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Outline Business Case for an electronic Advance and Future Care Planning Solution for Wales

March 2022

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Exempt from FOI request

NHS Wales

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1. Executive Summary

"Advance [and Future] care planning (AFCP) enables individuals and their significant others to identify their values, to reflect upon the meanings and consequences of serious illness scenarios, to define goals and preferences for future medical treatment and care, and to discuss these with family and health-care providers. AFCP addresses individuals' concerns across the physical, psychological, social, and spiritual domains. It encourages individuals to identify a personal representative and to record and regularly review any preferences, so that these can be considered should they, at some point, be unable to make their own decisions. Future Care Planning also incorporates those with absent, diminished or fluctuating mental capacity, and best interests decision making processes."[1]

Advance and Future Care planning supported by an electronic solution has the potential to be transformative for the way individuals and their families receive the care they need at some of the most stressful times in their lives. It also has the potential for significant benefits to patient safety and appropriate care for clinicians and emergency services at national scale. This Outline Business Case (OBC) sets out how that ambition could be achieved.

The current approach to AFCPs in Wales is fragmented, time-consuming and paper based

Currently there is a mixed environment across Wales for how Advance and Future Care plans are managed, with different proformas used to record AFCPs. These are currently faxed / emailed between organisations as there is a lack of system integration. As a result of this mixed landscape and lack of integration there are significant overheads related to information sharing – forms must be photocopied, mailed and/or faxed to the multiple different organisations involved in an individual's care. This is time-consuming, creates inconsistent experiences for individuals and care professionals, and most critically introduces significant clinical risk associated with documents being lost, or not updated.

An electronic AFCP solution would bring significant benefits for citizens and care in Wales

The development of an electronic Advance and Future Care Planning (AFCP) solution is therefore recognised as a priority for End-of-Life Care in Wales. A single integrated electronic AFCP solution would bring significant benefits for citizens, health and care staff, providers, and Health Boards, as well as for Wales as a whole. It would address significant current challenges with existing paper records and provide:

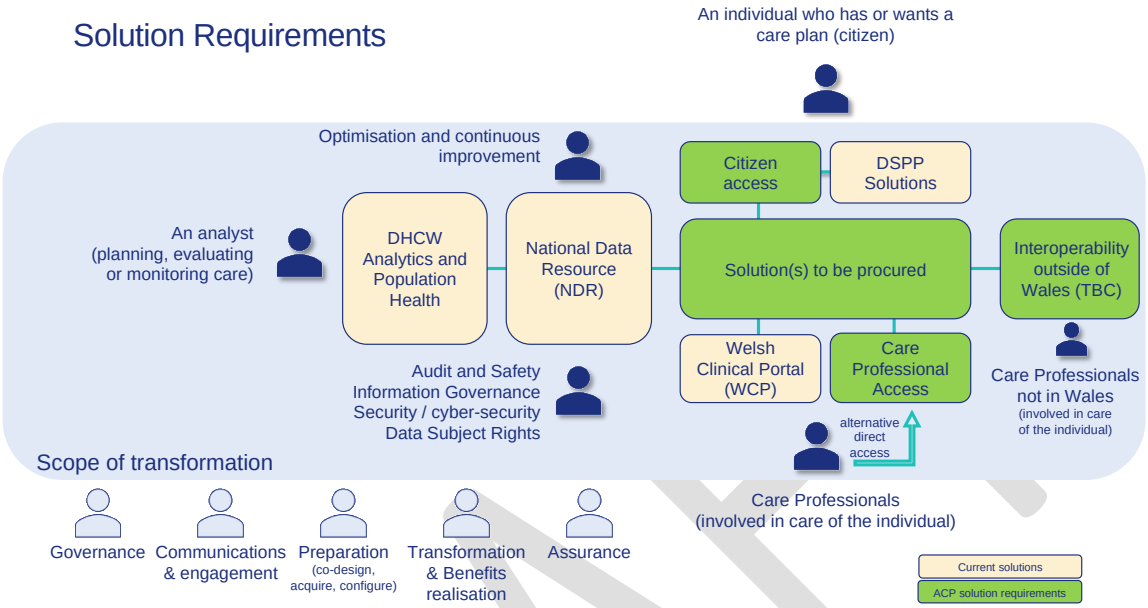
- Improved access and alerting for care professionals & individuals
- Reduced duplicate records – clinical risk & time saving
- Analytics to identify candidates and monitor outcomes
- Time savings and efficiencies due to the right care being provided in line with the individual's wishes (e.g., inappropriate referrals or treatment).

[1] Taubert M, Bounds L Advance and future care planning: strategic approaches in Wales BMJ Supportive & Palliative Care Published Online First: 01 February 2022. doi: 10.1136/bmjspcare-2021-003498

- Better care in line with individuals' preferences, beliefs and wishes.
- Significant patient safety benefits.

There is a clear approach to delivering these benefits

The core technology solution identified for delivering the electronic AFCP fits with the current approach to solutions at national scale in Wales as illustrated below:



This architecture has been designed to provide core design principles including access for health and care professionals to the AFCP via their existing clinical systems (e.g. via click-through), information governance and firewalls between citizen facing access, and care professional access to enable confidentiality of data to be managed, single store of data to ensure data integrity across multiple different uses, integration of the citizen facing portal with the NHS Welsh patient facing applications Digital Services for Patients and Public (DSPP).

Five potential options for providing the electronic AFCP solution based on this architecture have been identified and undergone an initial feasibility assessment against the agreed scope and design principles and based on pre-market engagement sessions with potential vendors. All solutions were assessed with the core assumptions that any delivery would be overseen by Digital Health and Care Wales (DHCW), and include support for the clinical governance, training, and citizen interactions for NHS Wales and third sector staff required during and post implementation. Whilst all options can meet the strategic objectives of NHS Wales, the "Single Supplier" option for the electronic platform is preferred as it optimally addresses citizen benefits, implementation risk, and the business-as-usual management requirements.

The supplier market for electronic AFCP solutions is small, however there are enough capable suppliers identified in the market to run a competitive tender. The main vendors are shared record providers rather than specialist firms who would be able to work with a specialist AFCP partner to provide delivery support and eForm template and design knowledge. This approach creates several different options for procurement including framework, open procurement, or extended dialogue approaches that can be explored in the next stage of the project.

Delivery of a novel solution across Wales is a large and significant undertaking that will presents several implementation challenges. To manage the risks associated with delivery of a programme at this scale, it is recommended to build an all-Wales solution but to implement it in an incremental way across Health Boards and the Welsh Ambulance Service (WAST), ensuring that lessons learned are incorporated as the approach scales over a four-year period post agreement of this OBC.

Affordability will be a challenge and needs to be further explored and weighed against the direct and indirect benefits as well as possible funding routes

A detailed financial model for the development of an electronic AFCP solution across Wales has been developed and tested. There are significant costs associated with the delivery of this solution, particularly in relation to the programme costs for development and delivery of this solution across Wales because of the complexity associated with connecting multiple care settings and their associated systems to a single AFCP. The wider benefits of addressing this technical challenge should not be underestimated however as a basis for future solutions that interact in a meaningful way with the Welsh population and their care needs. In this sense, an electronic AFCP solution is foundational for other pan Wales electronic solutions. It may also be the case that an electronic AFCP solution is one area in which charitable funding and support is an option to be further explored.

At this stage, funding approval is only required to prepare for and execute the procurement and production of the Full Business Case. This will give a more accurate view of the overall costs associated with this solution.

2. Strategic Case

2.1. Context

Advance and Future Care Planning (AFCP) has been defined and operationalised in Wales [2] [3] and is a broad term encompassing – amongst other things - the following key areas:

- Advance Decisions also known as Advance Decisions to Refuse Treatment (ADRT) or living wills.
- Advance Statements of wishes and preferences which allow people to record anything that is important to them in relation to health and well-being.
- Lasting power of attorney (LPA) for health and welfare.
- Do not attempt cardiopulmonary resuscitation (DNACPR) decisions and forms.
- Record of best interests' decision form. This form, while not legally binding, records conversations and views obtained about future care scenarios and can be useful when an individual lacks decisional capacity.
- Paediatric Advance Care Plans (In Wales: PAC Plans).

There is a further type of planning document in hospital settings, which applies to the acute setting and is less of a longer-term advance care plan, and rather a single (short) episode plan.

- Hospital treatment escalation plan (TEP) forms

Due to the once-off short episode specific nature of hospital TEP forms, they do not naturally fit into the longer-term care planning encompassed by Advance and Future Care Planning, nor would there necessarily be such a need to share such a document widely. In fact, TEPs can be reversed or updated after only a few days, so a TEP remaining on an electronic record could represent a risk, if for instance, the individual's condition and frailty considerable improve.

[2] Taubert M, Bounds L Advance and future care planning: strategic approaches in Wales BMJ Supportive & Palliative Care Published Online First: 01 February 2022. doi: 10.1136/bmjspcare-2021-003498

[3] Rietjens J, Korfage I, Taubert M Advance care planning: the future BMJ Supportive & Palliative Care 2021;11:89-91.

People in Wales have a legal right to use any type of form to record their wishes for the future, therefore the solution must also support the upload of other types of documents (e.g. paper records brought by the individual from other countries etc.).

This area of healthcare is complex. There are many definitions, acronyms, and rules/legalities. Future Care Planning is used in Wales as an umbrella term to capture not just Advance Care Planning (AFCP), which as a process requires decisional mental capacity from the outset, but also two other areas where individuals may not have capacity or ability to contribute to decisions; best Interests Decision making, for adult individuals who lack decisional capacity, and paediatric/neonatal care decisions for individuals under the age of 18.

The European Association for Palliative Care (EAPC) Board commissioned a white paper, and the following AFCP definition was agreed [4]

"Advance [and Future] care planning (AFCP) enables individuals and their significant others to identify their values, to reflect upon the meanings and consequences of serious illness scenarios, to define goals and preferences for future medical treatment and care, and to discuss these with family and health-care providers. AFCP addresses individuals' concerns across the physical, psychological, social, and spiritual domains. It encourages individuals to identify a personal representative and to record and regularly review any preferences, so that these can be considered should they, at some point, be unable to make their own decisions. Future Care Planning also incorporates those with absent, diminished or fluctuating mental capacity, and best interests decision making processes."

For this document the term Advance and Future Care Planning (AFCP) is used throughout and is inclusive of both Advanced Care Planning and Future Care Planning.

End of Life care for adults in particular makes use of AFCPs and requires collaboration across multiple health and social care settings. It is delivered by both primary and secondary care and can be initiated by individuals or their significant others. It involves specialist palliative care services delivered by the NHS, charity or third sector providers. An Advance and Future Care Plan may also apply to healthy people who wish to record a wish or a decision, to express their preferences in case of an accident where they suddenly lose capacity.

Advance and Future Care Planning first and foremost must be an inclusive, citizen-centred process; it must never stigmatise or be discriminatory, for example against people who are older or those who have learning disabilities.

It is critical that there is a consistent record that can be used throughout Wales and is recognised by all providers, especially when a rapid decision needs to be made. Currently there are multiple different proformas used in different parts of Wales and there remains a heavy reliance on paper-

[4] Taubert M, Bounds L Advance and future care planning: strategic approaches in Wales BMJ Supportive & Palliative Care Published Online First: 01 February 2022. doi: 10.1136/bmjspcare-2021-003498

based methods of information sharing, which are time-consuming, cause delays, are not easy to update or edit, and pose significant clinical governance and legal risks.

The development of an electronic Advance and Future Care Planning (AFCP) solution is widely recognised as a priority for End-of-Life Care. There are two fundamental goals in AFCP:

1. Everyone approaching the end of their life should be given the opportunity to discuss their wishes about future care.
2. Anyone who expresses wishes should have those wishes respected (where feasible).

Essential for goal two is the ability to share the information so that it is available to the right people, in the right place, at the right time, including accident and emergency staff, out-of-hours GPs and paramedics and in an emergency which requires decisions be made within seconds.

2.2. Current Landscape

Case Story

Jeffrey is a 67-year-old man with Motor Neurone Disease which has progressed significantly in the last four months. He is now unable to move his arms and legs, communicates effectively via eye-movements and is bed bound with a care package at home. What matters to Jeffrey is being near his dog Ben, and he also has also made decisions about his future care. These are summarised in an Advance Decision to Refuse Treatment (ADRT), which specifies that he is not to receive feeding tubes, intubation, or cardiopulmonary resuscitation. This document is legally binding. He also has a 'softer' advance statement of wishes and preferences that states he would ideally prefer to stay at home when he deteriorates so he can be close to his dog and receive palliative care, opioids and anti-sickness medications should he need them.

He has not significant others and has recently had a lot of changing carers. A new carer who is not aware of his paper ADRT, phones 999 one day when Jeffrey's breathing stops. The paramedic crew on arrival ask about any ACP documents and the carer says he is unaware of the detail. The paramedics commence CPR. A weak pulse is recorded, and the patient receives six hours of resuscitation on an ambulance, during which most of his clothes have to be cut off, and he receives intravenous lines, injections, electric shocks to the bare chest. The last few hours are spent in the resuscitation area of a busy hospital before a call is made to stop. A carer who knows him well phones the hospital irate about Jeffrey's wishes around wanting to die at home being completely ignored. Why did no one look at the documents held in the cupboard by his bedside?

Currently there is a mixed environment across Wales for how Advance and Future Care plans are managed, with different proformas used to record AFCPs, and with one health board having developed their own electronic AFCP solutions. In the majority of health boards AFCPs are currently faxed / emailed between organisations as there is a lack of system integration. Currently:

- GP Records can be used to digitally store Advance and Future Care Plans. In many cases the AFCP is updated during conversation with the GP and then printed and given to the individual and emailed to other organisations (e.g. Out of Hours (OOH) services).
- The Welsh Nursing Care Record has the capability to store AFCPs, however does not link to other systems currently.

- The Welsh Ambulance Service NHS Trust (WAST) does not currently have electronic access to AFCP information although there is an opportunity to do that with the introduction a system wide WAST electronic patient care record (ePCR). However, WAST Call triage do not have access to AFCP via their own system (C3) and as a result ambulance teams are typically reliant on individuals, or their carers, having paper copies of the Advance Care Plans at the time they attend the emergency call. There is also a Message in a Green Bottle scheme run by the Lions Club, which makes paramedics aware via a sticker on the front door that there is a bottle in the household's fridge with important care plans. This can be important for people who live alone.
- The 111 service now run by WAST has access to Vision (GP system) and Adastra (OOH GP service) so can see AFCP information available in these systems.
- Hospices and Care Homes mostly store paper copies (originals, photocopies, or carbon copies) of the AFCP as part of their patient records. There are some organisations that do hold digital documentation of AFCP information and will email a copy to the GP, but there is no direct integration.
- Social Care organisations are currently not able to access any digital copies of AFCPs stored in NHS systems and are not able to share information outside of their systems.
- The Welsh Clinical Portal (used by secondary NHS care and some non-NHS hospices) is intended to be a central source of information and contains a flag against the patient record to indicate they have an AFCP in place. However, its functionality is limited as there is currently no central repository for AFCPs, and WCP does not have the capability to pull through AFCP to/ from departmental systems. Secondary Care users can see if an individual has an AFCP in place but cannot access if the record is stored in the GP system.
- Aneurin Bevan University Health Board have two electronic AFCP solutions for patients with and without capacity, including a bespoke e-coding template within GP solutions. They are using Clinical Workstation System (CWS) as a central storage location for Advance and Future Care plans. This system is however not accessible to all organisations (e.g., OOH) and as it is not the primary system used by key organisations (e.g. GPs, WAST) it is not guaranteed that it will be checked by care professionals.
- Cardiff and Vale University Health Board for Primary care are using a Guideline embedded in GP systems which helps to code and highlight that an AFCP is in place.
- Citizen access is to AFCP not currently available as part of the NHS Wales patient portal Digital Services for Patients and Public (DSPP). This is significant because some types of record, such as Advance Decisions to Refuse Treatment are written (or recorded) by an individual, are legally binding, can refuse potentially life-sustaining treatments and need to be adhered to.

As a result of this mixed landscape and lack of integration there are significant overheads related to information sharing – forms must be photocopied, mailed and/or faxed to the multiple different organisations involved in an individual's care. This is time-consuming, creates inconsistent experiences for individuals and care professionals, and most critically introduces significant clinical risk associated with documents being lost, or not updated.

2.3. Work to Date

Over the last 5 years, work has been undertaken to create national education formats, resources and documents, which has been informed by a national Advance and Future Care Planning steering group and national conference. These all include public and carer representatives and have done so from the outset. The 2019 national conference on Future Care Planning set out the vision and strategic approach for Advance and Future Care Plans including the need for single document approach for Wales, using the NHS Wales logo and ensuring ease of recognition, communication and transferability.

Programmes within the individual Health Boards have increased engagement and uptake of AFCPs, and the design of a digital solution should incorporate these learnings:

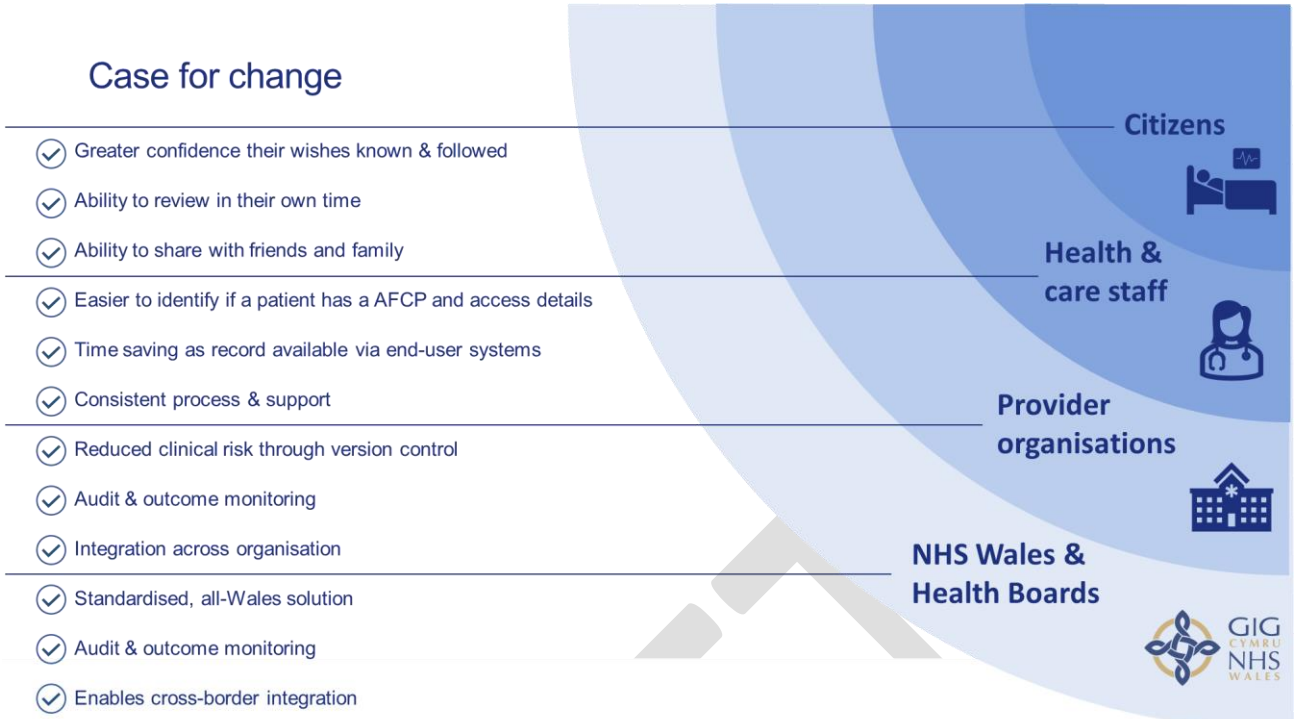
Example: Powys Teaching Health Board is now using new format forms with updated language aimed to make the forms more understandable to the public, these have been developed following significant clinical and public engagement.

Example: Aneurin Bevan University Health Board has been delivering a programme known as the AFCP Triple E model which aims to empower individuals through education to engage with AFCP conversations. This has included staff training, public outreach, and template and process redesign. ABUHB has also developed bespoke e-coding templates within GP solutions to capture AFCP information.

2.4. Case for Change

The importance of advance and future care planning discussions has been heightened during the COVID-19 pandemic, with the public becoming more aware of the need for advance care planning conversations. It has also led to people becoming more familiar and comfortable with using digital solutions to manage their own health. As a result, there is now more public appetite for a digital solution that would support individuals and care professionals in having these AFCP conversations.

The case for change centres around improving the experience for people in Wales, however benefits of an electronic solution will be achieved across multiple levels:



Citizens

One aim for electronic Advance and Future Care Plans is to improve care for all dying individuals, of all ages, with the objective of enabling them to be cared for in accordance with their wishes and in location of their choice. Another significant set of aims for electronic Advance and Future Care Plans is to enable *any* person in Wales to plan for unforeseen events such as accidents and / or prepare for their treatment at end of life: it is better to do this whilst individuals are feeling well enough to consider such future options and decisions, rather than for others to try and work out preferences, beliefs and wishes when we are unable to communicate. Lack of access to documentation by care professionals, ambiguity around whether documents are still 'active' (with ambiguity regarding what this word even means in that context), and inconsistent statements of wishes, mean that there are multiple case studies where people's preferences have not been known and therefore not followed in the moment.

In addition to the significant impact of this on the individual's experience, this also has ramifications for the health and wellbeing of significant others and the bereaved, who will be affected by their own experience of how their family, partners and friends have been cared for at the end of life. Engagement with Welsh government bereavement leads highlighted that better conversations around AFCPs with individuals and their friends and family lead to significantly improved bereavement experiences and outcomes. This is supported by a 2015 YouGov poll in Britain,

which found that individuals with end-of-life wishes on their medical records were more likely to be judged by loved ones to have 'died well'[5].

A digital solution could provide the capability to share plans with friends/ family in a way that ensures that they are kept informed whenever the care plan is updated.

In addition to improving the experience for individuals who have Advance and Future Care Plans, another key driver to the digital solution is to support more people in having conversations about their wishes. The objective is to ensure that people are aware of their options and have the support they need to create an AFCP if they so wish, and the opportunity to reflect on, and record, their wishes in line with their own values and beliefs. A 2018 research survey in Wales[6] identified there is a significant gap between intention to document wishes (63%), vs uptake as currently only a small percentage (16%) of people have any formal documentation. The study highlighted that uptake of AFCPs was hindered by a lack of standard procedures, and concerns over the support for the execution of plans and the ability to revisit plans once in place. The implementation of the electronic AFCP would go some way towards addressing these concerns as:

- There would be a standardised format for completing the digital forms, across all areas and organisations in Wales.
- It would enable individuals to update their preferences in their own time, outside of a clinical or care setting, and have all organisations involved in their care be made aware of the changes in near real-time.
- It should contain consent options allowing the individual to see which organisations, or individuals, have access to their care plans.

For individuals who are less comfortable with using digital solutions, currently estimated to be 64% of people over 75 in Wales, or who live in areas without strong internet connectivity, the move to a fully digital solution may be a concern. However, as conversations about their wishes would still be initiated by care professionals, they would be able to input the relevant information on behalf of the individual into a digital solution and give individuals printed paper copies of digital records.

Health and Care staff

The key driver for staff is the availability of records. Whilst some health boards, e.g. ABUHB, have made progress towards having digital AFCPs available, currently there is a large barrier to the uptake and use of digital AFCPs if solutions require staff to log into a new system (and out of the one they tend to work in) to find documents. For example, some GPs with access to Welsh Clinical

[5] http://ppiw.org.uk/files/2016/02/PPIW-Report-Increasing-the-awareness-and-uptake-of-Advance-Decisions.pdf

[6] https://www.healthwisewales.gov.wales/news/story/results-from-the-attitudes-towards-death-and-dying-study/

Portal can see if an individual has been flagged as having an AFCP, however as this is not the system where they work, i.e., logging onto WCP is not part of their usual workflow, it requires an additional step to remember to register/ log in and check, which may be seen as adding to workload or cumbersome.

A digital solution will have greater flexibility than paper/ scanned documents in configuring the data to meet the needs of the different user personas:

- Emergency Care (e.g. 111 call handling, out of hours, ambulance and paramedics) – critical decision information (e.g. DNACPR) viewable as a summary.
- Primary Care (e.g. GPs, District Nurses).
- Specialist palliative care (e.g. Hospices, Charity).

One of the major findings from the engagement with different staff groups across Wales is a requirement for greater support around when and how to have conversations about future decisions.

Health Boards, Trusts, and Provider Organisations

There are obvious benefits from an IT-based solution for providing a single electronic record, accessible to healthcare professionals (and the public) across Wales. At present, there are multiple different pro-forma used across Wales to record Advance and Future Care Plans. To enable information sharing, these forms are photocopied and mailed or faxed to numerous recipients: out-of-hours care, WAST, hospital records etc. This is time-consuming; difficult to keep updated when plans change; and unlikely to be available to healthcare professionals in all potential situation. For example, care plans created by social care organisations cannot be directly shared or emailed outside of social care systems, therefore would not be accessible to healthcare professionals. This may mean that multiple different organisations are creating care plans for an individual – this is not only a duplication of effort – it leads to a worse citizen experience, and critically the existence of duplicate records leads to version control issues, clinical and legal risk.

A digital solution would also provide Health Boards, Trusts, and provider organisations an auditable solution that would allow measurement for safety, quality improvement and reporting purposes:

- Identification of individuals who would benefit from being offered a conversation about Advance and Future Care Planning.
- Monitoring of when care plans were reviewed and prompts to help ensure data on file remains valid.

National Drivers

The development of an electronic - Advance and Future Care Planning solution (AFCP) is widely recognised as a priority for End-of-Life care and has been an ambition for some time. The Welsh Government's "End of Life Care Delivery Plan (2016 - 2021)" recommended that NHS Wales "'develop an all-Wales Advance Care Planning record, to enable Advance Care Plans (adult and

paediatric) to be shared across all care settings within Wales.[7] As well as helping to standardise processes, a single solution will support data analysis to:

- Provide audit information on uptake of AFCPs across Wales
- Support analysis into how frequently AFCPs are being followed, and provide insight into future strategies
- Enable monitoring the outcomes of plans to improve uptake of AFCPs across Wales

In addition to integrating data across Wales, the Digital solution should be designed with the intent to also support individuals whose care crosses the border between England and Wales. Counterparts in England and Scotland have been using Electronic Palliative Care Coordination Systems (EPaCCs) to record and access AFCPs.

2.5. Investment Objectives

Investment objectives for an electronic Advance and Future Care Planning solution include:

- Encouraging AFCP conversations - providing improved quality of care given, respecting autonomy, and proven increased in satisfaction for the family and carers. This will be underpinned by investing in upskilling for health and care professionals as well as raising the profile of ACP in general public.
- Helping specify situations when admission to hospital would be wanted (for iv antibiotics, reversible problem solving such as receiving blood transfusions, fracture management etc)
    - And in doing so also help prevent unnecessary and/or unwanted medical interventions
    - And help identify those situations when admission to hospital would not contribute to improving care
- Empowering people to choose their Preferred Place of Death (PPD) supporting appropriate admissions to hospital and avoiding unwanted admissions.
- Reducing clinical risk from records not being available or having duplicate records.
- Improving experience, and reducing time wasted, for health and care staff in accessing AFCPs.

[7] Sources: https://gov.wales/sites/default/files/publications/2019-01/palliative-and-end-of-life-care-delivery-plan-2017_0.pdf and https://gov.wales/written-statement-advance-care-planning

2.6. Scope

The Advance and Future Care Planning solution must support:

- All care settings (including GP, A&E, Out of Hours, 111, Ambulance, Secondary care, Hospice, Social Care, and Charities).
- All citizens in Wales including:
    - Advance Care Plan (adult) of person with mental capacity
    - Future care plan (adult) relating to person without mental capacity
    - Paediatric (<18yr) future care plan (the Welsh PAC Plan)

Both paediatric planning, as well as situations in adults were there is absent, fluctuating, and diminished mental capacity would fit under the wider umbrella term of Future Care Planning in Wales.

The solution must provide the following high-level functionality:

- Provide an all-Wales solution acting as the single source of truth containing the latest version of an AFCP:
    - enable an e-Form (electronic record) to record future care plan information.
    - enable paper or electronic future care plans to be uploaded and attached to the record as scanned or electronic documents. The IT solution must enable users to upload and attach documents to future care plans.
    - enable wishes/plans about CPR to be recorded as part of the record.
- Ensure that the citizen is at the centre of care planning and enable direct access by individual to write and submit their own Advance and Future Care Plan, this must include a citizen-facing digital portal (e.g., an application).
- Require explicit consent from the individual (or equivalent permission by those making a ‘best interest’ decision) for the record to be shared.
- Enable citizens to share their own Advance Care Plan with friends, family or others in their care network, and be able to manage who is given access to what information at any given time.
- Enable real-time viewing access to that data by healthcare professionals (who have valid clinical reasons to do so) in all relevant settings across Wales. This will require close integration into several IT systems including the Welsh Clinical Portal WCP, Primary Care IT Systems such as Vision, Dragon or EMIS, Adastra, the Welsh Ambulance Service, and individual A&E department system.
- Take account of developments across the UK to facilitate transfer of information from AFCP records across the four UK nations and provide upload ability of such ‘imported’ healthcare plans.
- Support data analytics and population health approaches to encourage uptake and improve service quality.

2.7. Design Principles

Any all-Wales solution for electronic Advance and Future Care Plan will need to be developed in line with the vision for healthcare services set out in A Healthier Wales[8], and the principles of the national Digital Architecture Review[9]. The following high level design principles embody these requirements along with the requirements for an electronic AFCP solution:

- **Citizen Centric** – Place the individual at the centre of care planning (i.e. individually owned and led). This includes considerations for the ease of access by the individual, and the use of language that is easily understood by the public.
- **Open** – Open technical standards, this is required for integration of the solution with existing health and care front-end solutions. The objective is to provide health and care staff with access to the AFCP via their existing clinical systems (e.g. via a clickthrough)
- **Nationally Integrated –** Leverage all Wales national infrastructure (see Appendices 7.1 Target Digital Architecture for NHS Wales and 7.2 Standards).
- **Identifiable –** Utilise PDS and NHS Numbers as patient identifiers.
- **Appropriate in Context –** Data available in any given care setting should expedite care in line with the AFCP where that is possible. This must also include considerations given for confidentiality requirements for data
- **Legally Correct –** Conform with all legal and legislative requirements – e.g., make clear difference in the in care between a preference and a legal imperative.
- **Realisable –** Provide security as to write access so that the AFCP remains current and aligned with the individuals wishes.

The following design principle is a future requirement that may not be achievable in the first iteration of the solution but should be a consideration within the design:

- **Cross-Border –** Ensure cross border capability with NHS England and alignment with NHS England systems where relevant.

[8] Welsh Government. 2018. A Healthier Wales. Available at: https://gov.wales/docs/dhss/publications/180608healthier-wales-mainen.pdf

[9] Digital Architecture Review Report 2019. Available at: https://digitalhealth.wales/events/digital-transformation-programme

2.8. Dependencies and Constraints

Description	Impact
Digital inclusion – On average 7% of adults in Wales are not online, and this number is higher for some of the key demographics for Advance and Future Care Plan: 64% of people over 75 do not have basic digital skills 13% of people with a disability or long-term health condition do not use the internet. And those that do may require the solution to support appropriate assistive technologies.[10]	The solution will need the ability to support parallel processes for individuals who are not online or have limited digital skills and those more comfortable using a digital solution. It is essential that the electronic solution does not negatively impact the current levels of support given to individuals.
Funding availability – The programme is fully dependent on the funding of the initial implementation, supplier costs, local resource costs and ongoing availability of funding.	A significant commitment of people and resources required to achieve successful outcomes necessitates the appropriate funding at both national and organisational levels.
Digital maturity variations across organisations – The level of digital maturity varies across the multitude of different organisations.	Each organisation will require different implementation approaches and plans to migrate current processes and encourage uptake of digital solutions. May require IT infrastructure investment in some organisations – e.g., improved internet bandwidth, additional devices, versions of Windows etc. If organisation(s) are not able to adopt digital processes then they will require a solution to allow for records to be printed, and where updates can be sent in paper format to GP

[10]Source: https://www.digitalcommunities.gov.wales/digital-inclusion-in-wales-2/

Description	Impact
	practices and the individual with ability to review and update.
Integration with NHS Wales patient portal – Will need to support access to an individual's care record by approved friends/ family/ individuals involved in their care. Individual needs the ability to see and edit who has access to what information within their AFCP.	Additional costs for creation of IG controls and functionality development to enable approved friends/ family/ carers to access approved parts of an individual's AFCP. May impact whether the current NHS Wales patient facing app Digital Services for Patients and Public (DCPP) can be used as the public-facing front end, or whether a separate solution is required.
Language – the solution requires the ability to translate between Welsh and English (and potentially other languages e.g. Arabic, Bengali Hindu and Urdu etc.) this is not something necessarily available through current vendor products.	Additional development costs to create the language options required.
Cross border integration – objective of enabling cross-border integration dependent on solutions/ design selected by NHS England organisations.	Solution requirements for cross-border integration cannot be fully defined at present as dependent on NHS England design decisions. May require integration into multiple vendor solutions.

2.9. Learning from similar programmes

Any electronic AFCP solution for Wales will need to draw learning from initiatives currently underway Wales – such as those in Aneurin Bevan, Powys, Cwm Taf, Velindre and other health boards, and from work done in other health systems such as that across the London Healthcare system. Lessons learned include:

- The need for education in putting in place and using AFCPs for clinicians and the public.
- The need to consider the validity and legality of an AFCP at point of care, alongside confidence that that it reflects an individual's current decisions, wishes and beliefs.
- The benefits of smaller scale pilots to iron out challenges early in the delivery of the solution.
- The benefits of co-production of an AFCP between a clinician and an individual.
- Adopting a quality improvement mindset during implementation.

An electronic Palliative Care Summary (ePCS) is implemented throughout Scotland to provide out-of-hours (OOH) staff with up-to-date summaries of medical history, patient understanding and wishes, medications and decisions regarding treatment of patients requiring palliative care. A 2012 review into this programme had the following findings[11]:

- OOH staff considered the ePCS allowed them to be better informed in decision making and in carrying out home visits.
- GPs viewed the introduction of ePCSs to have benefits for in-hours structures of care including advance care planning.
- No interviewee expressed concern about confidentiality.
- Barriers raised related to the introduction of new technology including unfamiliarity with the process, limited time, and information technology skills.

This demonstrates the benefits, and potential barriers, that are likely to be faced in undergoing a similar programme for NHS Wales.

2.10. Conclusion

The case for change is compelling. The development of an electronic Advance and Future Care Planning solution is widely recognised as a priority for End-of-Life Care. Currently there is a mixed environment across Wales for how Advance and Future Care plans are managed, with different pro-formas used to record AFCPs. These are currently faxed / e-mailed between organisations as there is a lack of system integration. Over the last 5 years, work has been national work undertaken to create education formats, resources, and documents, which has been informed by a national Advance and Future Care Planning steering group and national conference, which included public and carer representatives.

A single integrated electronic AFCP solution would bring significant benefits for citizens, health and care staff, providers, and Health Boards, as well as for Wales as a whole. It would address significant current challenges with existing paper records and provide:

- Improved access and alerting for care professionals and individuals.
- Reduced duplicate records – clinical risk and time saving.
- Analytics to identify candidates and monitor outcomes.
- Time savings and efficiencies due to the right care being provided in line with the individual's wishes (e.g., inappropriate referrals or treatment).
- Better care in line with individuals' preferences, beliefs and wishes.

[11]Introducing an electronic Palliative Care Summary (ePCS) in Scotland: patient, carer and professional perspective, 2012, https://academic.oup.com/fampra/article/29/5/576/555607

The remainder of this case presents the economic, commercial, financial and management cases for realising such a solution.

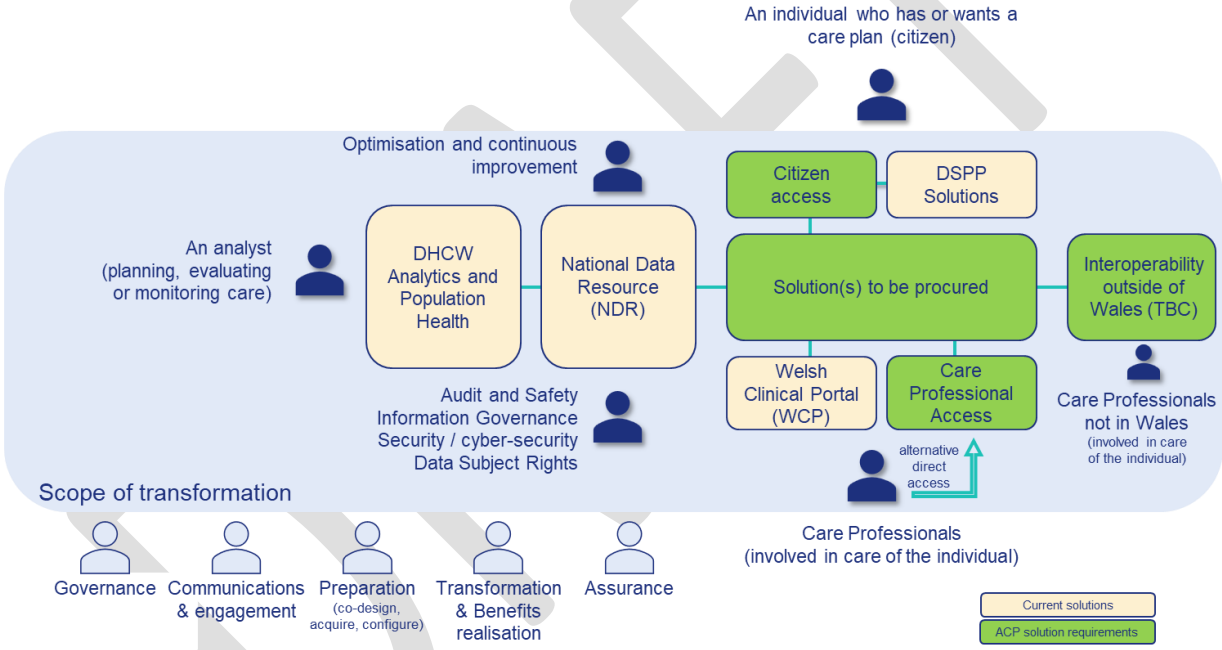
3. Economic Case

The economic case considers the options available to meet the strategic requirements and appraises those options against critical success factors and economic advantage to conclude on the preferred option to take forward.

3.1. Options Longlist

Five potential options for providing the AFCP solution were identified and underwent an initial feasibility assessment against the scope and design principles outlined in sections 2.6 Scope and 2.7 Design Principles above and based on pre-market engagement sessions with potential vendors.

The solution space considered in each of the options is illustrated in the diagram below, each option considers different approaches to providing the AFCP requirements (as shown in green) and integrating with the current national architecture (as shown in yellow).



This architecture has been designed to enable the key design principles for the solution including:

- Access for health and care professionals to the AFCP via their existing clinical systems (e.g. via click-through)
- Information governance and firewalls between citizen facing access, and care professional access to enable confidentiality of data to be managed
- Single store of data to ensure data integrity across multiple different uses,
- Integration of the citizen facing portal with the NHS Welsh patient facing applications Digital Services for Patients and Public (DSPP).

The five options considered were:

- Option A (**Single Supplier**): procure a single supplier solution providing the full electronic AFCP functionality.
- Option B (**Multi Supplier**): multi-vendor solution with one supplier providing the citizen facing functionality and another providing the care professional facing and analytics functionality.
- Option C (**In House**): In house development and maintenance of a solution by Digital Heath and Care Wales (DHCW).
- Option D (**Welsh Care Planning**): procure a wider scope solution capable of addressing multiple care planning needs for Wales not just advance and future care plans.
- Option E (**English Transplant**): take a solution already implemented in England re-use for NHS Wales using the same infrastructure

As a result of the feasibility assessment the following options were discounted due to poor strategic risk and high deliverability risk:

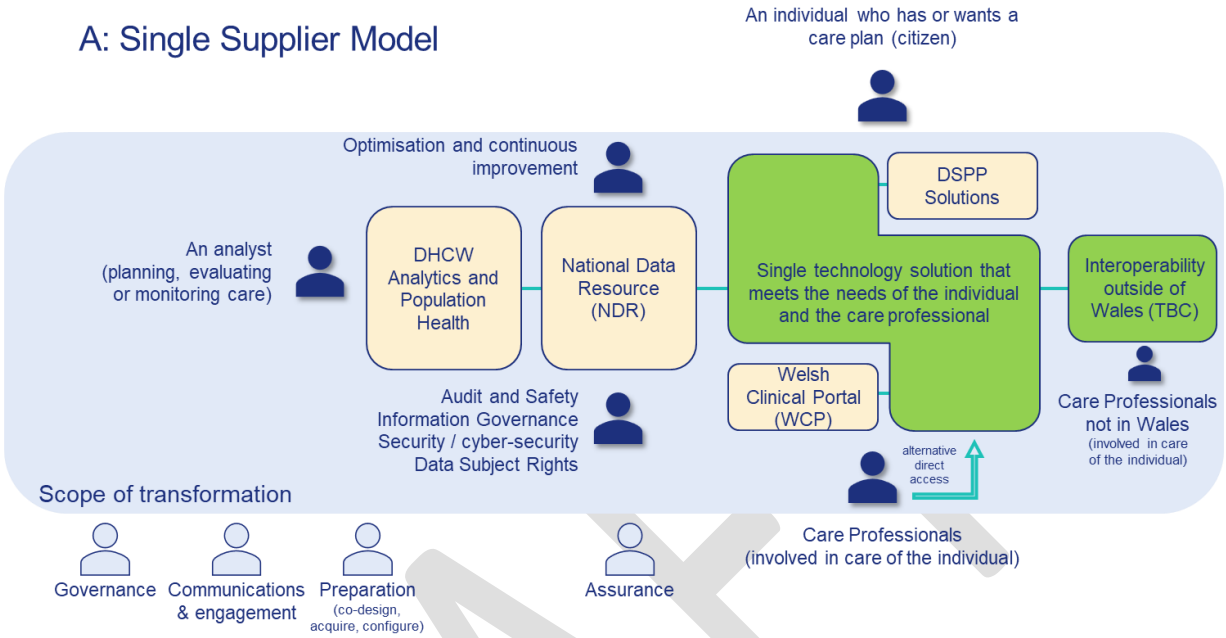
- Option D (Welsh Care Planning) as there is no pan-Wales programme being initiated that could accommodate AFCP (and other care plans) within its scope
- Option E (English Transplant) as NHS England does not have a national solution for AFCPs already in place

Note there is no “Do Nothing” option that would provide the required services, in this case “Do Nothing” would be a continuation of current disparate paper-based solutions.

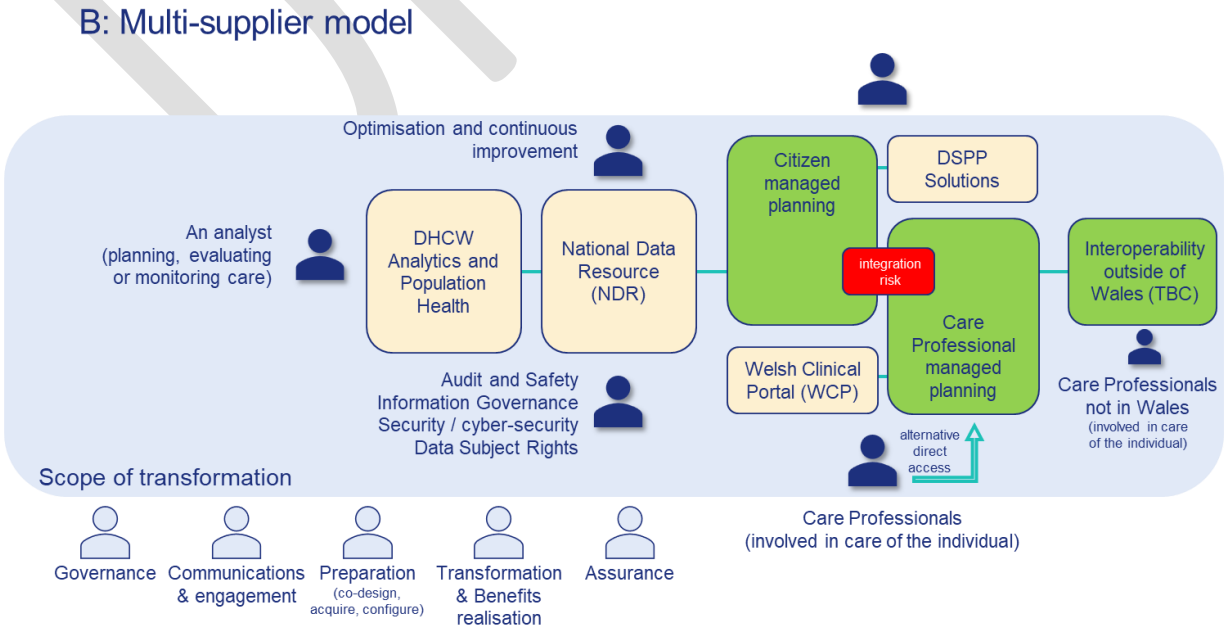
For all options there is a requirement to assess how the team to support implementation will be staffed. As part of the Full Business Case a Value for Money assessment will need to be conducted as to whether to additionally procure a “clinical wrap” in addition to the core services for deployment support. This is anticipated to include: requirement assessment and process design, training, support for migration. The impact of this is further investigated in the Management and Financial cases of this document.

3.2. Options Shortlist

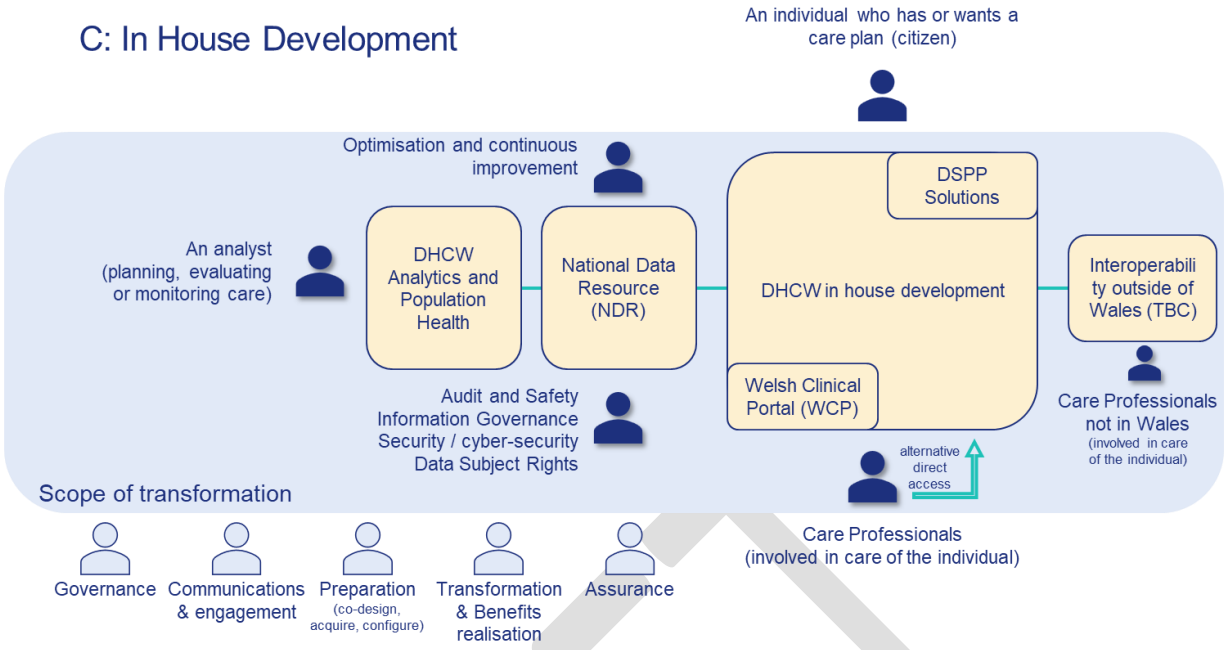
- Option A (**Single Supplier**): procure a single supplier solution providing the full electronic AFCP functionality.



- Option B (**Multi Supplier**): multi-vendor solution with one supplier providing the citizen facing functionality (including the citizen-facing app and eForms), and another providing the care professional facing and analytics functionality (including integration with national architecture for storage and access via existing front-end systems e.g. WCP). In this option NHS Wales would be responsible for the integration between the solutions to ensure that there are consistent consent models, eForm and data structures, etc.



- Option C (**In House**): In house development and maintenance of a solution by DHCW.



3.3. Critical Success Factors

To differentiate between the options, input has been sought from stakeholders to validate a set of Critical Success Factors. The following table shows the Critical Success Factors against which each of the options were evaluated and scored.

Strategic Alignment	Deliverability	Accessibility
•Healthier Wales policy aims •EOL Care PW/ Policies •Leveraging existing platforms •Cross-border integration	•Speed to delivery •Complexity of implementation •Risk	•For Citizens at all life stages, and their care network •For Care Professionals via their primary front end systems •Resilience/ Backup/ Availability •Role based access controls

Benefits and Experience	Full Lifecycle costs	Vendor Market
Individuals & their care network •Person Centric Design (form design and language) •Ability to share with friends/ family/ those involved in care Care Professionals •Summary information for different uses •Support and education programme Organisations & Health Boards •Analytics support	•Affordability of implementation and BAU costs •Time to benefits •Ownership of data and assets, vendor neutrality	•Competitive market of suppliers able to provide services

3.4. Risks

Risk Description	Impact Description	Mitigation
Digital AFCP will be used to make life impacting clinical decisions – Therefore any errors within the solution (e.g. data entered or displayed incorrectly, update management/ version control). could have significant consequences.	If a health care professional is to act on the basis of a (digital) AFCP record, it may involve decisions about treatments which can prolong life –with potentially very serious consequences for inaccuracies or errors.	Thorough testing a validation of the solution prior to its use in live clinical environment. Service Management provisions must include monitoring and alerting of any incidents.
Digital exclusion – There is a risk that a Digital solution will exclude or negatively impact people who are not able or comfortable using a digital solution.	If the solution does not support paper processes then there is a risk of alienating or being unable to support all users. The impact could be a widening of unwanted variations in care for this population.	The solution must also support a non-digital process whereby individuals are offered a non-Digital solution for capturing AFCP information. Use of Digital technology during COVID has shifted perceptions/ increased digital adoption.
Creating a "tick-box" process - It is important not to create a system that would compel or cajole those who do not wish to make AFCPs, or to create a 'one-size-fits all' system that limits or degrades the conversations between care professionals and individuals.	Poor experience for individuals. Strong negative impact on public perception of End-of-Life care in Wales.	Palliative care professionals key part of solution design. Leverage learning from previous improvement programmes on form templates and guidance. Need ability to flag that an individual has been offered a conversation about AFCP and date. User testing prior to roll-out. Training and support for care professionals alongside roll-out.
Out-dated information held in AFCP – There is a risk that decisions made on health	Largest impact would be that an out-of-date ADRT or DNACPR is followed.	Automatic monitoring of review dates as part of the digital solution and prompt to

Risk Description	Impact Description	Mitigation
during a particular episode will remain active within the digital record but may not reflect an individual wishes in the future (e.g. decisions made by an individual with cancer, may be different once in recovery, if record is not updated and they need medical support in the future then outdated preferences may be used).		individuals/ their care team to review and validate information is still correct. Review process of AFCP as part of the discharge process.
Decisions made without appropriate understanding of the ramifications – There is a risk that if the digital solution gives ability for individuals to make decisions without consultation with health and care professional, individuals may not fully understand the ramifications of their decisions.	Individual may receive care that does not align with their wishes if they have misunderstood and therefore incorrectly completed the eForm.	Automated alerting to an individual's care network when AFCP is updated – certain decisions should trigger review when individual next sees a care professional. Links to guidance to be built into the citizen-facing portal. Thorough user testing prior to deployment.
IG complexity with sharing data across multiple organisations – Sharing of data across health, social care and third sector organisations.	Agreement required on IG controls for all organisations/ types of data within AFCP. Central repository for AFCP data will need to have relevant controls/ approvals to hold both health and social care data.	IG workstream as part of solution design. Role-based access controls to data.
Inconsistent information if record is collated from multiple sources or updated without review with clinical staff.	Free-text information entered by individuals into citizen-facing forms may contradict clinical record information. Therefore, making precedence/ wishes unclear.	UX/ UI design to test this as part of the development of the solution.

Risk Description	Impact Description	Mitigation
Support for under 18's including consent, consent from parents, mental capacity assessment, and risks associated with the highly changeable situations in paediatric care.	Design of solution must consider consent models for under 18s to ensure legal standing of AFCP.	Solution design in consultation with paediatric specialists. Solution design should incorporate current processes and controls around 'PAC' forms. To be investigated as part of market engagement to understand if there are currently models.
Safeguarding rules around access to information where an individual's friends/ family/ support network is granted access to data	Decision on who within an individuals care network can access the AFCP data should sit with the individual, however there will need to be additional safeguarding controls in place	Design decision to be made about what data is held in the AFCP. Review as part of design potential for integration with social care systems to allow for flagging of cases where safeguarding rules need to be implemented. Consent for data sharing should be reviewed with the individual on a regular basis. Current safeguarding processes, particularly for children and those without mental capacity, should remain and be built into the design of the electronic solution.

3.5. Key Benefits

There is a compelling benefits case for an electronic AFCP solution if it will increase the number of individuals whose preferences about their care are followed. These benefits are hard to quantify but have huge impacts on the individuals and their carers.

The benefits model for the economic case must therefore consider both the financial and qualitative case for change. The qualitative benefits are described in the table below, and the quantitative benefits model is found in Appendix 7.4 Benefits Model.

Benefit Area	Benefit Title	Benefit Type	Details	Applicable Options
Citizen experience	Increased confidence for individuals that their wishes will be followed	Qualitative	Reducing the risk of an individual undergoing unwanted medical interventions if against their wishes.	All
Citizen experience	Increased confidence that cultural needs will be met as part of End of Life care	Qualitative	2018 NHS Wales survey showed only 13% of respondents agreed that their cultural needs would be met in End of Life care, 63% of respondents did not know. Ability to record cultural needs in advance as part of their care plan should increase confidence.	All
Citizen experience	Easier for people to share AFCP with the people they want informed of their care needs	Qualitative	Improved experience for people knowing that their wishes are documented and available. Improved experience for friends/ family as they will have visibility of AFCP and will be aware of updates made to it.	All
Citizen experience	Increase confidence about ability to revisit plans once in place	Qualitative	Ability for people to access/ edit outside of clinical setting may encourage more engagement of individuals with their AFCPs.	All
Citizen experience	Ability to support multiple languages	Qualitative	Electronic solution could support translation of the AFCP between Welsh and English allowing people to enter information in their	C

Benefit Area	Benefit Title	Benefit Type	Details	Applicable Options
			preferred language and have it understood by health and care staff.	To be reviewed for options A, B
Quality of care	Clinical risk reduction	Qualitative	Version control should ensure that all organisations and people involved in care can access the same version of the care plan and it is kept up to date. Reduced clinical risk that an individual's wishes would not be followed.	All
Quality of care	Reduced risk of litigation from citizen wishes not being followed	Cost avoidance	Reduced legal costs. Reduced risk of fines.	All
Quality of care	Support for clinical staff to have discussions with the public about AFCPs	Qualitative	Increase in the number of people who are offered AFCPs.	All
Quality of care	Sharing of care plans across borders	Qualitative	AFCP available to all organisations involved in care within Wales. Potential for sharing of AFCP with England to support cross-border patient journeys.	All
Health and care team experience	Easier and quicker for health and care teams to find and assess an individual's health and care plans	Non-cash releasing	Saving of emergency care time spent identifying peoples wishes. Improved experience for health and care staff.	All

Benefit Area	Benefit Title	Benefit Type	Details	Applicable Options
Reduction in unwanted health interventions	Decrease in number of unwanted ambulance journeys for people with wishes to remain at home	Cost Avoidance	Reduced pressure on ambulance services.	All
Reduction in unwanted health interventions	Decrease in number of unwanted A&E visits for people with wishes to remain at home.	Cost Avoidance	Saving of clinical time providing care for individuals who do not wish for the intervention. Reduced requirement for A&E beds.	All
Standard solution across Wales	Consolidation of the different programmes across Wales looking at AFCP solutions	Cash releasing	Consolidated programme costs and sharing of learning across organisations. Economies of scale in negations with suppliers.	All
Outcomes monitoring	Ability to monitor outcomes including uptake of AFCPs, level to which preferences have been met	Non-cashable	Identification of which individuals would most benefit from being offered AFCP discussions.	All
Outcomes monitoring	Ability to look at differences in production of plans by age, geographical area, gender and other protected characteristics like ethnicity etc.	Non-cashable	Improved data about who is producing AFCP can be used to inform, and monitor outcomes from, strategies for addressing inequalities.	All

3.6. Options Appraisal

Each option has been provisionally reviewed against the Critical Success Factors, to determine the overall options scoring as shown below. Options were scored on a 1-5 scale where 5 indicates a high degree of fit to the Critical Success Factor and 1 indicates a low degree of fit.

Option	Critical Success Factors					
	Strategic Alignment	**Deliverability**	**Accessibility**	**Benefits & Experience**	**Lifecycle Costs**	**Vendor Market**
Weighting	Medium	Medium	Medium	Medium	Medium	Medium
SINGLE SUPPLIER	5	3	4	4	3	3
	High degree of fit	Medium delivery risk	Capability for integration with citizen and care professional front-end	Supplier experience, tried and tested product Risk of supplier not delivering	See economic assessment	Requirements fit with market offerings, but limited potential vendors.
MULTI SUPPLIER	5	2	4	3	3	3
	High degree of fit	Medium/ High risk due to integration complexity	Capability for integration with citizen and care professional front-end	Supplier experience, tried and tested product Risk of suppliers not delivering. Integration between suppliers adds risk	See economic assessment	Requirements fit with market offerings, but limited potential vendors.

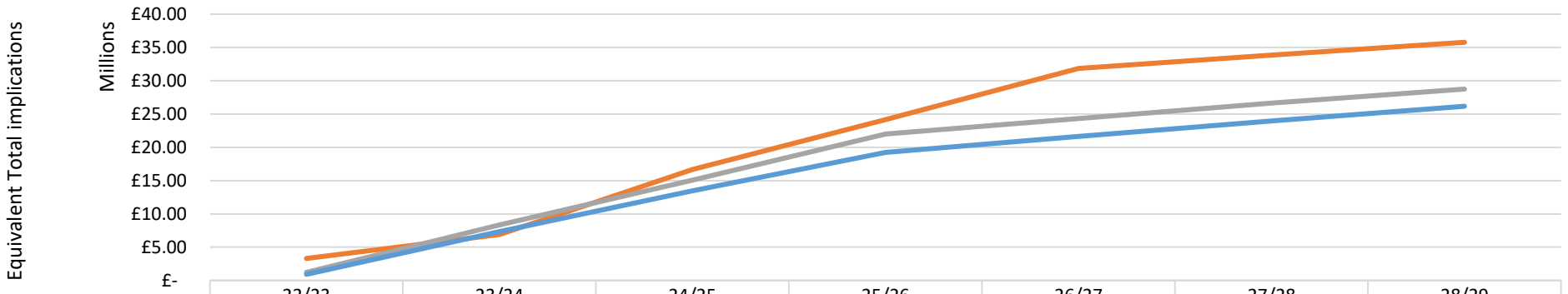
IN HOUSE	5	2	4	3	2	2
	High degree of fit	Medium/ High risk as developing new solution, and due to DHCW capacity	Will be designed as part of architecture to support integration with citizen and care professional front-end	Will be designed specifically to meet NHS Wales needs Risk of not achieving benefits as it is not a tried and tested solution	See economic assessment	Requires development from scratch of new technology

The results of this assessment are summarised in the table below, as shown the preferred option from this assessment is Option A: Single Supplier

Option	Critical Success Factors						Score
	Strategic	Deliverable	Accessible	Benefits & Experience	Lifecycle Costs	Vendor Market	
Weighted Score	2	2	2	2	2	2	
SINGLE SUPPLIER	5	3	4	4	2	3	**42**
MULTI SUPPLIER	5	2	4	3	2	3	**38**
IN HOUSE	5	2	4	3	1	2	**34**

An initial value for money assessment has been undertaken for the options based on rough order of magnitude supplier estimates for solution costs, and resource estimates from similar scale shared record programmes. From this analysis, Option A: Single Supplier has the lowest overall cost across the modelled seven-year period.

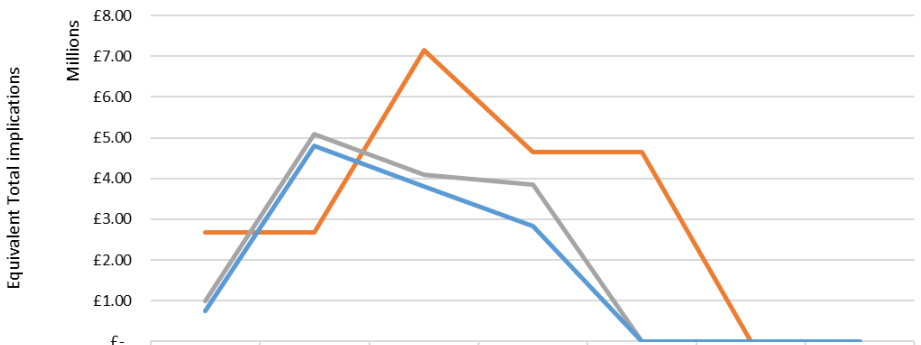
Options Comparator (Cumulative Total Cost)



	22/23	23/24	24/25	25/26	26/27	27/28	28/29
IN HOUSE	3.30	6.88	16.65	24.17	31.85	33.86	35.77
MULTI SUPPLIER	1.22	8.32	15.06	22.01	24.34	26.63	28.75
SINGLE SUPPLIER	0.92	7.33	13.47	19.24	21.62	23.98	26.16

Financial Year

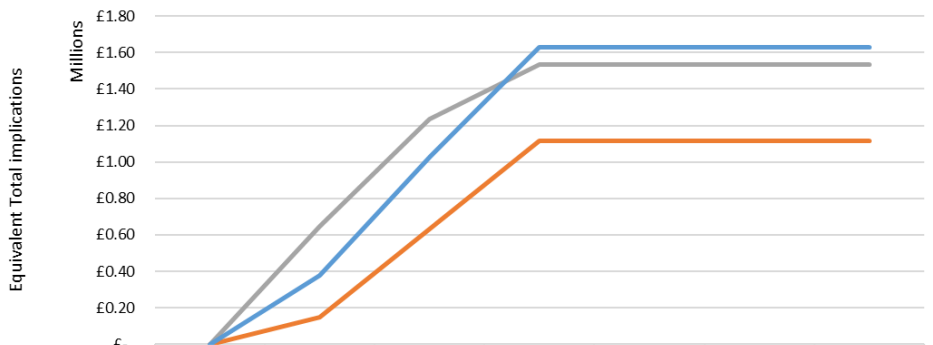
Options Comparator (Capital)



	22/23	23/24	24/25	25/26	26/27	27/28	28/29
In House	2.67	2.68	7.14	4.65	4.65	0.00	0.00
Multi Vendor	0.99	5.10	4.09	3.85	0.00	0.00	0.00
Single Vedor	0.74	4.80	3.82	2.83	0.00	0.00	0.00

Financial Year

Options Comparator (Revenue)



	22/23	23/24	24/25	25/26	26/27	27/28	28/29
In House	0.00	0.15	0.63	1.12	1.12	1.12	1.12
Multi Vendor	0.00	0.65	1.23	1.53	1.53	1.53	1.53
Single Vedor	0.00	0.38	1.03	1.63	1.63	1.63	1.63

Financial Year

The following tables summarise the economic case for each option, based on this analysis **option A: Single Supplier presents the best value for money proposition:**

	Costs per year £m								Assumptions
		22/23	**23/24**	**24/25**	**25/26**	**26/27**	**27/28**	**28/29**	**Total**	
SINGLE SUPPLIER	**Revenue**	0.00	0.38	1.03	1.63	1.63	1.63	1.63	7.92	Based on supplier estimates
	Capital	0.74	4.80	3.82	2.83	0.00	0.00	0.00	12.19	Supplier build, programme delivery, integration into NHS Wales architecture
	VAT	0.15	1.04	0.97	0.89	0.33	0.33	0.33	4.02	VAT on cash expenditure
	Cost of Capital	0.03	0.19	0.33	0.43	0.43	0.40	0.23	2.03	
	Total Cost	**0.92**	**6.41**	**6.14**	**5.77**	**2.38**	**2.35**	**2.19**	**26.16**	Excluding depreciation
	Benefits	0.00	1.24	3.73	6.22	6.22	6.22	6.22	29.85	See Appendix 7.4
	Cash Impact	-0.92	-5.14	-2.22	0.77	4.26	4.26	4.26	5.29	Cash expenditure for the duration
	NPV	-0.89	-4.83	-2.02	0.68	3.66	3.54	3.42	3.56	NPV on proposed scheme, 3.5% discount rate

MULTI SUPPLIER	Costs per year £m								Assumptions
		22/23	23/24	24/25	25/26	26/27	27/28	28/29	Total	
	Revenue	0.00	0.65	1.23	1.53	1.53	1.53	1.53	8.01	Based on supplier estimates, internal support for integration
	Capital	0.99	5.10	4.09	3.85	0.00	0.00	0.00	14.01	Supplier build, programme costs, integration to current solutions
	VAT	0.20	1.15	1.06	1.08	0.31	0.31	0.31	4.40	VAT on cash expenditure
	Cost of Capital	0.03	0.21	0.36	0.49	0.49	0.46	0.28	2.32	
	Total Cost	**1.22**	**7.11**	**6.74**	**6.94**	**2.33**	**2.29**	**2.12**	**28.75**	
	Benefits	0.00	1.24	3.73	6.22	6.22	6.22	6.22	29.85	See Appendix 7.4
	Cash Impact	-1.22	-5.83	-2.80	-0.37	4.38	4.38	4.38	2.93	Cash expenditure for the duration
	NPV	-1.18	-5.48	-2.55	-0.33	3.76	3.64	3.51	1.37	NPV on proposed scheme

IN HOUSE	Costs per year £m								Assumptions
		22/23	23/24	24/25	25/26	26/27	27/28	28/29	Total	
	Revenue	0.00	0.15	0.63	1.12	1.12	1.12	1.12	5.25	Internal IT support, ongoing Analytics function
	Capital	2.67	2.68	7.14	4.65	4.65	0.00	0.00	21.79	Design, Build and Deployment (using contractor staff)
	VAT	0.53	0.57	1.56	1.15	1.15	0.22	0.22	5.41	VAT on cash expenditure
	Cost of Capital	0.09	0.19	0.44	0.60	0.76	0.67	0.58	3.33	
	Total Cost	**3.30**	**3.58**	**9.77**	**7.52**	**7.68**	**2.01**	**1.91**	**35.77**	
	Benefits	0.00	0.00	1.24	3.73	6.22	6.22	6.22	23.63	See Appendix 7.4 – due to additional build time benefit realisation commences later in this option
	Cash Impact	-3.30	-3.49	-8.34	-3.35	-0.86	4.88	4.88	-9.58	Cash expenditure for the duration
	NPV	-3.20	-3.28	-7.61	-2.96	-0.74	4.05	3.92	-9.83	NPV on proposed scheme

3.7. Conclusion

Whilst all options can meet the strategic objectives of NHS Wales, the “Single Supplier” option is preferred as it addresses citizen risk, implementation risk, and the BAU management requirements.

- In comparison to the “Multi-Vendor” option it significantly reduces the responsibility, and risk held by NHS Wales for the integration of the solution. This in turn reduces potential clinical risk – any disconnect between the AFCP viewed by an individual, and the view provided to care professionals adds the potential for information to be misinterpreted therefore adding clinical risk.
- In comparison to the “In House” it reduces the risk that the solution will not provide the intended benefits to the Welsh public and care professionals as it uses a solution already developed and tested with users in the market, it also decreases the complexity of the implementation. It also provides greater value for money as it requires less Capital investment for the design and development of the solution.

4. Commercial Case

4.1. Market Analysis

Initial market testing was undertaken to identify the types of solutions available in the market, and whether there will be a competitive market for the services required to support the solution. Engagement sessions were held with seven potential suppliers to understand the scope of their services in relation to NHS Wales's and DHCW's requirements. This exercise was not a formal pre-market engagement as the intent was to understand the market and not to evaluate supplier solutions - this was made clear to the providers during discussions.

The supplier market is reasonably small, however there are enough capable suppliers identified in the market to run a competitive tender. The main vendors are shared record providers rather than specialist firms. Currently two of the vendors in the market have partnerships with a specialist AFCP partner to provide delivery support and eForm template and design knowledge. As a result, the ability to run a competitive tender for this would be increased by the design of the procurement ensuring the AFCP partner was able to submit a bid on behalf of both vendors.

There are currently no vendors that are currently providing Welsh language citizen facing elements, further discussion with vendors will be required to determine the cost impact of developing this functionality as part of the market engagement and ITT process.

4.2. Route to Market

An initial assessment into the viability of different routes to market has been undertaken, looking at the size and complexity of the AFCP contract scope and supplier market.

Procurement Route	Benefits	Risks/ Disbenefits	Comments
Direct Award • Award of contract to a single supplier without a competitive tender procedure.	Fast – 3 months.	High potential for challenge. Against procurement guidance and best practice due to size and value of contract.	Not a viable option. Option discounted as not appropriate under procurement guidance.
Framework • For procuring services with pre-set specifications and prices against existing agreements, with pre-selected suppliers. • Additional suppliers cannot be included in the procurement. Pre-established standard contract terms, which can be enhanced to meet the specific needs of the contracting authority but cannot be materially amended.	Fast – 3-6months. Less Complexity as will utilise existing Terms and Conditions.	There are currently no UK frameworks dedicated to Advance and Future Care Planning, therefore there is: • Potential for challenge if vendors are not on the selected framework and it is deemed the procurement is out of the scope intended for the framework. • Risk that vendors responding to the tender would not have experience in delivering the requirements. T&C's may not be suited to the requirements of the solution. As the architecture of the solution relies upon Shared Record there is the potential that framework for Shared Record could be used	Depending on terms and conditions of Shared Record framework, may not be a viable option. Not recommended due to limitation on the vendor market.

Procurement Route	Benefits	Risks/ Disbenefits	Comments
		(e.g. HSSF) provided the Shared Record providers were able to partner with organisations with experience supporting citizen-facing AFCP solutions.	
Open Procedure • Single-stage process - any supplier can respond to the advertised Contract Notice, submit a tender. All tenders must be evaluated in line with the methodology and criteria set out in the procurement documents.	All potential vendors identified would be able to bid, largest competitive market. Low risk of challenge.	Potentially large number of responses from vendors that may not have appropriate experience. No opportunity to negotiate with suppliers. Slow – approx. 6-9 months, and higher cost associated with running this type of procurement process.	**Viable option.** **Recommended route to market provided solution requirements can be fully developed ahead of contracting.**
Restricted Procedure • Two stage process: Stage 1: A Selection Questionnaire (SQ) is used to establish suppliers' capability, experience and suitability etc. to shortlist capable suppliers. • Stage Two (Award) - Shortlisted suppliers which meet the selection criteria are then invited to tender. All tenders are evaluated in line with the methodology and award	Shortlist of suppliers means allows early assessment of viable companies, therefore reducing the amount of ITT responses to be evaluated. Low risk of challenge.	Does not support solution development as part of process – detailed requirements are needed at the outset. Long procurement timescales (circa 9 months). A complex tendering method, high level of stakeholder effort required. Cannot negotiate detailed final terms with winning supplier once selected. Full contract needs to be developed prior to tender.	Viable option. Not recommended as vendor market is already small therefore limited additional benefit over open procedure but greater overheads.

Procurement Route	Benefits	Risks/ Disbenefits	Comments
criteria set out in the tender documentation			
Competitive Procedure with Negotiation • An iterative process where minimum requirements must be set and cannot be changed, but initial tenders can be improved via negotiation. • The initial supplier response can be awarded if acceptable, or further round(s) of negotiation can be completed.	Allow negotiation on commercial terms as part of selection – potentially providing better value for money. Low risk of challenge.	Does not support solution development as part of negotiation – detailed requirements are needed at the outset. Long procurement timescales (circa 9 months) A more complex tendering method, high level of stakeholder effort required. Must be able to evidence that needs cannot be met without adaption of readily available solutions.	Viable option as can evidence that adaption is required from COTS products. Not recommended as does not address risk of changing solution requirements
Competitive Dialogue • Multistage Process: Multiple different solutions are discussed and developed with suppliers. This procedure can be used when requirements typically include design or innovation and cannot be met by adapting existing solutions from frameworks.	Restricts the number of organisations invited to tender (making the tender evaluation more manageable). Allows discussion and negotiation on the solution scope via the procurement process,	Slow – approx. 9-12 months, and significantly higher cost associated with running this type of procurement process. A complex tendering method, high level of stakeholder effort required. Added resource cost and potentially high burden for suppliers (making the contract opportunity appear unattractive to some).	**Viable option** as can evidence that adaption is required from COTS products. **Recommended if solution requirements cannot be fully developed ahead of contracting**

Procurement Route	Benefits	Risks/ Disbenefits	Comments
• The dialogue may take place in successive stages to reduce the number of potential suppliers. • At the conclusion of the dialogue, suppliers are asked to submit their final tender.	therefore reducing the risk of unknowns.	Must be able to evidence that needs cannot be met without adaption of readily available solutions.	

4.3. Procurement Activity

The following sets out the key activities required to be undertaken as the next phase of the procurement, and indicative timescales.

Procurement Preparation
 	
(3- 6 months)
	The procurement preparation stage requires development of the following:
	
	• Commercial and procurement strategy – The commercial and procurement options require robust assessment during the procurement preparation stage and development of a Commercial and Procurement Strategy.
	
	• Pre-market engagement – informing potential suppliers of the intention to purchase a particular provision, understand what the market can offer and to seek or accept advice from independent experts, other authorities or from industry experts. Advice received can be used within the planning and conduct of the procurement.
	
	• Supporting Bidder Information – A holistic and clear view as to 'As Is' position (e.g. current people, process and systems, volumes, etc.) required to minimise risk and assumptions for the procurement and ensure a clear transition plan for the new provider. Particularly key for this will be the requirement for integration into existing front-end health and care systems, from the initial market testing multiple suppliers raised questions on the scale of this requirement as it will have a large impact on pricing. Without clarity on As Is, e.g. systems to integrate with, existing processes, etc. suppliers will price risk and assumptions into the deal.
	
	• Requirements – An initial specification has previously been produced by the End of Life Care Board, further engagement is required with end users to refine this to a holistic set of functional and non-functional requirements (e.g. solution, service needs, commercial and financial, social value). Robust requirements will provide:
	
	  ○ Clarity as to what is required (both for NHS Wales and the suppliers).
	
	  ○ Clear and robust ability to appraise and evaluate Bidders' proposals.
	
	  ○ Clarity as to management arrangements for future service and performance management.
	
	  ○ Optimally reduced changes in specification and future cost drivers (requirements, responsibilities and risk clearly defined from the outset)
	
	• Procurement documentation – development of procurement documentation including notice, supplier questionnaires and tender documentation, including – instructions to bidders, procurement

	protocols, requirements and due diligence – as detailed above, evaluation procedures and weightings, scoring methodology, contract (Managed Services Agreement and Schedules), etc.
Procurement and FBC **(9 months)**	On the basis of the outcome of the requirements definition, the route to market should again be reviewed – if it is felt that the requirements set has a clear scope then the decision should be made to continue with the Open procurement procedure, however if it is felt that the scope of the requirements is still fluid and would benefit from further market testing then a competitive dialogue process should at this point be initiated. For either option the procurement approach will require the following: Programme Management / Business Engagement / Procurement Portal Administration / Supplier Briefings / Bidder Clarifications / Dialogue and negotiation (dependent on procurement vehicle) / Evaluation Briefings / Supplier Response Evaluation / Technical Assurance / Evaluation Report / Bidder Debriefs / Order Form Clarifications (Contracting) or contract negotiation (dependent on procurement vehicle). The Full Business Case is finalised at the end of the procurement process when the preferred bidder is known. It records the findings of the procurement phase and sets out the provider that offers the most economically advantageous tender, prior to the formal signing of the contract(s). It describes the contractual arrangements, finalises costs and affordability, and describes the agreed management arrangements for the delivery of the project and provides confidence that the recommended approach is affordable, achievable and will deliver expected benefits.

4.4. Service Requirements and Outputs

The full specification (requirements) for the solution shall be created prior to issuing the Invitation to Tender, the previous work by the End-of-Life Care board has identified a detailed requirement set that should form the basis of this. There are several key service requirements and non-functional requirements that will need to be considered in addition to the scope and design principles outlined earlier in this document:

The service must be available 24 hours per day, 7 day per week

- The service must include a robust information governance model, compliant with all appropriate NHS Wales and NHS Digital's information standards
- The consent model should clearly distinguish: adults with capacity, adults without capacity, and those under 18 years old.
- The service must include future care plan clinical quality management.
- The service must include clear version control, and update history including user, time and date
- The service must include information reporting and full audit data.

4.5. Commercial Risk Transfer

This section outlines potential approaches that should be considered in the design of the procurement process, and the terms of the contract, to help prevent NHS Wales holding the full responsibility for risks associated with delivery of the contract.

RISK	MITIGATION APPROACH	RISK ALLOCATION	
		Supplier	NHS Wales
Design – Citizen-facing portal integration with DSPP, solution needs to link through to the existing NHS Wales portal.	Co-design of solution based on NHS Wales architecture and open standards guidance.	✓	✓
Design – Requirement for flexibility in the design of citizen facing AFCP data collection forms.	Ownership of the design of the elements of the forms should sit with NHS Wales – should be able to stipulate what information is captured, the structure of the forms and terminology used. Contract scope, licence terms (including IPR terms) should include ability to: • support multiple form formats if health boards want to retain their current processes. • redesign citizen facing forms where required (e.g. if documentation requirements change, based on citizen feedback).	✓	✓
Design – Codification of data if Citizen is uploading documents in multiple formats to AFCP solution.	As people have a legal right to use any type of form to record their wishes for the future, the solution must therefore support the upload of other types of documents (e.g. paper records brought by the individual from other countries etc.). The requirement for the solution to enable this should sit with the Supplier, however due to the clinical risk involved, the interpretation of this data into any codified information (e.g. for summary views) should remain the		✓

	responsibility of the GP (or other appropriate healthcare professional).		
Design – Intellectual Property Rights (IPR).	Where specific foreground IP is generated as part of this project, NHS Wales should (at a minimum) retain the right to continue to use said designs beyond the life of the contract (e.g. citizen-facing form design).	✓	✓
Build and Development – Integration with health and care front-end solutions.	Identification of required integrations as part of contracting process – assessment of vendors must consider their ability/ experience in integrating with existing systems.	✓	✓
Transition and Implementation – Deployment timeframes.	Adaptive approach to be taken – Early implementation sites initially to act as pilots, following these the transition plan for wider deployments will be finalised. As deployment is going to be staged, and potentially take several years, there should be scaling of solution costs based on number of users.	✓	✓
Transition and Implementation – Clinical capacity to support AFCP migration.	As part of the procurement, should include optional clinical support wrap including support in the translation of current paper AFCPs to the new solution, and support in creating initial AFCPs in the new solution (this is a requirement beyond the provision of training material).	(✓) option	✓
Transition and Implementation – Organisational Change.	Central programme to design Change Management strategy, utilising learnings from suppliers from elsewhere. Lessons learned, comms and training information will be shared from early implementations. Each Health Board/ organisation to scope/ implement specialised change management plan based on current processes and digital maturity.		✓

Availability and Performance Risk	Support model to be defined ahead of contracting activity. SLAs and regular service reviews to be defined within contract. OLA agreements between supplier and integrated third parties.	✓	✓
Exit and Termination Risks	Trust ownership of data, and access to source data in case of termination to mitigate migration costs on termination. Non-delivery clauses included as part of T&Cs. Sufficient termination notice period to support transition to new supplier. Plan for how impact to citizens will be managed as part of Exit.	✓	✓

4.6. Key Contractual Arrangements

- **Length of contract** at a minimum should be five years, based on the assumption that implementation of the solution will take three years from contract signature. If this minimum timeframe is selected, then there should be included extension periods (e.g. two 1-year extensions) in order to enable value to be realised following the implementation It is recommended there is further review of this assumption as part of the pre-market engagement activities.
- **Charging model** should include some scalable costing based on population it has been deployed to, as this will be gradually delivered therefore charging should scale accordingly.
- **Contract review points** may be required due novel nature of this contract. As it is a new service for NHS Wales, there are likely to be learnings, and changes that are identified throughout the design, development and early implementation phases that may require significant change to the contract. It is therefore recommended that the contract is adaptive allowing for some elements (e.g., deployment timescales) to be reviewed following award.
- **Transformation and delivery support** may be required to augment NHS Wales resources available to migrate individuals with existing AFCPs to the new solution, this should be included as an option within the procurement
- **Cross-border integration** should be included within the scope of the contract as it is important to select a vendor capable of meeting this requirement, and it will deliver significant benefits to citizens. However, this is a future requirement of the solution and scoping the scale of this solution is dependent on the development of equivalent.

- **Open standards compliance** for both current and developing standards to enable support for integration with current system suppliers. Futureproofing to align with wider data sharing requirements as part of national/ regional programmes.
- **Data ownership** should be with NHS Wales with the ability to access/ export source data as required.
- **Social value** commitments should be sought from suppliers during the procurement process and contracted against.

4.7. Personnel Implications

No anticipated TUPE implications.

5. Financial Case

5.1. Capital and Revenue Requirements

The financial model for the preferred option (Single Supplier) has been produced based on initial costing estimates provided as part of the initial market analysis.

WHAT: Procure electronic ACP solution (single procurement), utilising the Welsh Clinical Portal as the data store.
BASIS: Supplier costs and the assumption that the NHS Wales programme team is fulfilled by contractor resources (for costing purposes).

Electronic ACFP solution procurement and development	Total
	£1,728,000

2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029
£744,000	£984,000	£0	£0	£0	£0	£0

Electronic AFCP solution deployment	Total
	£8,480,685

2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029
£0	£2,826,895	£2,826,895	£2,826,895	£0	£0	£0

AFCP Maintenance, Operations and improvements	Total
	£567,600

2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029
£0	£51,600	£103,200	£103,200	£103,200	£103,200	£103,200

Third Party Costs	Total
Current Third Party Integration Costs	£480,000
	£150,000
	£1,500,000

2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029
£0	£240,000	£240,000	£0	£0	£0	£0
£0	£25,000	£25,000	£25,000	£25,000	£25,000	£25,000
£0	£750,000	£750,000	£0	£0	£0	£0

Care Professional solution SAS licence fee	£7,200,000	£0	£300,000	£900,000	£1,500,000	£1,500,000	£1,500,000	£1,500,000
Totals	£9,330,000	£0	£1,315,000	£1,915,000	£1,525,000	£1,525,000	£1,525,000	£1,525,000

Depreciation	2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029
Capital Total	£744,000	£4,800,895	£3,816,895	£2,826,895	£0	£0	£0
Depreciation Element	£148,800	£960,179	£763,379	£565,379	£0	£0	£0
Capital Cost Element	£26,040	£168,031	£133,591	£98,941	£0	£0	£0
Depreciation Total	£148,800	£1,108,979	£1,872,358	£2,437,737	£2,437,737	£2,288,937	£1,328,758
Cost of Capital Total	£26,040	£194,071	£327,663	£426,604	£426,604	£400,564	£232,533

Financial Category	2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029
Revenue	£0	£376,600	£1,028,200	£1,628,200	£1,628,200	£1,628,200	£1,628,200
Capital	£744,000	£4,800,895	£3,816,895	£2,826,895	£0	£0	£0
Cost of Capital	£26,040	£194,071	£327,663	£426,604	£426,604	£400,564	£232,533
Total	£770,040	£5,371,566	£5,172,758	£4,881,699	£2,054,804	£2,028,764	£1,860,733

The estimated total cost of the delivery programme and solution over seven years is £26.2 million, this is equivalent to £8.25 per population in Wales.

5.2. Assumptions

- The financial model for the preferred option (Single Supplier) has been produced based on initial costing estimates provided during the market analysis.
- Financial modelling for implementation costs, supplier software (SaaS) fees and benefits realisation are based on the following timeline assumptions (as set out in management case). The estimates provided as part of the market analysis aligned with a five to seven contract timeframe.

	2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2026/2028	2026/2029
Implementation Timeframe	Procurement	Early adopters – 3HBs	3 Health Boards	3 Health Boards	Complete	Complete	Complete
% Population Deployed to	0%	20%	60%	100%	100%	100%	100%
Population Deployed to	0	634,000	1,902,000	3,170,000	3,170,000	3,170,000	3,170,000
Estimate AFCP Records in solution	0	15,216	45,648	76,080	76,080	76,080	76,080

- Supplier solution development costs are estimated at £1.5 million. An additional charge for Welsh language (or other language) solution development has not been included. Feedback from suppliers is that the design/ build costs require greater discussion and information sharing regarding the integration requirements to determine.
- Costs do not include any provision for the creation of a cross-border solution with England.
- Costs from current front-end systems migration is estimated to be £80,000, with a £25,000 recurring revenue charge for the maintenance of data feeds. These estimates are based on equivalent programmes for shared record integration and will require engagement with current providers (e.g. C3) to validate ahead of the Full Business Case.
- Assumption that external resources will be required to support the production of the Full Business Case, procurement, and solution design, development, and transition.
- Training cost estimates assume two hours of training per member of staff.
- Discount rate is 3.5% in line with NHS Greenbook best practice.

5.3. Sensitivity Analysis

As part of the creation of the financial model, the following sensitivities were tested.

Parameter	Possible variation from modelled value before NPV becomes negative	Anticipated Scope of Variation	Impact on overall cost of solution	NPV under this scenario
Supplier Licence Cost	Increase by 17%	Increase by 20%	£1.7m additional cost	-£0.2m
Increased build timeframe	Increase by 3 months	Increase by 6 months	£2.5m additional cost	-£1.6m
Contractor Resource Rates	Increase by 15%	Increase by 20%	£2.1m additional cost	-£0.7m
Availability of internal resource	N/A will improve NPV	All staff internally resourced	£20m cost reduction	£8.0m
Optimism bias for benefits	Decrease by 7%	Benefit associated value 20% less than anticipated	£6m less cash/ efficiency savings	-£3.7m
Inclusion of clinical support	N/A	Supplier support for AFCP migration at £80 per record (based on supplier quote)	£1.5m additional cost	-£0.1m

It is apparent from this analysis, that there are numerous factors with potential to significantly impact on the overall financials of this project. It is therefore recommended that these factors (e.g. availability of internal resource for programme roles, timeframes for build) are further investigated as part of the Full Business Case.

5.4. Affordability and Funding

There are significant costs associated with the delivery of this solution, particularly in relation to the programme costs for development and delivery of this solution across Wales.

Initial funding approval is required to produce the Full Business Case and undergo the procurement exercise. This will give a more accurate view of the overall costs associated with this solution. Based on the financial modelling the anticipated funding requirement to go from OBC, through procurement preparation, procurement, Full Business Case and contract signature is £789,000 based on the following resource estimate:

Role	Responsibility	FTE	Rate	Months	Total Cost
Project Manager	Project Management of the solution	1	£600	12	£144,000
PMO	Information and operational reporting	1	£300	12	£72,000
Architect	Architecture of the solution	1	£750	3	£45,000
Designer	Design of the solution	1	£750	3	£45,000
Business Analyst	Analysis of requirements	1	£450	3	£27,000
Business Engagement	Engagement on requirements and change	1	£600	12	£36,000
Procurement & Contract Management	Procurement of contracting staff	2	£600	9	£216,000
Care Professional user engagement	Requirement's identification and process redesign	2	£200	12	£96,000

As part of the production of the Full Business Case a full review and strategy is required for how the funding for this solution will be provided in accordance with current NHS Wales budgets. This review should consider:

- Level of central funding for the solution.
- How costs incurred by Health Boards, WAST, Velindre to support the implementation of the solution will be funded – and whether there will be any re-allocation of funding from current local/ regional Advance and Future Care Planning programmes.
- Review gates for funding approval for each stage of the solution roll-out.
- Benefits realisation at the local and national level.
- Potential opportunity for charitable funding.

6. Management Case

The purpose of the management case is to demonstrate the achievability of the recommended option, identifying the main activities / controls required to ensure success.

This section focuses on three key areas:

1. Executing the transaction: the ability to source the eAFCP and execute a transaction of this magnitude.
2. Implementing the solution: the ability to work in conjunction with the supply chain (successful suppler and wider existing providers) to successfully transition and transform services.
3. Management post transaction – the ability to manage the supplier as an intelligent customer and transform services on-going.

6.1. Executing the transaction

Following approval of the OBC, there is a need to:

- Develop the (functional and non-functional) requirements specification, which will be refined through the procurement process and dialogue with suppliers. While the procurement route can facilitate dialogue with the suppliers around the requirements, it is important that the needs of NHS Wales and its users are understood up-front, which can be refined through the process.
- Develop all of procurement materials, including instructions to bidders, supporting information evaluation criteria and commercials, in line with the recommended procurement route
- Develop the dialogue approach and plan, including resource requirements (if the competitive dialogue process is the preferred procurement vehicle).
- Identify evaluation panel members and develop briefings
- Execute a robust and safe procurement process, in line with procurement regulations.

Our ability to execute the transaction effectively, ensuring the Most Economically Advantageous Tender (MEAT) is selected, in line with NHS Wales' requirements and that mitigates any risk of commercial challenge is predicated on ensuring:

- Robust procurement preparation is undertaken and that goes through rigorous review and approval (time has been built into the plan to accommodate this work).
- The procurement is led by expert resources, experienced in the procurement of technology and services via the preferred procurement approach.
- Clarity on roles and resources and that stakeholders are involved to support the procurement process.
- The market is clear on the opportunity and is happy to engage in a dialogue process – this will be dependent on them seeing strong national support for the initiative as the

procurement process is equally demanding on suppliers who will need to invest in the process (time and resource).

6.2. Implementing the solution

6.2.1. Implementation Challenges

Delivery of a novel solution across Wales is a large and significant undertaking that will presents several implementation challenges:

- It requires a shift in process and ways of working for health and care staff across Wales, as well as requiring significant public engagement.
- Current processes and procedures vary by Health Board therefore the process change required will also need to be varied. Process design will need to consider the requirements of the particular area (e.g. remote vs urban will have different challenges).
- Where existing paper of digital AFCPs exist for individuals, a decision will need to be made on the approach for migrating these to the Digital solution – given the differing current approaches it is likely that there will not be a "one-size-fits all" approach for this.
- Capacity within health and care organisations to support the migration of current paper/ scanned AFCPs to a digital solution may be limited which will impact timeframes and uptake of the digital solution (e.g. if approach selected is transcribing paper records then having a clinical review, or if approach is to have the AFCP conversations again with the individual to create a verified new record).
- Different organisations have different levels of digital maturity e.g. care homes typically less used to sharing information through digital systems, therefore will have different need for engagement and training.
- The solution needs to support the following scenarios, each of which will require different forms to be supported, different controls and measures, and different processes for creation and management
    - Advance Care Plan (adult) of person with mental capacity
    - Future care plan (adult) relating to person without mental capacity
    - Paediatric (<18yr) future care plan (the Welsh PAC Plan)

6.2.2. Implementation Approach

As a result of these challenges and implementation and supporting programme governance will need to be:

- **Staged** – due to the size and complexity of the implementation a "Big Bang" approach would be high risk, a better approach is to follow a similar approach as has been taken for the A Healthier Wales programme and start with a small group of early adopters sharing learning between organisations.
    - As Advance and Future Care Plan programmes are currently being delivered by Health Boards, the recommendation is that deployment is staged by Health Board

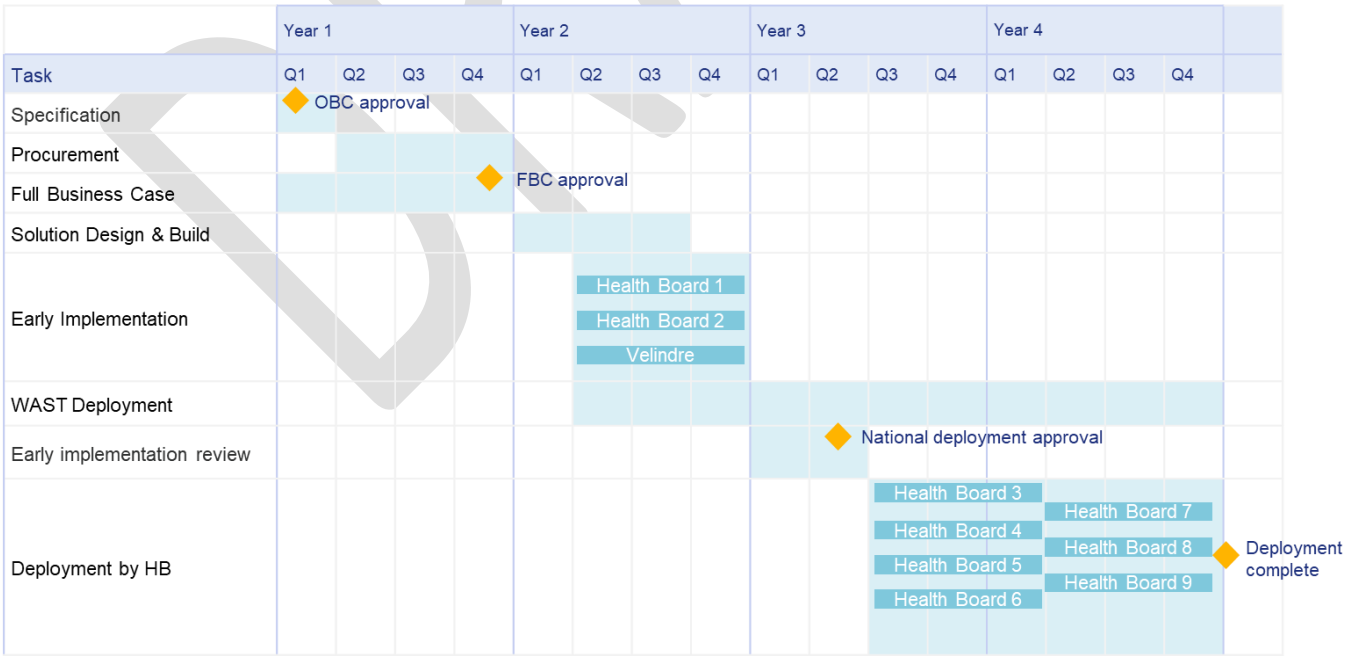
(rather than by care setting for example). This will enable the programme to leverage existing governance and processes. It will also enable the benefits of being able to share care plans across multiple organisations to be realised earlier.

  - AFCP records for Under 18s require greater controls, the transition planning process should consider staging the roll-out to different populations testing the solution first with adult AFCPs.
  - Following the early implementation sites (assumption these would cover three Health Boards to trial across different populations, with WAST integration for those locations) there should be a review on whether to continue with national deployment.
  - As there are significant benefits associated with the available of AFCP for WAST and the 111 service, it is recommended that this organisation is transitioned as a priority. As a national organisation, processes will need to be in-place to support dual running of current and new processes as regions transition.

- **Centrally directed but locally tailored** – aspects such as the public engagement strategy, solution design and technical implementation need central direction to ensure consistency, but other aspects e.g. process design and change management impact will need to be adaptable to local/ regional needs.

6.3. Implementation Timeline

The implementation timeframes will be further reviewed as part of the discovery and procurement exercise for the Full Business Case, however the proposed approach is for the implementation to be staged as follows:



6.4. Programme Governance

The End of Life Care Implementation Board currently provides national leadership and support and acts as a forum to drive forward change and oversee health boards' efforts to deliver the Welsh Government's vision for improving end of life care in Wales. It is anticipated that this board will be the central governance board for the Full Business Case and the governance oversight for subsequent delivery programme. The programme must be centrally governed on behalf of NHS Wales to ensure consistency of the solution design, processes and ways of working, and communications both within NHS Wales and to the wider population.

In addition to the End of Life Care Board there is a well-established Adult Palliative Care Clinical Implementation Group, and an all-Wales Paediatric Palliative Care Network and Implementation Group, which should be used to verify the design, identify the change impact, and drive the implementation of the solution with the different user groups.

As previously stated, the delivery will need tailoring to the requirements of the different Health Boards and will therefore additionally require governance and management at this level. The recommendation is to leverage existing transformation programme governance and structures where possible within each Health Board.

The development of the integration into the NHS Wales Architecture will need to be overseen by Digital Health and Care Wales (DHCW), within the design of the Full Business Case it will need to be assessed whether there is capacity available within this organisation to support this integration directly.

Central Programme

- Programme Governance
- Design Authority
- Delivery Oversight for:
  - Solution Build and Test
  - Supplier Management
  - Integration with NHS Wales systems (e.g. WCP)
  - Integration with third party systems (e.g. Adastra, Vision)
  - Cross border integration
  - Phasing of regional deployments
  - Data migration
- Central PMO and Benefits Management
- National communications strategy and public engagement
- Training strategy and materials

Health Board/ WAST

- Process redesign and change management
- Delivery Oversight for regional:
  - Implementation across provider organisations
  - Localised training plans
  - Data migration of current records to the new solution
- Local PMO and Benefits Management
- Local communications and patient engagement strategy
- Escalation point for Provider Organisations

Provider Organisation

- Process redesign and change management based on the organisations current practices
- Delivery Oversight for:
  - Cutover to new solution in that organisation
  - Staff uptake of training
- Reporting to the regional PMO and Programme team
- Discussions with individuals at the point their ACP is migrated to the Digital solution

6.5. Roles

This is a high value transaction and will require skills and experience across the following areas:

- Programme management
- Commercial and procurement
- Finance
- Solution and service
- Business engagement and communications
- Specification development / solution assurance
- Transition and Transformation assurance
- Development of Intelligent Customer capability

The anticipated resource requirements, as modelled in the financial case can be found in Appendix 7.3 Resource Model.

6.6. Communications and Engagement

The success of this programme depends on:

- Building public support for greater conversations around Advance and Future Care Planning
- Building public trust in utilising Digital solutions for managing their care
- Changing current ways of working with Health and Care professionals

Therefore, there is the requirement for a significant national campaign of engagement with the public. As part of the Full Business Case the resource requirement, and approaches for managing this campaign should be assessed.

As part of the Full Business Case it should be investigated whether there is the potential for third sector support for change and training.

6.7. Risk Management

Part of the governance arrangements will be the management of risk across the implementation, risks will need to be identified and managed at the organisation, health board, and national programme level by both NHS Wales and the suppliers.

This will require a consistent framework to be used for the identification, classification, and escalation of risks across the entire programme, this should be based upon DHCW standard practice.

Essential to the success of the programme will be the ability to share risks and mitigation strategies identified at each Health Board, and this should form part of the larger “lessons learned” approach.

The following implementation risks have been identified at this stage:

Implementation Risk Description	Impact Description	Mitigation
There is a risk of capacity/ capability constraints to source, and then implement the solution and undertake associated adoption and change activities.	Impact on timeframes for delivery. Impact on benefits realisation from the investment.	Procure delivery partner to support/ augment current NHS Wales, DCHW, and UHB teams.
There is a risk that current paper records will need to be migrated to the digital solution.	Potential issues with paper AFCPs not being identified, and version control. Highest risk is that outdated plans be transcribed into the new system and followed by care providers.	There is potential to procure support for the migration of paper records. Have new AFCP conversation(s) with individuals that currently have paper records and create digital record from that to ensure AFCP is verified with patient.
There is a risk that dual-running of current processes and new solution during transition will cause confusion for the individual and clinical staff.	Change management, user perception and uptake impact if users (e.g. call triage) are having to use both the old and new processes. Highest risk is that an individual has a AFCP but because they have not yet been transitioned to the new system, care professionals are not made aware.	Identifier needed for whether an individual has been transitioned to the new solution.
There is a risk that transition to the new AFCP solution will require significant additional care professional time to support transfer of paper to digital records.	Impact on ability to meet delivery timeframes. May negatively impact user perception and uptake of the new solution if it is deemed to be too effort intensive.	Procure support to help migrate/ transcribe records.

Significant national campaign required for engagement with the public. In the past there were ACP nurses and Macmillan EOL GPs who could have delivered this in each UHB, however this resource has been depleted and is only available in limited areas.	Impact on public perception of the solution. Impact on ability to meet delivery timeframes. May negatively impact user perception and uptake of the new solution if it is deemed to be too effort intensive.	Procure support as part of central programme to support public engagement at the national and regional levels.

6.8. Operations, support and quality improvement

A significant benefit of the implementation of a digital AFCP solution is that it will provide NHS Wales, and the organisations within it, with the ability to monitor information about the uptake and outcomes of AFCPs across the population. This solution provides the foundation for a more data-driven approach to Advance and Future Care Planning quality improvement. This should be delivered using the existing governance models for Advance and Future Care Planning, such as the End of Life Care Board.

The supplier shall provide the operational and service management support for the procured solution including:

- IT Support
- Cyber Security
- Information Governance
- Audit and Reporting

These processes should be embedded within the DHCW operational processes. It is anticipated that there shall be some ongoing NHW Wales resource requirement and responsibility for:

- Supplier management
- Front-end Service Desk and call triage to supplier
- Management of integration with NHS Wales architecture (e.g. WCP, DSPP)
- Management of supplier relationships with NHS Wales third parties integrated to the solution

6.9. Conclusion

Delivery of an all-Wales electronic Advance and Future Care Planning solution is a significant undertaking that is anticipated to take four years to completion following OBC approval.

To manage the risks associated with delivery of a programme at this scale, it is recommended to commence with smaller selection of early implementation sites, and review progress prior to national delivery.

7. Appendices

7.1. Target Digital Architecture for NHS Wales

The design of the solution must align with the target digital architecture for NHS Wales (as shown in Figure 1 NHS Wales Target Architecture for an Open Platform below) and the associated design principles, it must seek to:

- Make information available to whomever needs it including Clinicians, citizens, health and social care, 3rd sector, and carers
- Remove data silos and vendor lock-in making data accessible to legacy and new applications
- Use open standards for interaction to allow internal and external consumers to interact with the platform
- Use open standard for data exchange
- Adopt an open service model
- Design for national scale
- Build services for re-use
- Adopt agile design principles

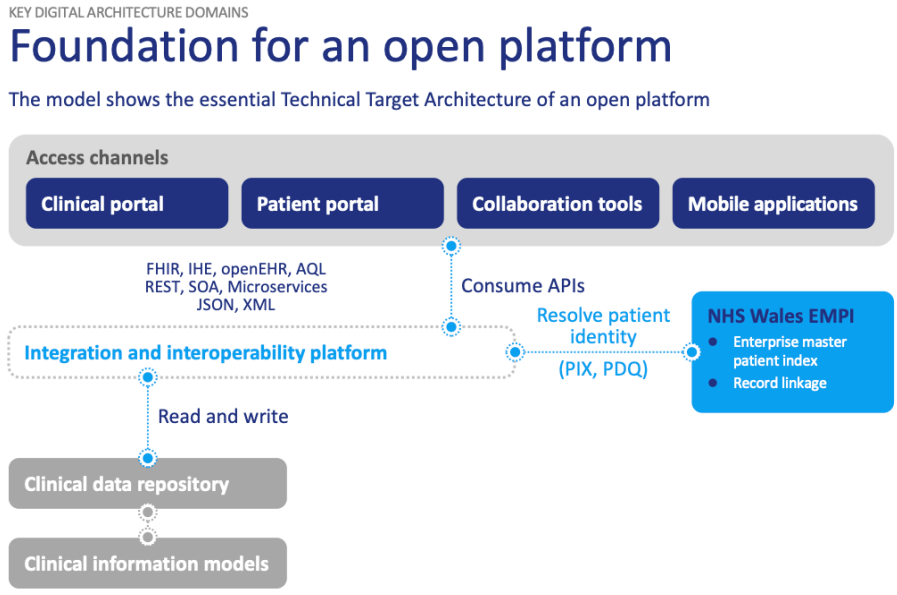


Figure 1 NHS Wales Target Architecture for an Open Platform

7.2. Standards

Title / Reference	Standard	Comments
PRSB PCSP	Personal Care and Support Plan standard from the PRSB	
PRSB CIS	Core Information Standard from the PRSB	
UK Core	The FHIR profiles being co-developed and adopted across the NHS in all devolved administrations	NHS Wales are represented on the development of UK Core

7.3. Resource Model

Within the financial case the following resource profile for the internal delivery team has been modelled.

electronic ACP solution procurement and development		FTE	Months
Project Manager	Project Management of the solution	1	15
PMO	Information and operational reporting	1	15
Architect	Architecture of the solution	1	15
Designer	Design of the solution	1	3
Business Analyst	Analysis of requirements	1	6
Business Engagement	Engagement on requirements and change	1	12
Procurement & Contract Management	Procurement procedure oversight	2	9
Care Professional - Average Rate	Requirements identification and process redesign	2	15
Engineer	Engineering (data storage environment)	2	6
Developer	Software Development (integration with internal systems)	2	6

Data Base Administrator	Data warehouse integration, data migration	2	6
Test and Assurance	Quality assurance, safety and testing	1	6
Supplier solution development costs	Solution Design including front-end & eForms to meet NHS Wales requirements, integration with DSPP, integration with NHS Wales architecture and front end health and care systems	4	3
Total			117
Solution Deployment		**FTE**	**Months**
Programme Manager	Supplier Management and project oversight	1	36
Project Manager	Project Management of the solution	1	36
PMO	Information and operational reporting	3	36
Architect	Architecture of the solution	0.1	36
Business Analyst	Operational readiness and process redesign	2	24
Engineer	Integration with local systems	1	36
Data Base Administrator	Data migration	1	36
Test and Assurance	User testing, safety and quality assurance	1	24
Communications Lead	Public Engagement	2	36
Business Engagement	Change Management	6	24
Training Lead	Training and adoption	1	24
Training Support	Training and adoption	2	36

Care Professional - Average Rate	AFCP migration		
Care Professional - Average Rate	Staff training - 2 hours clinical and admin staff members		
Total			384
Maintenance, Operations and improvements		**FTE**	**Months**
Architect	Architecture of the solution	0.1	66
Procurement & Contract Management	Supplier Management	0.1	66
Data Base Administrator	Data management	0.2	66
Engineer	Integration maintenance with current systems	1	66
IT Support	Service Management	2	66
Data Scientist	Population health, information reporting, and analytics	0	66
Totals			330

7.4. Benefits Model

Category	Description	Type	Type	Value (p/a)	Basis
Productivity	Saving of clinical time spent identifying if patients have ACP when admitted to A&E	Quantitative	Productivity	£152,000	1 minute per A&E admission (Band 3)
Productivity	Reduction in administration and sorting paper based records	Quantitative	Productivity	£2,053,000	2 minutes per day (Band 2)
Productivity	Reduction in staff time to retrieve records for internal audit purposes or external partners i.e. coroner etc.	Quantitative	Productivity	£29,000	5 minutes per EoL patient (Band 3)
Productivity	Saving of clinical/ care professional time associated with creating duplicate AFCPs for single patient	Quantitative	Productivity	£250,000	Assumes 15% of patients with AFCPs have duplicate records, 30 mins clinical time (Band 7) to have ACP discussion
Productivity	Reduced cost of unwanted ambulance trips to A&E	Quantitative	Avoidance	£8,000	NEPTS average of 5 trips per day to EoLC patient from hospital to Preferred Place of Death Calculation assumes that 5% of these individuals were taken in an ambulance to hospital when they could have remained in PPD had they had an ACP available

Productivity	Reduction in the number of unwanted days spent in secondary care settings	Quantitative	Avoidance	£3,675,000	The UK recognises that a patient with their goals of care documented will save the NHS £2,100 at the end of life. Calculation based on an estimated increase of End of Life patients with an ACP increases by 10%
Productivity	Saving in 111 and 999 call handler time to identify if patient has an ACP	Quantitative	Productivity	£24,000	5 seconds per 111 and 999 call for handler (Band 4) to switch systems and search data
Savings	Reduced cost of paper	Quantitative	Cash Releasing	£5,000	Cost reduction (estimated) - 1p per print out, 3 copies per patient
Savings	Reduced cost of copier & scanner	Quantitative	Cash Releasing	£1,000	Cost reduction (estimated) - 1p per instance, 1 scan + 1 copy per admission
Savings	Staff cost for scanning	Quantitative	Productivity	£21,000	Cost reduction (estimated) - 1 min staff time (Band 2) per record - 1 record per admission
Scale	Economies of scale in negotiations with suppliers	Quantitative	Avoidance		To be reviewed at FBC with UHBs
Scale	Consolidated programme costs and sharing of learning across organisations	Quantitative	Avoidance		To be reviewed at FBC with UHBs
Risk	Reduced risk of litigation	Quantitative	Avoidance		

Total Quantitative Benefits (per annum)	£6,218,000	
Cash Releasing	£6,000	
Productivity	£2,529,000	
Avoidance	£3,683,000	

Benefits realisation is modelled based on the following timescale assumptions

	2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2026/2028	2026/2029
Implementation Timeframe	Design & Procurement	Build & 3 Pilot HBs	3 Health Boards	3 Health Boards	Complete	Complete	Complete
% Population Deployed to	0%	20%	60%	100%	100%	100%	100%
Estimate AFCP Records in solution	0	15,216	45,648	76,080	76,080	76,080	76,080

	2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2026/2028	2026/2029	Total
Benefit Realisation	£0	£0	£1,243,600	£3,730,800	£6,218,000	£6,218,000	£6,218,000	£23,628,400
Cash Releasing	£0	£1,200	£3,600	£6,000	£6,000	£6,000	£6,000	£28,800
Productivity	£0	£505,800	£1,517,400	£2,529,000	£2,529,000	£2,529,000	£2,529,000	£12,139,200
Avoidance	£0	£736,600	£2,209,800	£3,683,000	£3,683,000	£3,683,000	£3,683,000	£17,678,400

7.5. Glossary

Term	Definition
AFCP	Advance and Future Care Plan See : www.wales.nhs.uk/afcp
ADRT	An advance decision allows patients to write down any treatments that they do not to want to receive in the future and becomes relevant when they become unable to communicate decisions for themselves. See: www.wales.nhs.uk/afcp
DHCW	Digital Health and Care Wales
DNACPR	Do not attempt cardiopulmonary resuscitation (DNACPR) decisions and forms A 'Do Not Attempt Cardiopulmonary Resuscitation' form is a document that advises healthcare providers not to attempt cardiopulmonary resuscitation (CPR). See: www.wales.nhs.uk/dnacpr
DSPP	Digital Services for Patients and Public (DSPP) (From Digital Health and Care Wales) See: https://dhcw.nhs.wales/systems-and-services/for-patients-and-citizens-of-wales/digital-services-for-patients-and-public/
LPA	Lasting Power of Attorney See: https://www.gov.uk/power-of-attorney
NDR	National Data Repository
NHS Wales App	See https://gov.wales/nhs-covid-19-app
PPD	Preferred Place of Death
TEP	Hospital treatment escalation plan (TEP) forms See: www.wales.nhs/afc

TUPE	Transfer of Undertakings (Protection of Employment)
WAST	Welsh Ambulance Service NHS Trust
WCP	Welsh Clinical Portal