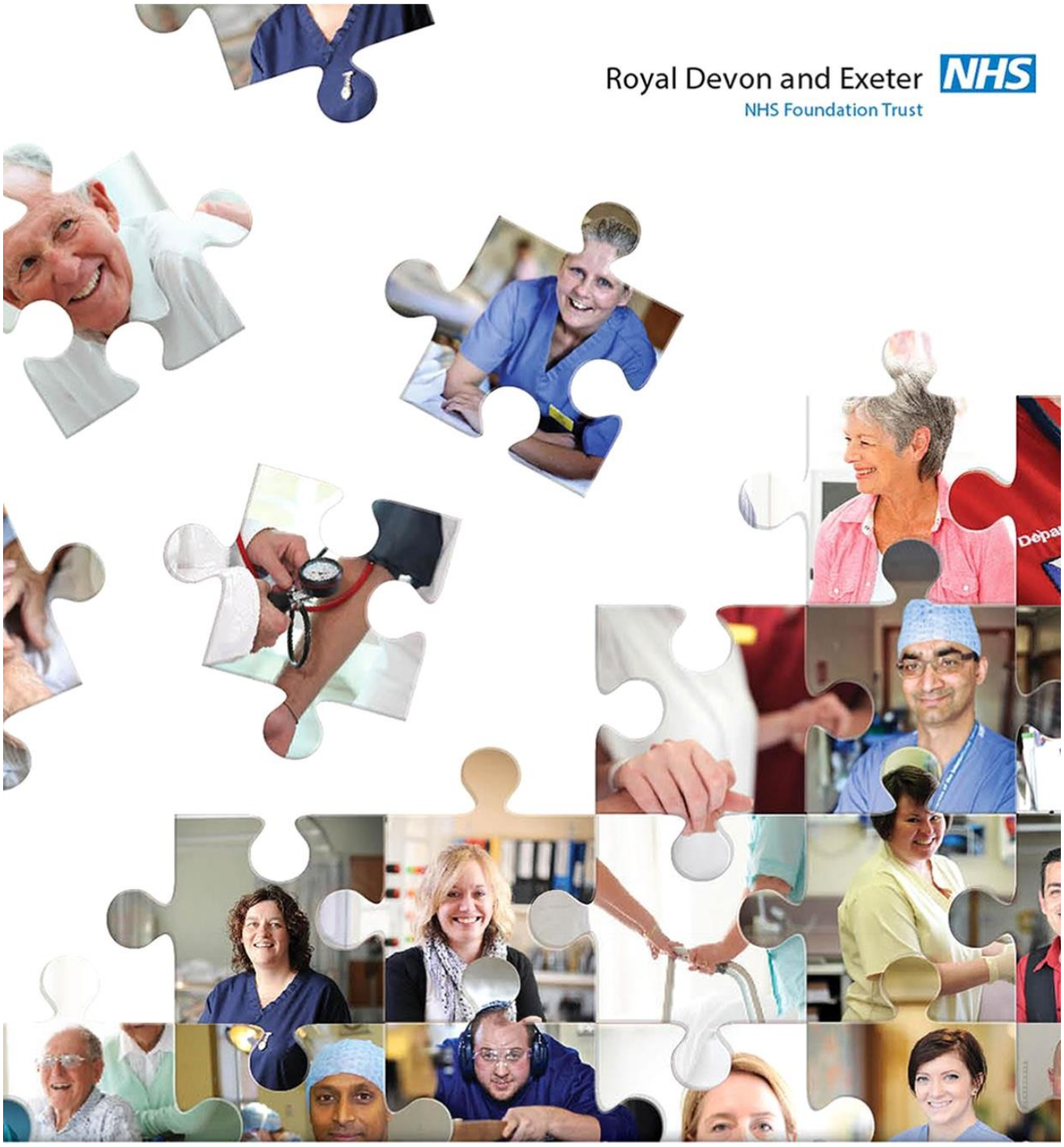
Royal Devon and Exeter NHS
NHS Foundation Trust



My Care Programme

Clinical Transformation enabled by a comprehensive electronic patient record (EPR)

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Foreword

The My Care Programme has been devised and developed to enable the RD&E to provide a sustainable, effective, efficient and personalised care system for the population of Eastern Devon and the surrounding areas. The key elements of the Programme are Integrated Care and Acute Pathway Transformation. Securing the most effective deployment of these elements of the Programme will be enabled by a comprehensive Electronic Patient Record (EPR). This document focuses on the EPR enabled delivery of the My Care Programme but the underpinning infrastructure and approach is designed to embrace the RD&E's journey to become a fully integrated care system provider. Throughout our focus will be to assist people to maximise wellbeing, manage their own health, whilst maintaining safe and appropriately high quality care and clinical interventions.

As an integral part of the RD&E overall corporate strategy, the Programme will enable work to deliver a new model of care that focuses as much on wellness and prevention as ill health; that drives the need to see patients as people first and that empowers them to be in control of their own health care. The delivery of the new model of care, in a financially sustainable way, aligns to the direction of travel outlined in the NHS Five Year Forward View, which also promotes the use of modern technologies to enable change.

If we take a look at how healthcare is predominantly delivered today here at the RD&E, we would absolutely see excellent care being provided every day, by staff who are trusted by patients, their relatives and carers. However, we would also see a number of aspects of how that care is delivered which simply cannot continue:

- At any given time, there could be up to 95 patients occupying hospital beds who no longer require acute hospital treatment, and could be more appropriately treated at home or in the community setting. They do not need to be in hospital and can deteriorate the longer they stay.
- People with long term conditions are currently asked to return for follow up appointments at regular intervals whether they need to or not – rather than enabling them to monitor their condition remotely with intervention only when needed.
- We need to stop being satisfied with the amount of responsive treatment we give, no matter how well we provide it – we need to ask ourselves why the person became that ill and frail, and use better clinical information to prevent their health from declining in the first place.
- We tend towards a well-meaning 'paternalistic' approach to care which may or may not take into account individual needs or desires - those people in their last year of life may want to choose not to have various procedures which require hospital stays so we can design care in line with an individual's wishes.

Over the last ten years or so, many other sectors and businesses have transformed the way they deliver services to their 'customers' – for example Tesco deliver to your home at the time slot you select; most banks enable you to do on-line banking now; organising your holiday can be done independently (including selecting your seat on the aeroplane). Whilst people who require healthcare may not describe themselves as customers, and do not see healthcare as a transaction in the same way they do with their bank or shop, many of the supportive more personalised aspects of service we take for granted in our daily lives are not available in healthcare. Much of the way people

experience healthcare has not changed for many years with the majority of communication and clinical information being paper based (e.g. health records, prescriptions) and/or being asked the same questions numerous times to fill in multiple forms.

It is time for the RD&E to transform and improve this aspect of its work. This transformation can only be achieved if enabled through technology – and our current clinical information systems and IT infrastructure is not fit for purpose. The redesign of our pathways, enabled by an EPR, will help to reduce variation, improve the safety and quality of care delivered and increase the accessibility and reliability of information for the population of Devon, the provider partners and our commissioner stakeholders. It will provide access to an international community and 'big data' to support our genomics research and targeted medicine. In short, quality, cost and delivery benefits will be achieved that are essential to a sustainable and safe care system in the future.

Suzanne Tracey
Chief Executive

Chapter One: Executive Summary

1.1 Introduction

The Chief Executive has set out the RD&E's vision for a new model of care in her Foreword and has summarised both the need for this new model and the critical role that the redesign of clinical pathways and IT need to play in delivering it. In order to integrate care and provide this new model, the RD&E will need to work closely with a number of other organisations. Whilst initial planning in this respect has generally been very positive and our vision is well aligned with the Five Year Forward View (which has support across the NHS, as well as from all the main political parties), further work will be required to define how or when these structural changes will be delivered. The RD&E does not have sufficient information available to properly assess the costs and benefits derived from this wider plan and the impact, therefore, on the Trust corporate strategy. This Executive Summary and the remainder of the FBC therefore focuses primarily on:

- The costs and benefits associated with the redesign of clinical pathways and the introduction of the recommended EPR system across the acute and community settings of the RD&E only;

and

- Ensuring that the introduction of the proposed new EPR system will facilitate, not inhibit, the proposed new model of care.

The following is a Full Business Case for the My Care Programme enabled by EPR. This case has been developed over a number of months, led by Executive Directors with senior management and clinical contribution and supported by external advisors Deloitte and legal advisors DLA Piper.

1.2 Strategic Case

Delivering safe, high quality healthcare for the population of Devon within the level of allocated resources available is increasingly becoming a significant challenge. Our health economy has a number of complex factors which mean we are facing the problems earlier than other parts of England. Our population is aging and this demographic trend is 20 years more advanced than other areas in England. People are living longer but with an increasing number of comorbidities which can now be treated through developments in technology and drug regimes. In addition Devon has a higher number of people with long term illness or disability than the UK average which is already creating higher than national levels of spending on continuing healthcare. Based on current approaches to the delivery of care, the Devon system is currently in a financial deficit position, and with the predicted increased demand for our services finances are likely to remain under pressure if radical redesign does not happen.

Whilst the position in Devon maybe more immediate, similar issues are faced across the whole of the NHS. NHS England's Five Year Forward View highlights that there is a need to make some significant changes to the way we deliver healthcare. The plan sets out the need for a radical upgrade in prevention and public health, indicating that when people do need health services, patients will gain far greater control of their own care and in order to achieve this, the NHS needs to take decisive steps to break down the barriers in how care is provided. The Five Year Forward View

accepts that there is not one model of care that will best meet all needs but sets out a small number of radical new care delivery options which health economies should seek to implement. This plan in combination with the Dalton Review, leads us to conclude that the Trust needs to develop a new model of care and potentially organisational form. It must be focused on the need to radically transform services to enable a fully integrated service and holistic approach to population health and wellbeing which are sustainable.

The Trust's Corporate Strategy sets out our vision of the future where "we will be a leader in transforming the health and care system, working in partnership to connect people, services, communities and voluntary groups to meet the needs of the communities we serve".

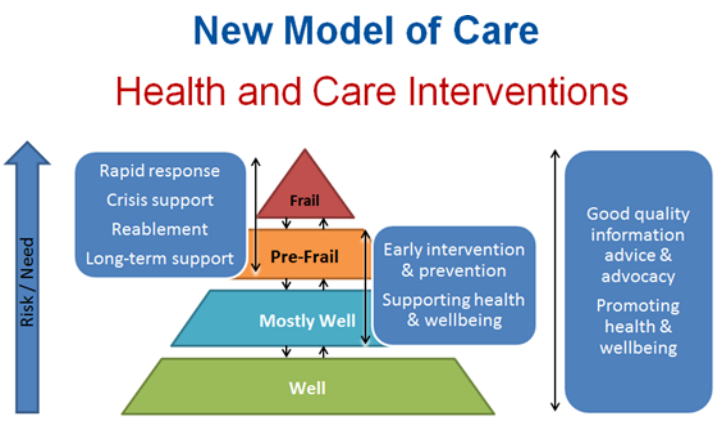
In doing so, we will continue to provide safe, high quality, seamless services delivered with courtesy and respect. Our trust values will always guide us:

- Fairness
- Honesty, Openness & integrity
- Respect & dignity
- Inclusion & collaboration

To shape our future work, the trust has set three strategic objectives, these are:

- **Listen** to people and continually improve what we do;
- **Connect** people, communities and services so that we can work together to improve health and well-being for everyone;
- **Innovate** so we can continue to grow our world-class specialisms, working with partners and our patients to push forward the best medical research.

The Trust's vision and strategic objectives promote a system-wide alignment of care to provide integrated services and this is supported by a proposed new model of care for our locality. This new model of care focuses equally on wellness, prevention and ill health management, seeing patients as people, empowering them to be in control of their own care and aligns to the direction of travel outlined in the NHS Five Year Forward View.



Our initial areas of focus are:

- Frailty - improving the coordination of services wrapped around frail older people.
- Long Term Condition (LTC) management of mostly well and pre-frail people.
- Increased delivery of outpatient and ambulatory services closer to the people they serve, making better use of community and social capital, reducing hospital visits.
- Work with the established social care cluster footprints to develop care coordination, navigation and collaboration of multidisciplinary teams harnessing social capital.
- Work with Eastern Devon GPs, identifying population groups with multiple comorbidities and partnering with them to redesign services whilst promoting self-management and control for people, for example through Integrated Personal Commissioning.

In the long term the Trust aims to incorporate wider health and social care services in order to organise its services to support the delivery of the new model of care. This will require pathways to be reconfigured in order to support a seamless service. This will need to be supported by appropriate technology and changes to funding mechanisms, for example a move to capitation funding.

The Trust is currently pursuing these longer term aims, for example continuing to fully integrate community services for Adult Complex Care in the Eastern Locality; and improving the way RD&E works with Devon System Partners. Led by the Medical Director and Director of Transformation & Stakeholder Engagement, standardisation of clinical practise will be driven across the community and acute settings within the RD&E to ensure safe and reliable care continues to be delivered. Set within the construct of an open and transparent culture, where deviation from standard practice represents an opportunity to learn and improve, the My Care Programme will be clinically led, supported by transformation and technology.

There are significant variations, duplications and manual workarounds in our current processes. Variation in care, and the consequences for individual patients, extends length of stay and creates inefficiencies within the way that we operate and the resources that we consume. Basic details and medical history are taken from patients several times as they move through their pathway. The paper-based system provides insufficient and untimely prompts to clinical staff, meaning that early warning signs related to a patient's health may be missed and treatment becomes reactive and urgent. Treatment can be provided in departmental 'silos', which complicates handoffs between departments along patient pathways and may increase variation of how care is delivered and outcomes.

The delivery of the My Care Programme is the way the Trust will address these inefficiencies, driving standardised ways of working to improve the patient pathway over the next two years.

There are a number of important factors to support the delivery of the My Care Programme, but amongst the most crucial are strong clinical leadership that establishes common standards applied by all, engagement of stakeholders (e.g. GPs), patients and staff in establishing the new model of

care and robust, modern, fit for purpose clinical information systems and associated IT infrastructure.

Our current clinical information systems are up to 32 years old and are no longer fit for purpose. We have concluded that our core clinical information systems cannot continue to provide sustainable support to the delivery of safe patient care. This is considered by the Board as one of the major strategic risks facing the Trust. Whilst we have been able to maintain our systems for many years, the instability of our current core systems, particularly the Patient Administration System (PAS), represents a risk to the continuity of service in that there are parts of the system that are becoming increasingly difficult to support. These factors combined with a national objective for the NHS to be paperless by 2020 drive the requirement to replace our clinical information systems. We have concluded through the development of this business case that replacing our existing outdated clinical information systems with a fit for purpose Electronic Patient Record (EPR) system will support not only improvements in efficiencies and quality standards across our within the acute sector & and community settings but will importantly provide an operational and technological platform from which to deliver a single patient record, standardised and efficient working and improved use of clinical information to support the new model of care and integrated health and social services.

1.3 Economic Case

To replace the Trust's clinical information systems we have identified two main options for delivery, these options have been assessed against a Do Nothing Option. Three options were therefore considered: O*ption A: Do Nothing, Option B: Do Minimum (*replacement of clinical technologies on an individual basis) *and Option C: Transform acute pathways and implement EPR.*

The Trust appraised the risks and quality of each option.

- **Option A: *Do Nothing*** - This option was dismissed as it does not address the need to replace the Trust's outdated systems irrespective of operational and strategic changes. Current clinical information systems perpetuate a financially unsustainable operating model and do not support pathway redesign or integrated services.
- **Option B: *Do Minimum*** – The Trust concluded that this option could replace specific clinical technologies to a degree of effectiveness, however the benefits accruing would be limited as this would not be an integrated solution and over the 15 year appraisal would present a net cost to the Trust. In addition, this option would not fully support pathway redesign or operating model enhancements.
- ***Option C: Transform acute & community pathways and implement EPR*** - The Trust's original options appraisal indicated that this option is the most costly, however it represents a strategic investment in clinical transformation and clinical information systems replacement and provides access to a range of financial and quality benefit opportunities that would not be realised by the do minimum option. Based on the original option appraisal, the Trust identified a preferred supplier and has undertaken a detailed assessment of both costs and benefits, supported by the Trust's external advisor Deloitte. Whilst this option costs more than the *Do Minimum* option, it

supports the Trust deriving greater benefits, thereby converting the net cost in Option B (*Do Minimum*) to a net benefit over 15 years. Option C was ranked first in terms of addressing Trust risks, supporting operational and clinical quality improvement and delivering the best economic value for money. The preferred option in both Non-Finance and Value for Money terms is therefore identified as Option C.

During the procurement process, the Trust considered alternative EPR solutions through its assessment of supplier bids to support the value for money analysis for Option B and Option C. Epic was the most costly proposed solution, which was reflected in the financial ranking. However, there was a significant difference in the evaluation of non-financial criteria which ranked Option C as the most favourable, particularly in relation to predicted benefits.

Having established Option C as the preferred solution, the Trust has undertaken a detailed assessment of the costs and benefit of the proposal. The proposed My Care Programme has been planned based on three key elements: pathway redesign, EPR implementation and enhancement of the IT 'Warranted Environment' infrastructure. These elements drive the key cost categories, which have been subject to detailed development and assessment in conjunction with both Epic and Deloitte. The benefits identified and planned include quality (linked to the Trust's Hierarchy of Priorities) cash-releasing (direct savings to operating costs attributable to the programme), cost avoidance (of costs in the baseline Long Term Financial Model) and Capacity & Efficiency. The benefits have been developed in conjunction with teams from the Clinical Divisions and the Service Delivery Team and the cash-releasing benefits have been assessed by the Service Delivery Team to develop the base case for this proposal. The range and scale of benefits identified are similar to that achieved by other healthcare organisations across the world that have implemented an EPR, and have achieved digital maturity. The Base Case for benefits has been incorporated into the options analysis, however it is recognised that benefits realisation may be variable across the range of *Base, Best* and *Worst* scenarios.

There are, of course, a number of risks associated with a programme of this size and complexity and the key risks for this scheme have been identified and assessed. Wherever possible the Trust has sought to mitigate the risk either through management action and control, through its contract negotiations with Epic or by setting an appropriate contingency. A contingency within the base case for this project of 5.6% of total Programme costs has been planned.

One of the significant risks which would have an impact on the outcome of the Programme is the ability of the Trust to manage the transformation effectively and to release benefits. The Trust has modelled three cases for benefits scenarios and considered cost risks and sensitivities. A combination of a worst case benefits scenario and cost increase (beyond current contingency) of 14.0% of total programme costs would still produce a break-even position, and the Programme would have to incur an unmitigated cost increase of 67.7% of total programme costs to affect Option C as the preferred option.

In summary, the Trust has identified it cannot continue to deliver safe, quality and sustainable services without a radical change to its model of care and that a modern fit-for-purpose clinical information system is required to support these changes Replacement for our clinical technology is

required irrespective of any changes to our care model because a number of existing core clinical information systems are very old, are becoming difficult to support and can no longer effectively support our business processes going forward. We can choose to do the minimum required to replace our systems but this will not realise sufficient savings, thereby resulting in a net cost to the Trust. In addition this minimum option will not deliver an EPR and would need to be replaced or amended at a future date to meet national and local objectives. The Trust's preferred option is, therefore, to make a greater up-front investment to deliver a solution that will support this My Care Programme but also facilitate the delivery of the Trust's proposed model of care.

1.4 Commercial Case

To compile this Full Business Case, the Trust has completed an OJEU Open Dialogue procurement process, which engaged clinical and non-clinical staff in the evaluation of bids on the basis of demonstrations, references, financial value and commercial proposition. Epic was selected as the preferred supplier in April 2014 with strong endorsement from clinical staff. Following this, the Trust has completed due diligence on the benefits case, undertaken detailed design and analysis on the provision and sourcing of the IT Warranted Environment, and finalised contracting options.

The proposed contract for the supply, support and maintenance of the Epic EPR solution is ten years with further extension on a year by year basis for up to five years. The contract will be for Epic's Enterprise licence which will cover a range of clinical information system modules (for example PAS, ED, Maternity, Theatre Management, Pathology) with further options for the right to call off additional software (for example Oncology, Radiology).

The Trust has considered a range of contractual risks, including those to costs, scope, implementation timetable and contract exit, and has identified mitigation strategies.

After a detailed review of options, the Trust will be hosting the IT Warranted Environment infrastructure in-house and will enter into a procurement(s) to purchase all equipment required. The Trust has considered the implications, and factored into Programme planning, of retiring current clinical information systems and exiting contracts.

1.5 Financial Case

Having established the economic value of the proposal to the Trust, we need to consider how we will afford to pay for this investment. Over a 15 year period the Trust will see an increased surplus. However an initial cash outlay will be required in the initial years of the programme to support the initial implementation.

The costs associated with the proposed solution include a mixture of capital and revenue related expenditure. Capital expenditure relates to Epic licence costs, Implementation and IT Warranted Environment costs, and will occur mainly during the initial years of the contract. Revenue costs will be driven by EPR software maintenance and Trust resource for ongoing support.

The potential local health economy move to reimbursement through a capitation formula may reduce the ability to generate additional income. For this reason the Programme's financial model

is based on the prudent assumption of no growth in income accruing to the Trust as a result of increased activity.

The funding for the programme will be derived from a commercial loan. The Trust has explored external funding options such as grant funding through the Government's Digital Tech, 'Vanguard' bid and a loan under the ITFF (Independent Trust Financing Facility), operated by the Department of Health. The Trust was not successful in securing funding from these sources; therefore the only remaining option was a commercial loan.

1.6 Management Case

Our My Care Programme is a significant clinical transformation, enabled by new technology (specifically a comprehensive electronic patient record) and is the most ambitious programme the trust has undertaken. Programme governance arrangements have been designed in order to set out the authority, accountabilities and responsibilities of the defined groups, support decision making at different levels, and define a set of key governance principles that can be applied to the operation of the Programme.

The My Care Programme is one of four programmes that are focused on establishing a new care model. Oversight of the four programmes to ensure an integrated approach where interdependencies are managed is undertaken through the Care Model Implementation Group which will be led by the Deputy Chief Executive/Chief Nursing Officer, with the Senior Responsible Officers (SROs) and Programme Leads of each programme attending a monthly oversight meeting. A close working relationship between the Programme and business as usual will be established to ensure alignment and a smooth transition from programme to day to day running of the new pathways/processes.

The My Care Programme Board will oversee the Programme and report to the Strategic Delivery Group, chaired by the Chief Executive, and then to the trust Board. The Programme will be supported by two independent expert forums – from a clinical perspective the Clinical Design Authority Group led by the Chief Clinical Information Officer and from a digital perspective the Technical Design Authority Group chaired by the Chief Information Officer. Both Chairs will be members of the My Care Programme Board to provide assurance. Our proposed management structure does not duplicate any RD&E governance. However, it has direct reporting lines to the RD&E Executive Team and to the main Board.

The Trust has developed a Programme organisation structure, consisting of a Core Programme Team and Subject Matter Experts. Contractors will be used in such cases where the Trust's current workforce may not have the capacity or capability to fulfil certain roles. The Trust has analysed the resource requirements, with reference to Epic guidelines and other Epic implementations together with recommendations from Deloitte.

The My Care implementation Plan sees a Go-Live date of Summer 2020. The Programme phases are based on the Epic standard implementation methodology, including an Adoption phase for service and pathway redesign spanning the acute and community settings.

The Programme commences, in earnest, from September 2018 with a pre-phase 0 period where we will complete the recruitment of the Programme Implementation Team, commence the build of the accommodation for the Team and commence the really important work of internal and external stakeholder engagement and to undertake the initial procurement process for the new warranted environment.

1.7 Executive Summary Conclusion and Recommendations

This Full Business Case sets out the requirements for the Trust to radically redefine how it will deliver health care services for the population of Devon in the future. The Trust has developed a model of care which focuses equally on wellness, prevention and ill health management, seeing patients as people, empowering them to be in control of their own care and aligns to the direction of travel outlined in the NHS Five Year Forward View.

Our key existing clinical information system is 32 years old and no longer fit for purpose and becoming increasingly difficult to support. We therefore dismissed a *Do Nothing* option at an early stage. A *Do Minimum* option will allow us to replace our existing system but this will not provide functionality for us to fully implement standard ways of work which address the significant variations, duplications and manual workarounds in our current processes. This option will also not provide the functionality to support delivery of the Trust's proposed model of care which is required to meet the significant challenges facing the Devon Health Economy. A *Do Minimum* option will result in a net cost to the Trust over 15 years.

The conclusion of this Full Business Case is, therefore, that in order to fulfil all of the Trust's requirements, both to deliver its future model of care and support the My Care Programme, an upfront investment is required to deliver a fully integrated EPR system. In order to do so the Trust will need to secure loan funding from a commercial bank. This option will fully support the Trust to deliver pathway redesign or operating model enhancements, which generate a net benefit to the Trust over this period

There are clearly a number of risks associated with a significant change programme of this size and complexity but there has been extensive work undertaken through our due diligence process with our preferred suppliers Epic and Deloitte in order to identify and suggest risk mitigation actions.

It is recognised that the realisation of benefits will be made in an uncertain environment, and in response the benefits case has been built on Base, Worst and Best scenarios to demonstrate the range of possible outcomes. The benefits Base Case has been incorporated into the above analysis. A robust risk management and benefits realisation approach will be critical to the successful implementation of this business case and whilst high level work has been completed, this will need to be a key focus into the next stage, together with further development of staff and key stakeholder involvement and engagement.

On the basis of this case it is recommended that the Trust implements the My Care Programme and invests in an EPR solution procured from Epic to enable delivery of both this Programme and the wider new model of care.