients referred daily for MRI scans. This scanner could break down at any time with the result of no MRI scanner at [REDACTED] to scan in-patients. Though

this risk can be mitigated by securing a mobile scanner and installing onto site there would be a significant delay of several days whilst this mobile service was sourced without robust contingency for scanning patients elsewhere.

If we do not install a second MRI scanner on the [REDACTED] site then this significant risk for the Trust will not be sufficiently mitigated and will increase in the future as MRI referrals increase.

- If we do not provide our own service there is a potential that the Commissioning Tariff will reduce and the costs at [REDACTED] will remain the same. Resulting in a loss of income and an increase in spend.
- The activity has increased by circa 10% between 2014/15 and 2015/16 which would mean a greater cost pressure to be incurred by the trust.
- Current waiting times are 10 weeks for both CMR and CCT scans which means that 6 weeks diagnostic targets are not being met.
- There is currently not enough routine capacity to maintain non-cardiac CT and MRI waiting lists at 6 weeks without putting on additional capacity at weekends and during evenings. Cardiac referrals will not completely fill the new scanners and there will be excess capacity for Radiology to use which will enable Radiology to decrease waiting times. This will have a positive effect on the Trust RTT (referral to treatment) position.

9. Management Arrangements

[REDACTED], Radiology Services Manager will act as project manager and will be required to be a central point of contact for the project. [REDACTED], Director of Environment will delegate to project managers within Estates to support [REDACTED] during the project. In order to maintain the service whilst the building work is in progress, lists will be re-arranged so as not to impact on the Radiology department.

Appendix 1 – Plans



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Appendix 2: NPV

Purchase of Cardiac CT / MRI scanners

	YR0 2015/16	YR1 2016/17	YR2 2017/18	YR3 2018/19	YR4 2019/20	YR5 2020/21	YR6 2021/22	YR7 2022/23	YR8 2023/24	YR9 2024/25	YR10 2025/26
Activity											
Cardiac MRI Activity		488	537	591	623	658	694	732	772	815	860
Cardiac CT Activity		680	748	823	868	916	966	1019	1075	1134	1197
Growth in Direct access (general CT)		103	111	120	130	140	151	163	177	191	206
Total Activity	0	1,271	1,396	1,534	1,621	1,713	1,811	1,915	2,024	2,140	2,262
Capital cashflows											
Buidling capital requirement	-1,120,400										560,200
CT Capital requirement	-1,031,232										
MRI Capital requirement	-848,764										
Total Capital	-3,000,396	0	0	0	0	0	0	0	0	0	560,200
Revenue cashflows											
Income											
Cardiac MRI Activity		294,505	323,956	356,351	375,951	396,628	418,442	441,457	465,737	491,352	518,377
Cardiac CT Activity		490,123	539,135	593,048	625,666	660,078	696,382	734,683	775,090	817,720	862,695
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CCT - additional procedures carried out (1 angio and 3 pacemakers)		39,204	39,204	39,204	39,204	39,204	39,204	39,204	39,204	39,204	39,204
Total Income	0	866,139	955,178	1,054,708	1,123,452	1,182,672	1,245,129	1,310,999	1,380,470	1,453,737	1,531,009
Pay											
Cardiologist 6pa and increase to 8 in Yr5	-60,000	-60,000	-60,000	-60,000	-80,000	-80,000	-80,000	-80,000	-80,000	-80,000	-80,000
Nurse Band 5 - 2 WTE	-77,719	-77,719	-77,719	-77,719	-77,719	-77,719	-77,719	-77,719	-77,719	-77,719	-77,719
Admin - Band 2 - 1 WTE	-22,533	-22,533	-22,533	-22,533	-22,533	-22,533	-22,533	-22,533	-22,533	-22,533	-22,533
Radiographers Band 8A - 1 WTE	-56,510	-56,510	-68,716	-68,716	-68,716	-68,716	-68,716	-68,716	-68,716	-68,716	-68,716
Radiographers Band 7 - 1 WTE	-55,879	-55,879	-55,879	-55,879	-55,879	-55,879	-55,879	-55,879	-55,879	-55,879	-55,879
Radiographers Band 6 - 2 WTE and increase in Yr5	-93,673	-93,673	-93,673	-93,673	-117,538	-187,347	-187,347	-187,347	-187,347	-187,347	-187,347
Radiologists 6 Pas increase to 12PAs	-60,000	-60,000	-60,000	-90,000	-120,000	-120,000	-120,000	-120,000	-120,000	-120,000	-120,000
Additional Portering					-19,926	-19,926	-19,926	-19,926	-19,926	-19,926	-19,926
Cardiologist 1pa	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Savings Bank nurse Band 5 - Transport with patient	38,860	38,860	38,860	38,860	38,860	38,860	38,860	38,860	38,860	38,860	38,860
Total Pay	0	-377,455	-377,455	-389,661	-419,661	-513,452	-583,260	-583,260	-583,260	-583,260	-583,260
Non Pay											
Contrast - £25 per person	-29,205	-32,126	-35,338	-37,282	-39,332	-41,495	-43,778	-46,185	-48,726	-51,406	
Maintenance contracts	0	-102,000	-153,000	-153,000	-153,000	-153,000	-153,000	-153,000	-153,000	-153,000	-153,000
MSSE - £8 per person	-9,346	-10,280	-11,308	-11,930	-12,586	-13,279	-14,009	-14,779	-15,592	-16,450	
Drugs - £3.5 per person	-4,089	-4,498	-4,947	-5,219	-5,506	-5,809	-6,129	-6,466	-6,822	-7,197	
Facilities (assuming 300sqm)	-108,183	-108,183	-108,183	-108,183	-108,183	-108,183	-108,183	-108,183	-108,183	-108,183	-108,183
Training	-20,000	-20,000	-20,000	-20,000	-20,000	-20,000	-20,000	-20,000	-20,000	-20,000	-20,000
Non-pay cost for Direct Access CT	-8,461	-10,577	-13,221	-16,526	-17,353	-18,220	-19,131	-20,088	-21,092	-22,147	
Facilities 20% reduction due to space already occupied	21,637	21,637	21,637	21,637	21,637	21,637	21,637	21,637	21,637	21,637	21,637
Total Non Pay	0	-157,647	-266,027	-324,361	-330,504	-334,324	-338,350	-342,593	-347,065	-351,778	-356,745
Total Expenditure	0	-535,102	-643,481	-714,022	-750,165	-847,776	-921,610	-925,854	-930,325	-935,039	-940,006
Net Cashflows	0	331,037	311,697	340,686	373,287	334,897	323,519	385,146	450,144	518,699	591,004
Capital Charges - 3.5%											
	0	0	0	0	0	0	0	0	0	0	0
Total Cashflows including Capital	-3,000,396	331,037	311,697	340,686	373,287	334,897	323,519	385,146	450,144	518,699	1,151,204
Discounted Cash flows (3.5%)	1.000	0.966	0.934	0.902	0.871	0.842	0.814	0.786	0.759	0.734	0.709
Present Value Cash flows	-3,000,396	319,842	290,972	307,279	325,298	281,974	263,183	302,721	341,845	380,585	816,110
Net Present Value over a 5 year Period	629,414										

Annex 3: Example of a business case for the procurement of defibrillators by an NHS provider

SUMMARY BUSINESS CASE FOR THE PROCUREMENT OF DEFIBRILLATORS

ACKNOWLEDGEMENTS

Programme Board

Chief Executive (Chair and sponsor to May 2009)
Interim Director of Finance (Chair and sponsor from May 2009)
Project Director
Project Manager (Phase 2)
Head of Procurement
General Manager Fleet Services
Risk and Emergency Planning Department (REPD)
National Air Ambulance Manager
Clinical Lead
Interim Medical Director
Convenor, UNISON
Convenor, UNITE
Director of Human Resources & Clinical
Project Secretary

Programme Team

Project Manager Phase 2
Project Support Officer
Head of Procurement
National Clinical Performance
Manager Training
Staff Rep (UNISON)
Air wing
General Manager Finance
Capital Accountant
Health & Safety Manager
Lead for Infection Control
Divisional Representative
Divisional Representative
Divisional Representative
Divisional Representative
Divisional Representative
Divisional Representative
Fleet Representative

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EXECUTIVE SUMMARY

1 The Proposal

- 1.1 The proposal is that the Service replaces the current defibrillators with a new generation defibrillator with additional monitoring capabilities and the potential for further upgrade. The existing defibrillators will have reached the end of their useful life (6 years old) and adopting new technology will improve outcomes for cardiac arrest and heart attack patients.
- 1.2 Currently the service has 530 Defibrillators and 180 Shock boxes and this business case will replace these. Changes in future requirements resulting from service reconfigurations are likely and will be considered as part of the business case for the relevant reconfiguration.
- 1.3 A number of options for replacement were considered for value for money and affordability. The options were developed relating to issues such as the configuration of equipment, the purchase cycle and the method of funding.
- 1.4 It is proposed that the Service would purchase new defibrillators and shock boxes (AED), the purchase to take place from 1 April 2010 and the roll out of the new units to take place between April 2010 and December 2010.
- 1.5 The Outline Business Case has been approved by the Scottish Government Health Directorate and this Full Business Case builds on the information contained in the Outline Business Case and further develops the mix of defibrillator and shock box suppliers given the results of the field trials (June – September 2009).
- 1.6 The purpose of this full business case is to secure funding for the capital purchase of the main units, and assessment of the associated capital charges.

2 Background

That the current machines need to be replaced has already been established as the current contract for maintenance will expire early January 2011. In addition, advances in clinical practice require [REDACTED] staff to be able to provide greater detail on the patient's cardiac rhythm and diagnosis to specialist cardiac centres¹. This business case analyses what sort of replacement equipment should be pursued.

¹ Oshima S, Saito T, Nakamura S, Noda K, Date H, Hokimoto S, Taniguchi I, Yamamoto N. Percutaneous transluminal coronary angioplasty, alone or in combination with urokinase therapy, during acute myocardial infarction. Jpn Circ J 1999; 91-96

Ross AM, Coyne KS, Reiner JS, et al. A randomised trial comparing primary angioplasty with a strategy of short-acting thrombolysis and immediate planned rescue angioplasty in acute myocardial infarction: the PACT trial. J Am Coll Cardiol 1999; 34: 1954-

3 Strategic Context

3.1 Heart disease is a leading cause of death throughout the industrialised world.

3.2 The Scottish Governments recognised need for action is identified in the [REDACTED] targets:

3.3 [REDACTED] Save More Lives

Rates of survival of cardiac arrest on arrival at hospital;

“Survival of cardiac arrest is currently the most reliable indicator of “lives saved”. The Service uses the internationally recognised indicator of ‘Return of Spontaneous Circulation (ROSC)’ at hospital as the best available proxy for this measure, recognising that it cannot be defined as an exact measure of actual survival. Such clinical indicators are often set to fall within a ‘band of reasonableness’, recognising natural fluctuations in certain clinical outcomes and which, given the confines of current medical technology and understanding, are not immediately amenable to incremental improvement, in the short-term. International research evidence suggests 12-20% is an appropriate level”⁶

3.4 [REDACTED] Cat A Chest Pain Patients

%age of chest pain patients responded to within 8 minutes = 75%

“This reflects the true spirit of the A1 Cat A performance target (see below) and Service’s desire to move towards genuinely clinically driven targets”.¹

- The above highlights the desperate need for the more effective diagnosis and triage of heart attack victims in the pre-hospital phase and the administration of pre-hospital thrombolysis under appropriate medical guidelines.
- The existing machines need replaced because they have reached the end of their useful lives (being 6 years old at 31 March 2010) and because patients will benefit from the enhanced functionality available in more advanced technology.
- Patients could expect to benefit from the new equipment in the following ways:

Widimsky P, Budesinsky T, Bednar F, Groch L, Ascherman M, Zelizko M. Combined thrombolysis and PTCA in myocardial infarction: a potential role only in initial 4 hours of symptoms? (time intervals analysis from the Prague study). Eur Heart J 2001; Vol 22 Abstr Suppl September, Page 75

- For patients who have suffered a **cardiac arrest**, the only intervention which can restore a normal heartbeat is an electronic counter shock or defibrillation, and this must be carried out within 10 minutes of arrest for there to be any chance of survival.⁶
- For patients who have suffered a heart attack, the critical intervention is clearing the blocked artery either through the administration of drugs, known as thrombolytic therapy or through Percutaneous Transluminal Angioplasty (PCTA), a surgical procedure involving the inflation of a tiny balloon in the blocked artery. These interventions must be carried out within 4 hours. The monitoring capabilities, integral to the modern defibrillator, assist and guide the delivery of treatment. The 12 lead electrocardiogram (ECG) permits the rapid capture of diagnostic data and enables the early intervention and assessment of damage resulting from a heart attack and ST Segment Elevation Myocardial Infarction (STEMI) recognition software aids that diagnosis.
- There would also be significant benefits for staff in that new equipment would be easier to use and contain more diagnostic adjuncts than the current 6 year old machines. The shock box (AED) proposed are extremely light and easy to use.
- There are also organisational benefits in terms of providing a system that is less vulnerable to malfunction/failure, which can interface directly with our electronic data systems and transmit patient data directly to PCI (percutaneous coronary intervention) centres in Scotland.
- The replacement of the current defibrillators is a feature of the Service's Delivery Plan 2009/10 to 2011/12

4 Project Objectives

The objectives of the project are:

Objective 1	To short list, evaluate and subsequently select equipment (and support services) that are fit for purpose with regard to both current and anticipated pre-hospital clinical practice, including unit weight, technological developments etc.
Objective 2	To award a contract that represents best value for the Service by way of a procurement process that meets legislative requirements and good practice.
Objective 3	To ensure adequate involvement of both staff representatives and other appropriate stakeholders in the selection process.
Objective 4	To manage a smooth and timely transition between technologies including implementation plans, staff training and disposal of old equipment as necessary.
Objective 5	To ensure that the project outcomes fit with other relevant Service policies (e.g. Environmental Strategy etc.), and any current projects/contracts that may have implications for defibrillator selection (e.g. ambulance design, air ambulance contract, Inter-Hospital Transfer project etc.)

5 Options

- 5.1 The Outline Business Case identified that the most appropriate option was Option 2. This involves replacing the current equipment with defibrillators which have integral monitoring capability for AEU's and PRUs and a shock box (AED) for PRUs, first responders and officers. A monitoring facility is available for those who are paramedics. The asset life for this option is 7 years. This Option has been developed further in this Full Business Case
- 5.2 In the Service's financial planning, it has always been anticipated that pool capital from the Health Department would be required to fund the replacement. The financial plans of the Service have to date shown a capital requirement of £7.5 million to be funded from pool capital, together with associated capital charges and revenue costs of £1.6 million, for replacing the defibrillator equipment. This compares to current

revenue costs of £1.6 million.

- 5.3 Although leasing would be an option, purchasing assets tends to be more economic in the long run than leasing assets. This is due to leasing tending to be more expensive than purchasing for Government departments because the cost of capital tends to be higher in the private sector than for Government departments; the lessee typically pays extra for the benefit of having the costs of acquisition spread over the life of the asset; and the lessee typically pays extra for the lessor carrying the risks of ownership. In the Outline Business Case this was therefore deemed not to be a viable option.
- 5.4 The preferred option at Outline business case stage had a capital cost of £7.5 million and revenue of £1.5 million thus a £100k cash efficiency would be delivered to the service by the replacement of the existing equipment.
- 5.5 After approval of the Outline Business Case we moved to field trials of four types of defibrillator and three types of shock box (AED) and we undertook evaluation of the tender submissions. This additional information has allowed the Full Business case to be prepared.
- 5.6 If we replace the exact same number of defibrillators and shock boxes with the new generation of equipment, this would have a capital requirement of
£7.8 m (a 4% increase on the financial plans of the Service to date and a 4.79% change from the Outline Business Case) and a revenue implication of £1.5m (this figure has not changed from the outline business case) (Appendix 3). Thus a £100k revenue efficiency would still be achieved.

6 Economic Appraisal (Value for Money)

- 6.1 The appraisal re-examined the costs, benefits and risks of each option. No changes in the benefits assessment were required. Figure 1/2 below shows the value for money assessment

Figure 1/1: Value for Money Assessment of Short listed Options					
OPTION	BENEFITS TOTAL WEIGHTED BENEFIT SCORE POINTS	COSTS NPV £000'S	COST PER BENEFIT POINTS £000'S	RANK (LOWEST COST PER BENEFIT RANKED 1)	RISK MEDIAN RISK QUOTIENT
Option 1	130	4,999	38.45	n/a	60
Option 2	935	10,795	11.55	1	33
Option 3	735	11,016	14.99	3	55
Option 4	900	11,218	12.46	2	27

A summary of the above options is shown below:

OPTIONS	DESCRIPTION
Option 1 Do Minimum	Retention of existing equipment and extension of maintenance contract.
Option 2	Double crewed AEU's with defibrillator/monitor unit and single PRUs with defibrillator/monitor unit and a monitoring shock box (AED). Community based first responders and senior operational staff equipped with a basic shock box (AED). Those of which are Paramedics with a monitoring shock box (AED).
Option 3	Double crewed AEU's and single crewed PRUs with defibrillator/monitor unit plus a basic shock box (AED). First responders and frontline managers with a basic shock box (AED).
Option 4	Double crewed AEU's and single crewed PRUs with defibrillator/monitor and a monitoring shock box (AED). Front line Operational Managers equipped with a monitoring shock box (AED) and first responders with a basic shock box (AED).

6.2 Option 2 remains the preferred option, offering best value for money. The option has been subject to sensitivity analysis and the assessment shown to be robust.

6.3 Following approval of the Outline Business Case, the Service progressed to field trials of 4 defibrillators and 3 shock boxes across all divisions. The results of the field trials in conjunction with assessment of tender evaluations lead to the identification of preferred suppliers for defibrillators and shock boxes.

7 Financial Appraisal (Affordability)

7.1 Option 2 requires the following funding (these are based on the preferred solution – Supplier A and AED A):

Figure 1/2: Funding Requirements								
	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Capital	£7.859 m							
Revenue	£927k	£627k	£449k	£647k	£449k	£627k	£354k	£551k
Capital Charges	£656k	£875k	£875k	£875k	£875k	£875k	£875k	£219k

[The variation in Revenue spend over the life of the assets is due to the fact that defibrillator batteries are replaced every 4 years and shock box batteries every 2 years. The first year's revenue spend includes the cost of acceptance testing, training and installation.]

7.2 Please note that the cost of capital has been removed from the above capital charges figure, had this not been done revenue costs would increase by £200k. Based on HM Treasury guidance, the cost of capital impact on capital projects is to be removed from April 2010 and we have therefore taken the decision to remove these costs from our business case.

7.3 It is proposed that the capital be funded from capital pool monies held by the Scottish Government Health Department. The ongoing revenue costs comprise maintenance and consumables which have been factored into the Service's financial plans and are affordable.

8 Project Implementation

8.1 Arrangements are in place to manage the implementation of the project. The procurement stage is almost complete, and the Defibrillator Project Team have developed detailed implementation plans.

The key dates are as follows:

Figure 1/3: Procurement Programme	
Product	Timetable
Project Definition Document	By end November 2008 (achieved)
Development of Operational Specification	By end November 2008 (achieved)
Outline Business Case developed	By end June 2009 (achieved)
SEHD Approval	August 2009 (achieved)
Procurement	By end April 2010
Full Business Case Prepared	By end November 2009 (achieved)
Full Business Case Approval	January 2010
Implementation	By April 2010
Full Service Delivery	By December 2010
Post Project Evaluation	6 months after full implementation

8.2 The risks associated with the implementation have been identified and risk management arrangements put in place. The project risk log is detailed at Appendix 2. The top three risks of the project are:

- Risk that if the procurement process is abandoned as a result of the outcomes of the clinical research, there may be allegations of

impropriety, inequity and irregularity.

- Risk of challenge to the procurement process by eliminated suppliers/manufacturers.
- Risk that ongoing clinical research in the [REDACTED] may impact on the Procurement process by increasing the likelihood of legal challenges to the process.

All of these key risks have mitigating actions to ensure the risks are well managed.

- 8.3 A communications plan has been outlined. The key overall message for all audiences is that the Service is modernising its defibrillation equipment and monitoring capability to deliver higher quality clinical care. The proposed treatment of the key contractual issues has been addressed. The human resources aspects of the project have also been identified and addressed.

9 Post-Project Evaluation

- 9.1 Arrangements for post-project evaluation are in place. It is expected that the post project evaluation exercise would take around one to three months to complete and would be carried out 6 months after full implementation.
- 9.2 The evaluation team will use the project framework matrix to assess the extent to which the procurement project has been implemented as planned and to propose any lessons that might usefully be incorporated into the next procurement programme.

10 Conclusions and Recommendations

- 10.1 It is recommended the [REDACTED] and the Scottish Government Health Department approve the adoption of the procurement programme shown in Figure 1/3 above and the funding set out in Figure 1/2 above, and authorise the Service to proceed with the procurement and implementation.
- 10.2 On approval, the Service will implement and roll out the new generation of defibrillators, ensuring compliance with Service policies and taking cognisance of complementary SAS projects.
- 10.3 Following on from the completion of the field trial, Defibrillator Supplier A and AED Supplier A have been chosen as the preferred procurement solution (both products are manufactured by the same supplier). 530 Defibrillators and 180 AEDs will be purchased in April 2010 with roll out taking place as soon as possible thereafter

Annex 4: Example of a business case of improved care service by NHS commissioners

Business cases are also prepared when commissioners intend to procure change to healthcare services. These business cases are generally completed by the commissioners in conjunction with NHS or other healthcare suppliers who may in turn procure products and services for use in the delivery of the health services. If you are a supplier of relevant products and services you may consider working with the relevant healthcare service providers to assist them to meet the commissioner's needs as set out in the business case.

CCG Business case for Recurrent or Non Recurrent Funding request.

Proposal Title: Improving Care to the Over 75s by enhancing pro-active case management
Transformation Workstream: Primary Care Transformation
Accountable Lead Officer/ Lead Director: Director of Commissioning
Lead Clinician: [REDACTED]
Lead Finance officer; [REDACTED]
Theme: Proactive case management of patients at high risk of admission
Responsible Transformation workstream or CCG programme as applicable: [REDACTED]
Approval Group: Governing Body
Business case Author: [REDACTED]
Recurrent or Non Recurrent funding required?: Non-recurrent [REDACTED]

- **Description of Proposal**

An enhanced service for unplanned admissions has been implemented in primary care with effect from 1 April 2014. The enhanced service places a number of additional processes on primary care but does not take into account the time or skills needed in order to effectively undertake pro-active case management.

This proposal aims to support primary care in filling the gaps within individual practices and their neighbourhood teams that will enable pro-active case management to be undertaken which is both effective and outcome driven.

The proposal funds additional nurse time so that each practice has an identified **clinical care co-ordinator** to deliver effective care and case management: The posts will be practice based and hosted but link out into the community working closely with the neighbourhood teams and primary and community services.

The Clinical care coordinators will:

- Be responsible for the initial assessment of patients and the formulation and review of a personalised care plan
- Collecting data relating to specific patient outcomes- these will be dependent on the patients requirements
- Key contact along with the named accountable GP for the patient
- Key person for relationship between practices and neighbourhood teams
- Attend case management meetings
- Identifying when patients have been admitted / attended A&E and review care plan accordingly
- Support discharge planning for patients who are admitted

For clarity the roles of the associated integrated team in delivering care management are :

- | | |
|--|--|
| GP | <ul style="list-style-type: none">• Clinically responsible for the care patients receive during the process of pro-active case management• Selecting cases for case management• Medical input around diagnosis, treatment planning and medicines management |
| Community Matron | <ul style="list-style-type: none">• Managing and coordinating the care of complex patients relating to physical, social and psychological functioning. As well as achieving patient defined goals. |
| District Nurses /
Therapists /
Specialist Nurses | <ul style="list-style-type: none">• Providing treatment of specific conditions or problems as identified by the GP, CM or Clinical Care Coordinator in conjunction with patient defined goals |
| Neighbourhood
Team Coordinator
(Admin) | <ul style="list-style-type: none">• Ensure MDT meetings run smoothly• Assist in signposting and scheduling care across health and social care• Admin function to neighbourhood team• Non-clinician (do not take blood or perform any basic clinical assessment) |

██████ are reviewing their workforce as part of the Better Care Fund to ensure the right proportion of matrons, specialist nurses and therapists form part of the neighbourhood teams.

An alternate approach for ██████████ is in development. They are developing a scheme aimed at providing acute Primary Care Mental Health Support for the Student Population

2.0 Rationale for Proposal

There is an expectation nationally that CCGs will provide additional investment to support improving the care to patients aged 75 or older.

Within the Planning Guidance “Everyone Counts – Planning for Patients 2014/15-2018/19” it stated that

“CCGs will be expected to support practices in transforming the care of patients aged 75 or older and reducing avoidable admissions by providing funding for practice plans to do so. They will be expected to provide additional funding to commission additional services which practices, individually or collectively, have identified will further support the accountable GP in improving quality of care for older people. This funding should be at around £5 per head of population for each practice, which broadly equates to £50 for patients aged 75 and over.

Practice plans should be complementary to initiatives through the Better Care Fund. “

Guidance contained within Publications Gateway Reference 01414 “A Programme of Action for General Practice” stated that;

“CCGs should be using this funding to commission additional primary care services or community health services (over and above those provided under the new enhanced service) that you and other practices in your area have prioritised. It is important that you work closely with your CCG to make the best use of this £5 per patient. Any practice plans should complement the initiatives planned through the Better Care Fund for 2015/16, for which one of the criteria is an accountable professional for integrated packages of care.

The [REDACTED] decision has been to put the [REDACTED] clinical commissioning money and add [REDACTED] from reserves to create a [REDACTED].

The use and make-up of the [REDACTED] of population has been the subject of discussion at four Locality Development Sessions [REDACTED] All options for utilising the funding have been explored (see options appraisal).

3.0 Intended Benefits:

- Contribution towards CCG transformation priorities
- Support for JSNA priorities
- Development of Primary Care
- Workforce development
- Quality initiative

Patient Benefits:

- Safer care delivery arising from robust and proactive care planning
- Patients / carers feeling more involved in decisions about their care
- Continuity of care for patients
- Improved management of long term problems
- Reduction in acute episode of illness and unwarranted days in hospital
- Improved patient experience of general practice
- Better and quicker discharge planning
- Remain in their own home for as long as appropriate
- Supports advanced care planning
- Supports the carers role

System Benefits:

- Creates a primary care model which is sustainable for future transformation and supports further integration of care between [REDACTED] and primary care
- Reduction in unplanned and urgent care spend
- Delivery of strategic priorities
- Support Health and Wellbeing Strategy

4.0 Key Functions/Stakeholders affected

Patients

In Autumn 2013, the CCG commissioned comprehensive research with patients, parents

and carers in GP practices to gather their views and experiences of services. The research's purpose was to develop a tool to measure baseline experiences to allow comparisons to be made over time, and explore ways services might be developed to maintain and improve user experience in the future.

The research highlighted 10 recommendations; which were about behaviours, such as maintaining eye contact and involving patients in consultations but many of the others reflected communication as a particular area for improvement. We have considered each of the areas for improvement and reflected how we can improve the experience for patients within our proposal, for example:

This business case is based on providing additional capacity to identify a 'care co-ordinator' that will ensure patients feel supported to manage their condition, provide appropriate education on how to respond proactively to changes in their condition.

GP members

Members have been discussing the proposal as part of the last Four Locality Development Sessions [REDACTED]. We have explored with members the additional resources available (through the new joint NHS / [REDACTED]) to support the accountable GP in improving care to the over 75s and the existing capacity of the neighbourhood teams.

Key messages that have been identified from these members' sessions are:

- Need for neighbourhood teams to align with practice populations
 - Improve communication
 - Work towards combined team without need for referrals
- Care planning should:
 - provide organised and pro-active care
 - emphasis on self care and a holistic approach
 - person centered care
 - Empower the patient to manage conditions
 - Reduce risks of crisis
 - Improve patient / staff satisfaction
- Outcomes we should expect to see
 - Improved self-management / patient satisfaction
 - Improved quality of life
 - Reduce unplanned admissions & A&E attendances
 - Reduction in falls / UTIs / medication errors
 - Increase in number of patients dying in preferred place of death

Community service providers

[REDACTED] have been involved in the conversations with regard to the use of the [REDACTED] and have been supportive of the direction of travel as it provides a key resource for practices to communicate with the integrated teams.

Out of Hours providers

We do not envisage any adverse impact on out of hours providers that needs consultation at this stage.

5.0 Equality and Diversity

An Equality impact assessment will be undertaken. It is not expected that this business case would have an adverse impact on equality and diversity issues. Indeed the proposal is aimed at supporting those vulnerable people who will benefit from case management.

The changes may have a positive impact if individual Practices develop approaches that target protected groups.

The Equality and Diversity Impact Assessment can be found at Appendix One.

6.0 Finance

6.1 Key investment requirements

██████████ to be available to each practice, this would complement existing spend to equate to the required ██████████.

The total cost to ██████████ would be ██████████.

NB. This only represents ██████████ is developing a separate individual plan for utilising the ██████████

7.0 Outcomes and Outputs

Impact of Proposal– Activity/ Service/ Quality benefits

Patient

Improvement in the Patient Reported Outcomes Measures (Appendix Two) Increase in number of patients dying in preferred place of death

Acute Activity

Reduction in A&E, MIU and OOH attendance Reductions in admission and length of stay

Primary Care Activity

Increase in overall rates of patient contact with changes in the split between; acute and planned interactions; GP to Nurse interactions.

Social Care Activity

Increase social work input
Reduction in long term placement

Elective Activity

Secondary Care Services – neutral or reduction in outpatients and planned treatment Community Services – increased use of nursing and therapy services

How cohort chosen and how and when it changed over time Rate of turnover in the cohort Number of care plans completed and review rate Actions and goals set and achieved It has been projected that if the city were to continue on its current trajectory and in five years' time the city would be spending over £163million on emergency admissions. The city has set itself a target of reducing the number of emergency admissions to hospital by 15%.			
8.0 Metrics			
We would use the metrics from the Better Care Fund who have identified 5 national measures, which are: • National Measure 1: Permanent admissions of older people (aged 65 and over) to residential and nursing homes, per 100,000 population • National Measure 2: Proportion of older people (65 and over) who were still at home 91 days after discharge from hospital into reablement /rehabilitation services • National Measure 3: Delayed transfers of care from hospital per 100,000 population • National Measure 4: Avoidable emergency admissions • National Measure 5: Patient/service user experience We will also complement the above list of high level outcomes with a local metrics dashboard. Please see Appendix Three.			
9.0 Impact of Proposal – Cost Benefits			
We cannot currently identify who is on the 2% list of each practice and therefore we are unable to map that against current activity levels. We are able to benchmark non-elective activity against other CCGs nationally through the NHS Better Care, Better Value Indicators. Through this the Opportunity Locator has identified that by moving to the 50th percentile, will release [REDACTED] for admissions purely relating to ambulatory care sensitive conditions (based on Quarter 4 13/14). We aim to have an impact on admissions relating to ambulatory care sensitive conditions due to the effective and pro-active case management of patients with long term conditions and ensuring that admissions are avoided (due to the presence of emergency care plans etc).			
10.0 Key Risks – to success of the proposal			
Risk	Mitigation	RAG	
Timescale for implementation / sustainability ; If approved the proposal will be	[REDACTED] is in the process of commissioning extended primary care and therefore the future sustainability of this scheme		

established from Quarter 3 2014/15 and will run for a period of 12 months, this may not be sufficient time to be able to demonstrate effective outcomes in order to guarantee the future commissioning via the BCF	could be incorporated within the longer term development of devolved budgets. [REDACTED] through the Primary Care Transformation agenda will also look to co-commissioning the Enhanced Service for Unplanned Admissions with the Area Team to develop a scheme which is outcome driven	
Workforce; There is a risk that the appropriate workforce is available with specific skills	The scheme has been discussed at a number of locality development sessions and practices have been identifying the appropriate skills within practices. Many practices have already gone at risk and recruited additional staff either through increasing hours or through temporary contracts. A number of practices have already agreed to share staff across practices.	
Delay in implementation; due to the level of engagement in the development of the business case, practices have already developed care plans in order to meet the enhanced service deadline of 30 September	The focus of this business case is to develop the quality of the care plans and therefore we would ensure that all practices, once they have identified the care co-ordinator review the care plans to ensure these have been co-produced with patients effectively	
Links to other providers; [REDACTED] may have already developed their plans (as part of the BCF) and General Practice may be	The CCG is actively engaged in the [REDACTED] CQUIN Implementation Group and is ensuring that primary care is appropriately represented to ensure that all plans support integration.	
11.0 Mitigation against Risk:		
As above.		
12.0 Options appraisal		
Option 1 – Proactive case management of patients at high risk of admission (preferred option) Develop a scheme which is open to all 37 practices to support pro-active case management which is effective and outcome driven by funding additional nurse time so that each practice has an identified clinical care co-ordinator to deliver effective care and case management: The posts will be practice based and hosted but link out into the community working closely with the neighbourhood teams and primary and community services <i>Strengths of Option 1:</i> • Equitable to all practices and patients – developed in consultation with member practices through locality development sessions • Supports improved working relations between member practices and [REDACTED] to		

further develop integrated care

- Provides protected time for practices to implement case management in a pro- active way, allowing practices to develop their systems internally
- Provides a point of contact for [REDACTED] and ensures practices are represented at the MDT case management meetings
- Provides practice focused resource to support the 2% and over 75's
- Provides practices with an opportunity to commission additional Community resources directly (if they wish to do this)

Weaknesses of Option 1:

- Workforce availability to support case management
- May not be able to easily unpick and describe cost savings from elsewhere in the system
- Measuring outcomes is more of a challenge

Option 2 – Invest in additional Community Services

Practices had initially identified that they would like to see additional investment in community services to support practices directly.

Strengths of Option 2:

- Promotes the value of Community Services within General Practices and could further help support integration
- Utilises the expertise of Community services

Weaknesses of Option 2:

- Additional investment in community services had already been identified through the BCF
- Practices requested a workforce plan for [REDACTED] to understand where gaps currently exist and the overall plan for investment
- Lack of (practice) control over the resources with competing priorities
- Lack of confidence in ability to deliver, practices already feel frustrated with community services not turning up for meetings
- IT Logistics i.e. inability to access EMISweb

Option 3 – Integrate Pro-active Case Management with the Extended Hours Business Case

The CCG has developed a business case to support extended access in general practice which is being progressed through the relevant processes through a separate business case. There is an opportunity to increase the value and outcomes for this business case by incorporating the two schemes.

Strengths of Option 3:

- Simplifies internal processes
- Enables more effective evaluation – as similar outcomes will be sought

Weaknesses of Option 3:

- The two schemes are being funded differently; it is envisaged that the [REDACTED] is made recurrently through the BCF
- Lose credibility as members have asked that this is kept separate

An analysis of the strengths and weaknesses of the above options indicate that on balance option 1 is the recommended course of action and that options 2 and 3 should be disregarded.
13.0 Procurement
Consideration was given to a requirement to tender this service, as required now for all community services from 2014/15. The exception is where a service needs to be list based. We propose that this service, as an extension to an existing list based general practice core service, fully meets the definition of needing to be a list based service. Tendering for procurement of this service is therefore not required.
14.0 Workforce
The role of a 'clinical care coordinator' has been identified as a gap for practices in terms of delivering high quality case management. We have estimated that for a practice of around 8,000 patients they will require at least 20 hours of clinical care co-ordination per week, it is likely that practices will identify this role from within existing resources (increase hours of existing employed nursing staff) or through recruitment of additional staffing. Workforce and recruitment has been identified as a particular risk and practices are already taking action to mitigate any risks with regard to this. We will encourage practices to work together when looking at recruitment and identify opportunities for the joint appointment of staff and appropriate skill mix of the clinical workforce.
15.0 Evaluation plans
It is anticipated that this proposal will contribute to the citywide indicators and overall achievement of the overarching outcome of the Better Care Fund (BCF). Through the BCF, the CCG will assess whether [REDACTED] as a health and social care system is working towards achievement of the system and BCF outcome as quantified through the citywide indicators below. It is not possible to attribute a direct causal link between individual practice-level interventions and the achievement of citywide indicators. Practices will however be required to use information and data to evaluate the extent to which the planned intervention or service have achieved what they set out to achieve.
16.0 Exit Strategy
The 2014-15 planning guidance makes reference to a £5 per head to be spent specifically to focus on the over 75 year olds. In [REDACTED] there has been agreement that the funding would be put into the Better Care Fund recurrently from 15-16 and evaluated as part of the Better Care Fund arrangements.

The success of this scheme will therefore need to be agreed through the Better Care Funding arrangements and therefore practices will need to be clear when recruiting staff with regard to the risk to the continuation of the service.

██████████ is in the process of commissioning extended primary care where we envisage that the longer term sustainability of that scheme will be supported by practices choosing to enter a risk sharing arrangement across groups of practices and eventually taking ownership of delegated budgets for elective, non-elective and prescribing expenditure. Therefore the future sustainability of this scheme could be incorporated within the longer term development of devolved budgets.

██████████ through the Primary Care Transformation agenda will also look to co-commissioning the Enhanced Service for Unplanned Admissions with the Area Team to develop a scheme which is outcome driven and rather than having two separate schemes (the enhanced services and this scheme) look to have one overall scheme which is qualitative driven.

17.0 Appendices

Appendix One Equality and Diversity Impact Assessment
Appendix Two Patient Reported Outcome Measures
Appendix Three Metrics

Appendix 1. Equality Impact Assessment

Standard Equality Impact Assessment used

Appendix Two - Questions to use in the Care Plan for Older People.

For each of these questions, which answer best describes how you feel. Or can be completed in a questionnaire or during an interview.

1. How is your health these days?

- Overall, my health is very good. ☐
- I have a few health problems but I am ok most of the time. ☐
- My health could improve a little ☐
- My health could improve a lot ☐
- I am not very well but there is nothing that needs to be done for my health. ☐

2. Self-Care

- I have no problems with self-care ☐
- I have some problems washing or dressing myself ☐
- I am unable to wash or dress myself. ☐

3. Usual Activities (e.g. work, study, housework, family or leisure activities)

- I have no problems with performing my usual activities. ☐
- I have some problems with performing my usual activities. ☐
- I am unable to perform my usual activities. ☐

4. Pain/Discomfort

- I have no pain or discomfort ☐
- I have moderate pain or discomfort ☐
- I have extreme pain or discomfort. ☐

5. How are your social relationships these days?

- I have as much social contact as I want ☐
- I often visit with friends or relatives but I would like to socialise a bit more ☐
- I have visitors but I would like a few more people I feel close to ☐
- I feel lonely some of the time ☐
- I feel lonely a lot of the time. ☐

6. How well are you managing financially these days?

- I am living comfortably ☐
- I am doing alright ☐
- I am just about getting by ☐
- I am finding it quite difficult ☐
- I am finding it very difficult. ☐

7. How is your home?

- I am very happy with my home ☐
- My home is good ☐
- I have a few problems with my home but I manage ok ☐
- My home needs to improve a little ☐
- My home needs to improve a lot. ☐

8. Mobility

- I have no problems in walking about ☐
- I have some problems in walking about ☐
- I am confined to bed ☐

9. How well are you managing your health condition these days?

- I don't have a health condition ☐
- I am managing my health condition very well by myself. ☐
- I am managing my health condition very well with help from other people. ☐
- I need a bit more help to manage my health condition ☐
- I need a lot more help to manage my health condition ☐

10 In the last 6 months, have you had enough support from local services or organisations to help you to manage any long-term health condition(s) ? Please think about all services and organisations, not just health services

- Yes, definitely ☐
- Yes, to some extent ☐
- No ☐
- I haven't needed such support ☐
- Don't know / can't say ☐

11 How confident are you that you can manage your own health?

- Very confident ☐
- Fairly confident ☐
- Not very confident ☐
- Not at all confident ☐

12 Thinking about both the good and bad things that make up the quality of your life, how would you rate the quality of your life as a whole.

- Very good ☐
- Good ☐
- Alright ☐
- Bad ☐
- Very bad ☐

13 Anxiety/Depression

- I am not anxious or depressed ☐
- I am moderately anxious or depressed ☐
- I am extremely anxious or depressed ☐

APPENDIX 3 METRICS

Non-Elective Activity

A&E attendances

- Adult
- Children
- Frequent Flyers MIU attendances
- Admission
- Acute conditions not requiring admission
- LTC hospitalisation rates
- Elderly
- General Medicine
- Respiratory
- CDU
- General Surgery
- Urology
- Orthopaedic
- Children's
- 30 Day readmission rates
- Length of Stay

Other Providers

██████████ (OOH)

111

Social Care - Long term placements

Acute

Non-Elective Activity

Primary Care

Opening hours by weekday

Total contacts split by staff group

- Face to face appointments
- Home visits

Acute

Elective Activity

Outpatient Rate New
/ follow up

Other Providers

Healthy living services

Physio

OT

Falls

Pulmonary rehab

Cardiac rehab

Structured educational programmes

Patient Experience

Annual patient survey

Patient satisfaction – patient level / patient groups

- % of all GP appointments on day of request or day of choice
- % of appointments with preferred GP

Friends and Family Test

Staff

Staff survey

Staff morale survey (transformation appetite)

WTE / numbers employed

Prevalence

LTC / Cancer

