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National Programme for IT

E-SAP Options Definition & Initial Assessment

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1 Introduction

The first stage of the NHS Connecting for Health project to develop a framework for implementing electronic SAP is to develop and assess options for its implementation. In doing so, the need to support other information sharing requirements of the NHS and CSSRs (Councils with Social Services Responsibilities), such as those in mental health and children's areas, needs to be taken into account.

The requirement is to carry out an initial assessment and then to consult on that assessment with a wide range of stakeholders, including health and CSSR information systems suppliers, Connecting for Health, NHS and social care practitioners, service users and information systems professionals.

This report summarises the objectives of the eSAP architecture and provides a set of criteria for assessing how best to deliver these objectives. It goes on to define and provide an initial assessment of the options for delivering these objectives. The options are categorised into the following types:

- Scope of SAP functionality.
- Scope of coverage, i.e. geography and user base.
- IM&T options, both applications and information sharing.
- Service delivery options, such as approach to procurement, funding, etc.
- Service implementation options, such as timing, phasing, etc.

The initial assessment of options filters out those that are not viable and identifies those for further consideration at the consultation stage. The report then sets out proposals for the way in which the viable options will be evaluated.

2 Objectives of the eSAP Architecture

A separate paper 'The Vision and Business Requirements for SAP' has been distilled from policy statements and descriptions of the SAP processes and requirements from the NHS Connecting for Health Do Once & Share SAP Project[1]. The vision and business requirements determine the specific requirements which must be met through an overall eSAP architecture. Specifically the eSAP architecture needs to ensure the following key elements (all subject to authentication, authorisation, security, confidentiality, consent, etc. – i.e. information governance):

1. The *delivery/availability of SAP functionality* to health and social care workers at diverse care delivery and planning locations.

2. Ensuring that the each item of *information is entered once* and once only.

3. Ensuring that all relevant SAP *information is available to users when and where needed*, regardless of its original point of entry.

4. Ensuring that *users have seamless access to* assessment, care planning and delivery information in which they have a legitimate interest and *are made aware of any changes to it*.

These broad requirements of the architecture are developed below into options around delivery of SAP functionality and information sharing below.

3 Underlying Assumptions

This section sets out some assumptions or 'givens' which apply to all of the information systems architecture options identified in this paper. They are set out below:

- All information that is shared will retain the integrity and governance rights placed on it by the agency creating it.

- Custodians of the information will retain data quality responsibilities wherever the information is located.

- Technical approaches should be standards based and open.

- National schemas will need to be defined to support information sharing and, where these include structured data, they will need data definitions and coding to be specified.

- National business rules will need to be defined to set out the circumstances for information to be shared and exchanged, including rules regarding notifications and updates to information in core systems.

- The need for connectivity between physical networks and mobile technology to support recording and access to records in the community. It is assumed that these will be required with all options and hence need to be considered as part of the implementation planning.

- Education, training and development, which will form part of the implementation planning stage and will need to be worked up for the recommended option.

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1 This project which is due to complete at the end of March 2006 had NHS and social care representation from across all Clusters.

4 Evaluation Criteria

Section 2 sets out the objectives of electronic SAP. This section sets out the evaluation criteria which are proposed for assessing options for implementing electronic SAP. These criteria will be used as a basis for the consultation on the options. The criteria are as follows:

Criteria	Description
Fit with the Single Assessment Process	The extent to which the option is able to support person-centred assessment, care planning, delivery and review and integrated working between social care and health in these processes.
Affordability	Whether the option is likely to be affordable. At this stage the scale of the costs will be assessed only. (More detailed costing to take place at the business case stage).
Benefits	The extent to which the option can provide benefits, for example, by reducing duplication of recording of assessment and care planning information and improving co-ordination of care between different professionals.
Performance	The extent to which the option provides an acceptable level of performance in relation to system availability, responsiveness, reliability and recoverability.
Achievability	How achievable is the option. This needs to take account of both NHS and Local Authority capabilities and capacity to deliver the option.
Commercial viability	Whether the option is likely to be attractive to suppliers and whether they are likely to be able to deliver it.
Fit with existing information systems architecture	The extent to which the option can operate with existing systems or existing systems can be developed or adapted to work with it.
Sustainability	The extent to which the option has the ability to develop to meet future requirements, including, for example, direct access by service users, extension to cover other client groups and other agencies, including the voluntary and independent sectors and new types of assessment.
Information Governance	Whether the option meets the information governance requirements of the NHS Care Records Service as set out in the NCRS Information Guarantee (including legitimate relationships and role based access). Also, the regulatory framework regarding confidentiality as set out in the Data Protection Act and other relevant legislation.
Strategic fit	The extent to which the option fits with the strategic direction of the NHS Care Records Service and the Electronic Social Care Record as set out in the OBS for the NCRS and the ESCR Specification.

For assessment purposes some of these criteria will be applicable to different options and some may be show-stoppers rather than differentiators (e.g. if the solution is not compliant with information governance requirements).

5   Scoping Options

There are three aspects to be considered in relation to scope of SAP functionality:

- *Assessments* The scope of the assessments, where the options are either only SAP 'contact' and 'overview' assessments or all types of assessments (including 'specialist' assessments, such as condition and discipline specific assessments, and 'comprehensive' assessments, which bring together a number of in-depth specialist assessments).

- *Assessment tools.* The scope of assessment tools supported, where the options are all local and accredited tools, only accredited tools or only one single tool.

- *Other Care Processes*. The extent to which other elements of the care process, beyond assessments (i.e. care planning, care delivery and review), need to be included in functionality in a way which supports integrated working between health and social care.

- *Other Client Groups.* The extent to which the functionality needs to extend beyond older people to other client groups for whom integrated working is required, i.e. other adults and children.

- *Information sets.* The scope of the information to be shared between care professionals.

An initial analysis is set out below.

Assessments

A service user or patient may need a range of assessments, including both 'SAP' and 'specialist' carried out by health and social care professionals across any or all health and care settings to identify their needs and services appropriate to meet them. To be efficient, these assessments need to build upon each other rather than duplicating.

If SAP functionality were restricted only to SAP contact and overview assessments then the service user/patient record would be incomplete or distributed across systems with the potential for duplication of recording.

From a purely business requirements point of view, SAP functionality includes all types of assessment. However it may not be feasible to implement everything (at once) and hence evaluation is needed of the following options:

- *Implement all assessments*

- *Implement SAP contact and overview assessments only.*

Assessment Tools

The Department of Health accredited assessment tools against an agreed set of national criteria to give users confidence that if they decided to use an 'off the shelf' tool it would be fit for purpose. The accreditation process was ended when six tools had been accredited as this gave a range of options to local communities. The DH did not mandate the use of these tools and there are many places which decided to develop their own local tools or to adapt accredited ones.

Assessment tools themselves are evolving with experience and are likely to continue to do so in the future with the implementation of a Common Assessment Framework which could see SAP assessment tools being extended to other adult client groups and the introduction of tools for self assessment.

Hence, evaluation is needed of the following options:

- *Implement all assessment tools, both locally defined and nationally accredited*

- *Implement nationally accredited tools only.*

- *Select and implement a single tool only.*

Care Processes

The Single Assessment Process as described in the DH Guidance on SAP, produced in 2002, identifies integrated care plans as the way in which the needs identified through the assessment process will be met. The White Paper, 'Your Health, Your Care, Your Say' sets out a requirement for integrated care plans to be in place by 2008 and recommends integrated care delivery across health and social care. The Do Once & Share SAP project also identifies care delivery as part of the SAP process.

From a business requirements perspective integrated health and social care functionality extends to assessments, care plans and care delivery. However it may not be feasible to implement everything (at once) and hence evaluation is needed of the following options:

- *Provide integrated support for all care processes (i.e. assessment care planning, care commissioning and care delivery).*

- *Provide integrated support for assessments and care planning only.*

- *Provide integrated support for assessments only.*

Client Groups

Many care communities are already using SAP with adults other than older people, as confirmed in the findings of the Do Once and Share SAP project. The White Paper also recommends that SAP is developed into a Common Assessment Framework for adults.

In children's services there are similar initiatives to share information on a multi-agency basis through the Common Assessment Framework (CAF) for children and through a national Children's Index. Hence, for health and social services there are generally similar information sharing needs and whilst there may be differences in the specific requirements, there may be efficiencies in adopting similar solutions for all client groups.

The business requirement is for SAP functionality to be available across all adults. However, it may not be feasible to implement everything (at once) and hence assessment is needed regarding the following options:

- *Implement to all adults*

- *Implement to older people only.*

Information Sets

Whilst from a business requirements perspective care professionals may need to access any assessment or care planning information about a service user with whom they are working, (with their consent), it might not be feasible to make all information available. Hence two options are identified below regarding the information that is shared between professionals. They are:

- *All assessment and care planning information* is available to care professionals, providing that they have the individual's consent.

- *Only summary assessment information and the integrated care plan* is available to care professionals, again providing that they have the individual's consent.

6 Coverage Options

There are two other aspects of the assessment of scope in relation to coverage:

- *Geography*, i.e. whether SAP functionality needs to be implemented with a national, regional or local scope.

- *User base*, i.e. those who need to use SAP functionality. Whether SAP functionality needs to be available only to health and social care professionals or whether others need access and if so, who.

Geography

SAP extends across all England (with similar processes in Scotland and Wales). One of the issues identified by the CRDB SAP Action Team[2] is sharing of SAP information across local care community boundaries. As Local Authorities are not and will not be coterminous with NHS boundaries and as service users, especially those living on borders or living close to large conurbations may receive services from different care communities and different clusters, the ideal scope of SAP functionality is national.

From a business requirements perspective, SAP functionality needs to be made available nationally. Note that this means a 'logical' scope, rather than how this is physically deployed, which might be via more localised systems/services. However, this might not be feasible and hence the following options need to be assessed:

- *Local implementation around a local care community.*
- *Regional/Cluster implementation.*
- *National implementation.*

There will also be a need to share information for patients who live in Scotland and Wales and receive care services in England and vice versa. NHS Connecting for Health only covers England, but the project will make contact with Scotland and Wales to ensure that there is an understanding of their plans and that findings are shared with these countries.

User Base

One of the key principles of SAP is that it places the user at the centre of the assessment and care planning process and this is further emphasised by the White Paper, where the service user is given more control over the assessment and care planning process, through self assessment and self management.

Although health and social care are the main players, others are already also involved to some extent, including housing and the voluntary and independent social care sectors. One of the issues identified by the CRDB SAP Action Team was the need to extend SAP functionality beyond health and social care to avoid duplication and make the process more efficient. The White Paper identifies the need to extend SAP beyond older people to all adults and hence the range of agencies involved are likely to increase. The Do Once & Share SAP project also identified agencies outside health and social care which are currently involved in the processes.

From a business requirements perspective functionality needs to be made available to service users and carers and to care professionals beyond health and social care, including housing, benefits assessors and independent and voluntary sector providers of health and social care.

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[2] The SAP Action Team was set up by the NHS Connecting for Health Care Records Development Board to report on the current status of implementation of SAP and the issues that were constraining implementation. The Team held a workshop with stakeholders involved in implementing SAP (service users, care professionals, suppliers, etc.) across the country from which a report was produced, which is available at www.nhsconnectingforhealth/crdb/sap.

However, this may not be feasible (at once) and hence the following options need to be assessed:

- *Implement to health and social services only.*

- *Also implement to LA housing services*

- *Also implement to independent sector (e.g. care, housing) providers*

- *Also implement to voluntary sector (e.g. Age Concern)*

- *Also implement to military medical services*

- *Also implement to service users and carers.*

7   IM&T Options

This section discusses four components of the IM&T options: the applications architecture, the information sharing topology, integration mechanisms, and information exchange standards.

Applications Architecture

The specific tasks undertaken by any given health or social care worker as part of the Single Assessment Process are supported through specific applications. There are broadly four ways in which functionality can be provided to health and social care workers. These are:

1. ***As an integrated part of a CSSR (Council with Social Services Responsibilities) system*** – i.e. a SAP or configured generic assessment module which forms part of the case management functions of a CSSR system and is used by both the NHS and social services. In this option, it is assumed that the NHS would need to continue to use their core applications for functions that were not covered by the CSSR system (i.e. all health specific work).

2. ***As an integrated part of an LSP solution*** (i.e. part of the Care Records Service) – i.e. SAP or configured generic assessment, care planning and delivery functionality which is built in to an electronic patient/care record solution delivered by an LSP and is used by both the NHS and social services. In this option, it is assumed that social services and other agencies would need to continue to use their own core systems for any functions that were not covered by the SAP system (e.g. care commissioning).

3. ***Through a 3rd–party product*** whose primary function is to deliver multi-agency assessment (or SAP specifically), where there is information sharing architecture (see next section), which enables information to be shared between the SAP application and the core systems. In this instance, social services and NHS users would use the SAP solution for SAP functions and their core systems for those functions that were not covered by the SAP solution.

4. ***As an integrated part of both social services and LSP solutions*** where there is information sharing architecture (see next section) which enables SAP information to be made available to these core systems in a way that is seamless to the user. In this instance, social services and NHS users use their core systems both for SAP and all other functions.

Information sharing will be necessary in all options, regardless of how the functionality is delivered, Even if a single care record (spanning health and social services) were to be developed, there would continue to be a requirement, for information sharing, for example with Local Authority CRM, back-office, housing and benefits assessment systems and with other social care provider agency systems.

The IM&T options appraisal, therefore, also needs to consider the information sharing requirements of the architecture. However, it is recognised that some or all of the sharing capability could be delivered by adjunct functionality in a local, regional or even a national SAP system.

Information Sharing 'Topology'

This section considers the following elements of the information sharing topology:

- Information interchange architecture (federal or devolved)
- Data location (pointers, copies)
- Information interchange functionality (publish, subscribe).
- Information interchange mechanisms (file transfer, SoA, etc.)
- Information interchange standards.

Information Interchange Architecture (Federal or Devolved)

As discussed above, when any given item of SAP information is first entered it is, in practice, stored locally by the system into which it is being entered. In order to meet the second two key elements required of the architecture (i.e.: that information should be entered only once, and that that information is available anywhere and anytime that is it needed) the architecture must provide a means for that locally stored information to be available to other systems as required. In that context, either each individual system (or module within a system) needs to take responsibility for all interchanges between it and all other relevant systems, or the inter-system information interchanges are supported by one or more services dedicated to that purpose. For the purposes of the discussion, these two 'topologies' are termed 'devolved' information interchange' and 'federal' information interchange.

Devolved

Where information interchange is fully devolved, each participating system involved in delivering functionality to health and social care users, would draw/receive information from each and every other participating system as and when required (i.e. through "point to point" information exchanges). Each participating system, in this approach is also responsible for distribution of notifications to all legitimate interested parties. (Fully devolved information interchange obviates the a priori need to define the scope of participating systems, but each system needs to know about all other systems that it may need to communicate with.) For example, when the SAP module within a CSSR system needs to access elements of the assessment originally entered elsewhere, it would issue request(s) to other system(s) which may have been involved in creating the assessment for the service user in question. On saving a record locally, each system would also need to ensure that users of all other systems which had been involved in the assessment of the corresponding service user, were made aware that a change had happened.

Federal

Federal approaches are those where each participating system communicates with just one or more coordinating systems (e.g. message buses, or 'information brokers') in order to exchange information – that is there are no exchanges directly between participating systems (no "point-to-point" exchanges). In this approach, where (as in the case of SAP) there is a need for notifications of changes to be distributed to legitimate interested parties, then it is typically the coordinating systems that are responsible for this process. (Federal approaches must of necessity also consider the scope of participating systems - i.e. which parties are from each group, and how many groups there are within the country.) For example, when the SAP module within a CSSR system needs to access elements of the assessment entered (or likely to have been entered) elsewhere, it would issue a request for that information to a coordinating system, and all relevant items, regardless of their actual originating location or system would be returned by that coordinating system. Also, when a participating system changes its local SAP information about a service user, it would send either the changed information itself, or a notification of the change to the central coordinating system, to enable it to distribute that notification appropriately.

In principal either the devolved or federal approach to information interchange could meet the business requirements. However, the devolved approach, because of the multiplicity of point-to-point connections which will need to operate will be unlikely to be resilient, and may be impracticably cumbersome to administer. In addition, the ESCR Implementation Board has stated that it expects a federal approach to be implemented for information sharing between the ESCR and other systems.

Hence it is proposed that a federal approach is adopted and this will be tested through the consultation.

Data Location

A further consideration is the location of the data and in this respect the following options will be considered:

- ***The data is located in one place*** with a pointer being kept to its location in a master index.

- ***The data is located in multiple places***. Participating systems may maintain local copies of data which was not originally entered through that system.

- *A copy of the data is located in the information sharing system*, although the data was not originally entered through that system.

Information Interchange Functionality

A further consideration is the information sharing services to be provided he business requirements of SAP[3] dictate a solution which includes both access to information and notification of changes. This is because:

- Care professionals will need to be able to see any previous information on a service user to inform assessments that they are carrying out. A solution which enables information to be 'published' to a shared repository would fulfil this need.

- Care professionals who are involved in the care of a service user, particularly the care co-ordinator, need to be notified of changes in that individual's status as it will not be practical for them to regularly search a repository for changes. Hence, a solution is needed which enables participating organisations to 'subscribe' to alerts or notifications of any changes to the records of service users with whom they are working.

In order to meet the multi-agency business needs of SAP, the distribution of information, and the distribution of notifications of change are both key elements of a solution; this is sometimes referred to as a 'publish and subscribe' model; i.e. information is "published" (to one or more real or virtual coordinating systems) and those for whom it is important to know about changes to specific service users SAP information, must "subscribe" (or be subscribed) so that a coordinating system can distribute notifications appropriately.

Hence it is proposed that a 'publish and subscribe' model is deployed, which would provide a mechanism whereby legitimate interested parties can both publish specific service user information and 'subscribe' to receive notifications of changes to specific service-user information (whatever the source of the change). This will be tested through the consultation.

Integration Mechanisms

This section discusses some of the mechanisms through which these exchanges may happen, among a distributed set of systems, where the systems derive from different vendors, are individually managed by different agencies, and may be the result of new developments or based on legacy solutions. (The discussion here is predicated on the development of appropriate information interchange standards as discussed in the next section.)

There are many mechanisms which may be used for information interchange in these circumstances. These range from simple interfaces based on file transfer, more sophisticated arrangements based on store-and-forward messaging, object brokered approaches (e.g. COBRA and DCOM/.Net), or through web-services services, i.e. a Service Oriented Architecture (SoA).

SoA builds on the extensive, vendor-neutral internet standards and protocols of 'web services'. SoA enables a set of systems, which are typically geographically disparate, to present their operations (or functionality) as a web services[4], and thereby operate cooperatively as a 'supra-system'. In SoA, each of the systems participating in a given

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[3] As set out in the Vision & Business Requirements for SAP paper, which is based on the process flows defined in the Do Once & Share SAP process flows.

[4] Defined by the Web Service Definition (or Description) Language (WSDL)

topology would deliver an 'eSAP information-interchange web-service'; i.e. they would present a set of key operations needed to enable information interchange, through a web service interface. In the federal approach, the 'publish and subscribe' element (which could be implemented as a message bus[5]) element would also be instantiated as one further participating service (in this case providing some elements of operations 'choreography').

The following table sets out some characteristics of each of the mechanisms described above. The purpose of the appraisal set out here, is to provide the basis for consultation about the type and range of such mechanisms which might be appropriate. During that consultation other mechanisms, or variations to these may also be discussed.

Mechanism	Supportive Characteristics[6]	Impeding Characteristics[7]
Interfacing Mechanisms		
File transfer	Simple technologically. Easy (technologically) to implement on legacy systems	High latency No (built-in) support for resilience or transactions Does not provide a complete protocol 'stack' (i.e. additional protocol elements would be required)
Store and forward messaging (using standard internet messaging protocols)	Relatively simple Provides a degree of resilience May be easier to implement on legacy systems.	Relatively high latency Does not provide a complete protocol 'stack'
Integration Mechanisms		
Object broker	Real-time or near-real (low latency) distributed transactions. Standards-based – directly supported by modern software development environments.	Relatively complex to implement. Potentially difficult to operate over a heterogeneous WAN (and through firewalls). Legacy systems would require 'wrappers'.
Service oriented Architecture (SoA)	Open standards based and increasing the 'de facto' standard for distributed computing. Provides for real-time or near-real-time distributed transactions. Widely supported within software development environments. Resilient over heterogeneous WANs.	Legacy systems would require 'wrappers'.

Information Interchange (Messaging) Standards

The current situation with regards to SAP communications and data sets is as follows:

- By their nature some SAP communications are unstructured, e.g. text describing the needs of a service user. These are generally in the form of documents, e.g. an overview or specialist assessment or care plan, which are associated with an event (e.g. undertaking an overview assessment) with an individual service user.

- Although a SAP Current Summary Record was defined as a standard 'data set' for SAP, it does not reflect the various transactions required nor the information set that needs to be shared.

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[5] I.e. a typical form of 'message oriented middleware' (MOM).

[6] I.e. characteristics which support achievement of the architectural objectives.

[7] I.e. characteristics which may impede achievement of the architectural objectives

- There are some SAP transactions that are structured, e.g. updates to personal demographic details, medical summary, referral messages, where these are already defined or being defined through the NHS Connecting for Health Programme.

Three practical combinations are described below which are presented here to form the basis for consultation.

A: 'Unstructured' – i.e. each information exchange would contain a minimum (mandatory) set of structured data (e.g. identification information) with the bulk of the content being encapsulated in a human-readable format (which may not necessarily be machine-analysable – e.g. a free-format Word document).

B: 'Fully structured' – i.e. all information is exchanged within a pre-defined (and potentially extensible) schema.

C: 'Extensible Hybrid' – i.e. information exchanges would include a minimum (mandatory) set of structured data, an optional unstructured element (per A) and (optionally or not) additional structured data in a pre-defined, and extensible schema.

The consultation should also consider whether the exchanges should be structured as:

- *HL7 V3 messages*

- *SAP-specific schemas*.

8 Service Delivery Options

The service delivery options focus on the way in which information sharing services will be delivered. The following options have been identified for assessment:

Location

The options as to where the SAP application, identity management and publish and subscribe services are located are broadly: national, cluster/regional or local. There may be differences in the location of the different components, e.g. the identity management and publish and subscribe elements could be located at different levels.

They are assessed for each element of the IM&T option below:

SAP application:

The options for location of a SAP application are:

- *Local (e.g. current social care and some interim solutions)*

- *Cluster (e.g. current LSP solutions)*

- *National, provided as additional functionality to the information sharing services.*

Information Sharing

Although there is in theory a local option, with NHS systems moving to provision at a Cluster level, the lowest unit for delivery of an information sharing service is therefore in reality at a Cluster level.

Hence the options for location of the information sharing service are:

- *National*

- *Cluster*

Identity Management Service

There are broadly two aspects to identity management:

- Managing the identity of individuals (service users or patients).

- Managing the identity of and authenticating system users (e.g. care professionals).

There may be different options regarding location of these services, so they are discussed separately below:

Service-user identity is currently managed at a national level within the Personal Demographics Service of the NHS Care Records Service and plans for the National Children's Index and for Government Connect single sign on services also include identity management at this level. Hence it is assumed that service user identity management should be national. However, there are options as to whether it is delivered via the NHS Care Records Service or via another national service. Hence the options to be considered are:

- *Service user identity management is via NCRS Personal Demographics Service*.

- *Service user identity management is delivered via a separate national service* (which would clearly need to inter-operate with the PDS).

System user identity is currently managed within the NHS Care Records Service at a national level and within CSSR systems at a local level. Hence the options are as follows:

- *System user identity management is delivered by the NCRS* at a national level, i.e. CSSR staff are registered, authenticated and their records maintained on the NCRS.

- *Responsibility is devolved to each CSSR* for registering, authenticating and maintaining records of CSSR staff. There would need to be a single national role based access schema (defining roles and functionality to which access would be

made available) and the Local Authority systems would need to have in place a mechanism for establishing and managing 'legitimate relationships' between care professionals and service users.

Delivery Method

The delivery method options need to be assessed separately for the different components of the IM&T solution, i.e. the SAP application, identity management and publish and subscribe service.

In each case, the delivery method options are:

- *Extend existing services (e.g. NHS Care Records Service).*

- *Collaboration with similar initiatives (e.g. The Children's Index, e-CAF, Government Connect).*

- *Procure new third party services*

The above options will be considered further, but it will probably not be possible to reach conclusions at this stage of the project.

Payment Approach

For each of the components of the IM&T solution, i.e. the SAP application, identity management and publish and subscribe service, there is a need to assess the payment options for either/both of the initial set-up and on-going services. *The options are:*

- *Payment is top-sliced nationally.*

- *Payment is by local subscription by individual agencies who want to make use of the service (e.g. Government Connect and LGOL models).*

- *A hybrid, with different approaches across the NHS and Local Authorities.*

There is also a need to explore whether individual Local Authorities procure the upgrades to their systems required to interface to the information sharing services or whether there is collaboration (e.g. through the Adapter's Club or user groups).

The above options will be considered further, but it will probably not be possible to reach conclusions at this stage of the project.

9   Implementation Options

The options associated with implementation relate to the way that implementation is phased. The following options have been identified for evaluation:

Functionality

Phasing by:
- *Type of assessment (SAP and 'specialist' assessments)*
- *Care process (assessment, care planning and delivery)*
- *Client group (older people and other adults)*

User Base

Phasing by:
- *User type (health, social services and other agencies).*
- *Geography (local health community, Cluster(s) and national)*

Solution

Timing of:
- *Preparatory work, e.g. definition of common schemas and business rules*
- *Whether and what piloting and evaluating take place prior to roll-out.*
- *Timing of different components, e.g. could identity management be implemented early*
- *Potential for and timing of any interim solutions.*

Integration/Migration

What happens to existing systems:
- *Whether there are interfaces to existing systems (and timing)*
- *Whether there is migration from existing systems (and timing)*

The above options will be considered further, but it will probably not be possible to reach conclusions at this stage of the project.

10 Evaluation Process

The next stage will be to carry out the evaluation. This will involve widespread consultation with stakeholders. The table below summarises the elements of the evaluation at the next stage, including the criteria to be applied and with whom the consultation will be carried out.

Options	Consultation With	Criteria
Scope of SAP functionality: • Assessments • Assessment tools • Other care processes • Client groups • Information sets	Service users and carers Health and social care professionals	Fit with SAP requirements Benefits Achievability Fit with strategic objectives
Coverage of SAP functionality: • Geography • User base	Service users and carers Health and social care professionals Other agency representatives OGDs (e.g. DWP, ODPM)	Fit with SAP requirements Benefits Achievability Fit with strategic objectives
Applications architecture: • Use of core NHS systems by all • Use of CSSR (Council with Social Services Responsibilities) core systems by all • Use of a third party system for SAP and core systems for other processes • Use of both core NHS and CSSR systems with SAP as an integrated part of them	Service users and carers Health and social care professionals System suppliers NHS Connecting for Health (Technology & Information Governance) NHS and CSSR ICT managers (ADSS IMG)	Fit with SAP requirements Commercial viability Fit with existing systems architecture Fit with strategic objectives Information governance Performance Sustainability
Information sharing architecture: • Information interchange architecture (federal) • Data location (pointers or copies in local systems or the information sharing system) • Information interchange functionality (publish and subscribe) • Information interchange mechanisms (intrerfacing or integration) • Information exchange (messaging) standards – structured, unstructured or hybrid. HL7 or SAP-specific schema.	Health and social care professionals NHS Connecting for Health System suppliers Other similar initiatives, e.g. e-CAF, Children's Index, Government Connect HL7 Group and other messaging specialists in Local Government NHS & CSSR ICT Managers (ADSS IMG)	Fit with SAP requirements Benefits Fit with existing systems architecture Fit with strategic objectives Information Governance Performance Sustainability

Options	Consultation With	Criteria
Service delivery: • Location of the a) SAP application (national, cluster or local), b) information sharing service (national or cluster) and c) identity management of service users/patients (national PDS or separate national service) and of users (national or devolved to CSSRs) • Delivery method – extend existing, collaborate with others, procure new • Payment approach – top slice, collaboration, subscription, etc.	NHS Connecting for Health (Technical & Contracts) System suppliers DH policy leads and NHS and CSSR managers Other similar initiatives, e.g. e-CAF, Children's Index, Government Connect System suppliers	Affordability Fit with existing systems architecture Commercial viability Fit with strategic objectives Information governance Performance Sustainability
Implementation: • Phasing – by functionality, user base, solution • Piloting and evaluation • Integration with or migration from existing systems	NHS Connecting for Health (Technical and Contracts) Service users and carers Health and social care professionals Other agency professionals System suppliers Other similar initiatives, e.g. e-CAF, Children's Index, Government Connect System suppliers	Benefits Affordability Achievability Commercial viability Fit with existing systems architecture Fit with strategic objectives

To carry out the consultation, a questionnaire will be produced which will be used to obtain consistent responses, whichever method of consultation is used. The following consultation methods will be used:

- Meetings with key stakeholders, using existing meetings where possible.

- Phone interviews, where meetings are not possible or to cover a small set of specific questions.

- Email. The questionnaire will be emailed to stakeholders who have registered an interest and also posted on the CPA and CRDB web-sites so that they are widely available.

The following materials will be produced for use in the consultation:

- A consultation 'questionnaire', which will enable respondees to respond to questions based on the criteria, providing both a score and, if they wish, a textual explanation.

- A presentation, including the same evaluation questions for use in meetings with stakeholders.

The analysis will take account of the identity of respondees, i.e. whether they are users/service users/IT leads/suppliers, etc.