States of Jersey

Health and Social Services Department (HSSD)

Informatics Strategy 2013 – 2018

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1 Executive Summary

1.1 Introduction

This document presents the health informatics strategic vision for the States of Jersey Health and Social Services Department (HSSD) covering the six year period from 2013 to 2018 inclusive.

The strategic direction is ambitious and therefore this strategy is one that declares an intent that health informatics will make a significant contribution towards delivering the objectives, and meeting the challenges, set out in the Health and Social Services White Paper *"Caring for each other, Caring for ourselves"* published in 2012.

The White Paper provides the blueprint for a 10 year programme of reforms and service improvement for health and social care which will demand new and improved skills and capabilities, business process transformation and cultural change to underpin the overall programme. Data and Informatics forms one of the major crosscutting workstreams established to enable the service changes.

1.2 What is Health Informatics?

The most commonly used definition of health informatics is *"The knowledge, skills and tools which enable information to be collected, managed, used and shared to support the delivery of healthcare and promote health"*

Health Informatics produces data, information and knowledge through the use of processes and technology supported by people with the appropriate skills. These resources are used to enhance the usability of Health Information systems, facilitate communication and the flow of information from health professionals to patients and clients. This encourages high quality assurance levels of data and information and enables change and modernisation of processes by encouraging people to develop new ways of working.

It is the role of health informatics as an enabler of wider change that allows it to underpin the service reforms contained within the White Paper.

1.3 Scope of the Strategy

The four main dimensions that sit within the informatics definition are used to establish the scope of the strategy; these are:

- *Data* – the underlying quality of data and the data collection methods used across HSSD

- *Systems* – software and tools used to capture data and report information

- *Information* – presentation of data in an organised way to inform decisions

- *Services* – supporting resources e.g. people, skills, services

Infrastructure and technology sit within a separate cross cutting workstream but will form a key dependency for the successful delivery of the informatics strategic vision. Links with the Technology cross cutting workstream will, therefore, be required.

1.4   Future Informatics Vision

The compelling vision for Informatics across HSSD is based on a series of Strategic Objectives which outline that informatics will:

- Underpin the vision for Health and Social Services set out in the White Paper

- Enable and support continuously improving clinical care through a coherent and integrated care record of an individual"s health care experience

- Enable the development of new models of care

- Ensure that HSSD has timely and accurate information to manage it"s current services and plan future services and to provide business intelligence that informs decision making

- Support staff who are educated and trained to maximise the potential of the informatics tools available to them - (Informatics teams & wider workforce)

- Allow efficient and effective electronic communication between HSSD services, patients, staff and partner organisations.

This would lead to an HSSD informatics service being characterised by the following key themes:

• Creation of a single person centred health record for HSSD
• Data being held in different systems will be linked together
• Data being captured once but displayed as appropriate many times
• Data quality will be a priority for all HSSD staff and will regularly assured
• Information Governance supporting safe and legal sharing of data
• Secure data with access only to relevant data for appropriate system users
• Common data standards and definitions across all systems
• Introduction of relevant and agreed Key Performance Indicators
• Decision making based on assured information
• Delivery of the strategy by a focussed informatics leadership team
• High quality and responsive informatics support services
• Robust governance ensuring informatics is aligned with the White Paper developments
• HSSD staff being provided with informatics training and support
• Informatics enabled change projects supporting White Paper delivery

This represents a step change towards achieving the delivery of robust, reliable data and integrated information that is trusted and shared throughout HSSD and reported upon by effective business intelligence tools that are supported by a skilled and responsive informatics support team.

1.5   Key Themes

The main themes that emerge in seeking to meet this vision over the timescales of the

White Paper phases (2013 – 2018) are summarised below:

Community and Social Services – strong need for upgrades to existing systems and a business case to establish an Electronic Patient Record (EPR) solution

Data Quality – the improvement of data collection methods and associated quality assurance of data recording and input, combined with the definition of common data standards and definitions across all systems

Reporting and Business Intelligence – provision of reporting and business intelligence outputs that meet business requirements and inform decision making with assured information

Integrated Care Record – roll-out of the hospital EPR solution, introduction of Community and Social Care electronic record and future development of a person integrated care record across all care settings ***Leadership and Governance:***

> ***Informatics Leadership –*** appoint a Head of Informatics post to compliment the existing Clinical CIO role and a Programme Manager to manage the informatics work programme.

> ***Governance Arrangements –*** introduction of a governance framework that ensures both ownership and delivery of the informatics strategy and work programme

Training and Support – strengthen the informatics training capacity and capabilities and further development of Application Support for the roll-out EPR solutions and establishing the integrated care record.

These themes are further elaborated within the main strategy document below and incorporated in the associated work programme covering Phase 1 (2013 – 2015) and Phase 2 (2016 – 2018) of the White Paper delivery periods.

1.6   Identifying the Gaps

In achieving the vision for a high quality and responsive informatics service for HSSD set out above, it is first necessary to identify the gaps between the current position and the proposed future informatics landscape. This informs the strategic work programme and provides a framework for implementation planning. A summary of the key inclusions within the full gap analysis set out in the strategy is presented below:

Informatics Requirement	Current Informatics Provision	Informatics Gap to be addressed by the Strategy
Data		
To improve quality of data held in existing informatics systems	Wide variation in data collection methods (some still paper based) and quality across HSSD	Improving data collection processes and associated data quality for each major information system
To improve awareness of the importance of data quality	Lack of "buy-in" from staff who do not see benefits from improved information, service improvements etc	Campaigns highlighting impact of poor quality data and targeted data quality training interventions
Data sharing with Primary Care – GP Central Server Project	Current links to acute setting are paper based manual processes	Establish secure electronic links with Primary Care data in line with Information Governance arrangements.
Ambulance Service – electronic data capture	Currently paper based patient report forms subsequently entered to system manually	Requirements and business cases prepared and solution deployed.
Systems		
Delivery of an HSSD wide Integrated Care Record (ICR)	Multiple systems in place and strong demand for integrated solutions	Identify and obtain widespread agreement on the preferred option for delivery of a core person centred ICR
To confirm future strategy for community and social care systems	Disparate systems that require upgrades and lack of any community/social care EPR	Define requirements and business case for functionality and reporting ensuring retention of specialist capabilities e.g. assessments and care plans, integrity of child protection data
Telecare/Telehealth Solutions	Not currently used – potential to support White Paper themes and Community/Social Care mobile working	Define business requirements and draft business case for telecare and telehealth solutions – key touch point with Technology cross cutting workstream

e-Prescribing		Define requirements and business case
Information		
Develop a culture across HSSD that engages staff to become confident in using system generated information	Significant reliance in manually produced information – notable in community and social care. Data is collected but often not presented in a meaningful way – notable exception to this is the public health indicators	Training and support to improve information management skills Wider promotion of health intelligence and indicators
Information flows to support commissioning and demand management	No established process or information flows	Workstream to establish detailed requirements and any short term information provision in Phase 1 and automated information flows in Phase 2.
Patient & Client Access to care records	No current provision for access to records	Define requirements for patient and client electronic access to records – Future scope for Phase 3 of the White Paper
Services		
Informatics Leadership and Governance	Clinical CIO role in place but no specific informatics professional post with responsibility for delivery of strategy	Proposals for leadership, management and governance arrangements
Increased capacity for training	High demand for informatics training to cover information management, reporting skills and data quality.	Strengthening training resources in key areas e.g. data quality, information reporting and best use of existing systems
ISD SLA and Relationship Management	SLA dates back to 2005 and requires updating to current and future levels of support	SLA review and relationship management role
Growth in support team capacity and capability for applications and reporting needs	Current capacity is not sufficient to deal with new developments.	Ensure additional support levels for future applications and information management and reporting needs.

1.7   Delivering an Integrated Care Record

Section 6 of the strategy considers a range of options for delivery of an integrated care record across HSSD within the six year timescale of the phase 1 and 2 White Paper enabling period (2013 – 2018).

The preferred option is summarised below:
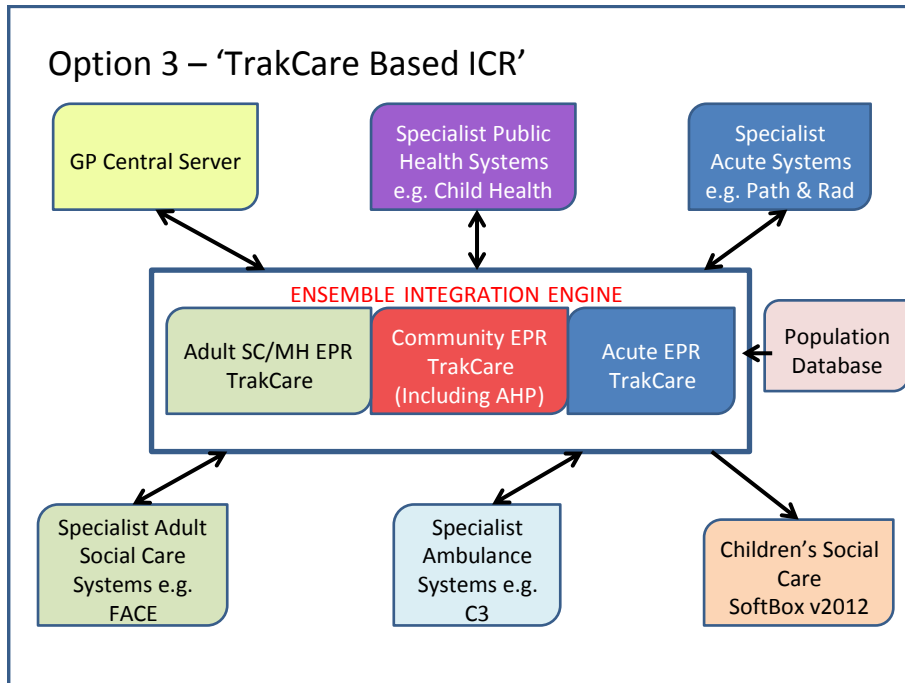
The rationale for selection is fully explored in section 6.3 but criteria include:

- It provides a basis for delivering a co-ordinated informatics programme to underpin the blueprint for key health and social care service changes set out in the White paper, it does this by:

   - Building on a platform that already exists

   - Providing a basis to rapidly expand EPR modules beyond the acute hospital setting

   - Growing analytical capacity through reporting and business intelligence tools to inform planning, commissioning and decision making

- Clear support remains across HSSD for delivery of further phases of the original ICR vision that was started in 2008 with the acute TrakCare PAS deployment

- It drives best value for money by fully utilising the existing TrakCare product

1.8   Strategic Work Programme

The informatics strategy provides a strategic work programme and high level implementation plan as a starting point for developing the more detailed portfolio of projects that will be required to achieve the informatics vision and support the White Paper reforms.

The main themes from the work programme are summarised within each of the two White Paper enabling phases below.

Phase 1 (2013 -2015) - addresses the significant level of informatics enabling activities that will be required prior to the effective delivery of further information systems and solutions. These include:

Phase 1 Enabling Activities

Initial Priorities
- Appointment of a head of Informatics to compliment the Clinical CIO role
- Appointment of an Informatics Programme Manager to manage the portfolio of projects
- Revised governance arrangements to ensure ownership and delivery of the strategy
- Data quality reviews by system and care setting (to include data collection methods)
- Investment in additional data quality posts
- Additional training resources to support information management skills
- Define requirements for information reporting and business intelligence in all settings
- Dedicated support for existing Community and Social Care applications

Key Enabling Tasks
- Implementation of agreed HSSD Key Performance Indicators and outcome measures
- Requirements and proposals for information to support commissioning and benchmarking
- Detailed requirements and business case for future Community and Social Care systems
- Business Case for Integrated Care Record (ICR) and associated projects e.g. e-prescribing
- Business Case for the linkage of Order Communications functionality to EMIS Web
- Proposals for evidence based practice resources and "Invest to Save" schemes
- Expand acute TrakCare EPR and Clinical modules
- Deploy TrakCare Business Intelligence (BI) toolsets and appoint BI expert role
- Identify additional investment required in the informatics support team for Phase 2 delivery
- Review and update of existing Service Level Agreement with SoJ Information Services
- Confirm supporting Infrastructure and Technology resources to support the strategy

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There is a significant demand for information solutions and informatics support across HSSD. It will, however, be essential to address these underlying enabling workstreams prior to solution delivery, and ensure that the findings from these work programmes are used to inform the future levels of application and informatics support to sustain the future systems deployment and information requirements.

Phase 2 (2016 -2018) – provides a framework for the deployment activity which will be required to deliver the ICR vision and the increased levels of informatics support needed for the increased demands upon reporting and business intelligence, application support and training. The detailed content of plans in phase 2 will be

dependent upon the outcome of earlier business cases in phase 1 and the available funding streams, but the main themes include:

Phase 2 Delivery Activity
•   Implement EPR solution for Community and Social Care
•   Appoint additional informatics post implementation support team resources
•   ICR related projects – e-prescribing, Ambulance service electronic data collection
•   Provision of Training and Business Change support
•   Electronic Document Management solutions (dependent upon requirements in phase 1)
•   Implement evidence based practice resources
•   Instigate benchmarking (dependent upon phase 1 findings)
•   Routine automated production of KPIs and outcome measures
•   Refresh Informatics Strategy for Phase 3 (2018 – 2021)
•   Requirements definition for patient and client access to records (For Phase 3 delivery)
•   Preparation of requirements and business case for telecare and telehealth solutions • Introduction of telecare and telehealth solutions

The work programme is illustrated on the roadmap shown below (see Appendix I for full scale version):
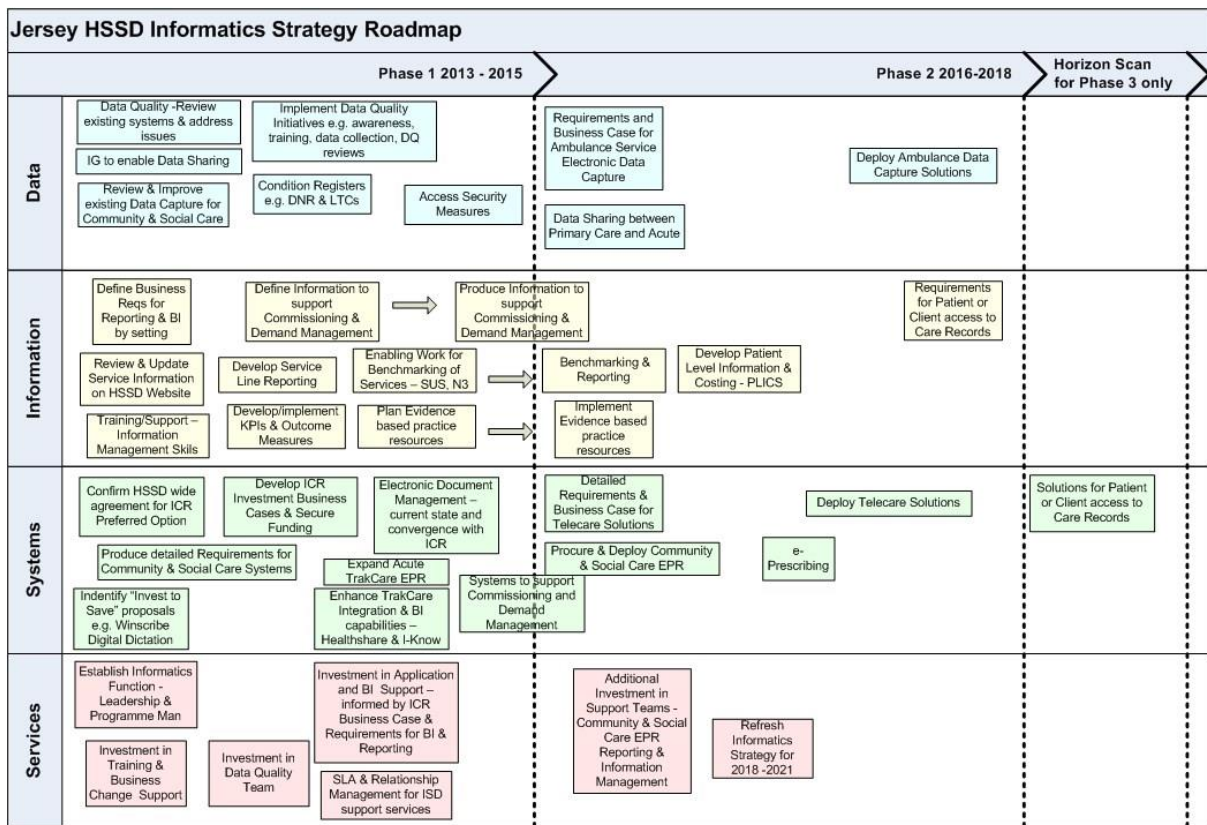
1.9   Governance Arrangements

In order to fully underpin the White Paper reforms it will be essential that the informatics strategy and associated high-level implementation plans are appropriately owned and supported within HSSD.

The strategy proposes that the existing Information Systems Steering Committee (ISSC) is re-branded as the Informatics Strategy Board or Committee and adopts responsibility for delivery of the strategy and strategic work programme.

There should also be a route by which informatics can feed into the HSSD corporate management executive group to ensure sponsorship and approval of the overall strategy from the Chief Executive Officer. This could be achieved by crossmembership between the Informatics Board/Committee and CMEX group or by direct reporting from the Informatics Board/Committee into the executive group.

Operational responsibility of implementation plans should sit with the newly introduced Head of Informatics role supported by clinical leads in both operational services (i.e. Hospital and C&SS).

2   Introduction

2.1   Purpose of the document

The purpose of this document is to set out and communicate an agreed strategic vision for health informatics across the States of Jersey Health and Social Services Department (HSSD). This will incorporate how informatics can respond to and support the current and future challenges posed by the Health and Social Services White Paper *"Caring for each other, Caring for ourselves"* published in 2012.

The White Paper provides the blueprint for a 10 year programme of reforms and service improvement for health and social care which will demand new and improved skills and capabilities, business process transformation and cultural change to underpin the overall programme. Informatics forms one of the major cross-cutting workstreams established to enable the service changes.

The White Paper defines 3 phases of service changes which fit to the normal 3 year planning cycle for the States of Jersey; these cover:

- Phase 1 – 2013 – 2015

- Phase 2 – 2016 – 2018

- Phase 3 – 2019 – 2021

This strategy document outlines the informatics developments needed to support phases 1 and 2 of the White Paper and maintain existing business as usual operations.

2.2   Definition of Health Informatics

The most commonly used definition of health informatics is *"The knowledge, skills and tools which enable information to be collected, managed, used and shared to support the delivery of healthcare and promote health"* [1].

Health informatics supports the exchange of information between patients (or clients), healthcare professionals, management, IT services and planners of healthcare. It provides healthcare professionals with a patient‟s total healthcare picture, so that they can make informed decisions about their treatment. Health Informatics produces data, information and knowledge through the use of processes and technology supported by people with the appropriate skills. These resources are used to enhance the usability of Health Information systems, facilitate communication and the flow of information from health professionals to patients and clients. This encourages high quality assurance levels of data and information and enables change and modernisation of processes by encouraging people to develop new ways of working.

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[1] NHS Connecting for Health Informatics Capability Development page
http://www.connectingforhealth.nhs.uk/systemsandservices/icd/whatis

This strategy uses four main dimensions to cover the scope of informatics for HSSD, these are:

- Data

- Information

- Systems

- Services

It does not directly cover the scope of supporting technology and infrastructure, which sits within it"s own cross-cutting White Paper workstream, although it highlights dependencies where technical solutions will be required to support informatics and information production.

2.3   Background and context

Health and Social Services form the largest department within the States of Jersey with responsibility for the planning, development and provision of hospital, some community, mental health and adult and children"s social care services. It employs over 3,000 staff (approximately 2,700 FTEs), delivers services over 8 major sites and approximately 100 satellite sites. The hospital has 240 beds. There are 240 nursing home beds and 646 residential care beds. The department has no direct responsibility for the provision or funding of Primary Care and for the provision of health visiting and community nursing.

Provision of this full range of services to a resident island population of approximately 100,000 presents specific challenges and cost pressures given that within other mainland jurisdictions this level of service would only normally only be available to a population of at least 250,000.

The White Paper clearly sets out the demographic and structural challenges facing HSSD in the next 10 years (see section 3 "Drivers for Change") and defines a range of key enabling and cross cutting workstreams to underpin delivery of the required reforms ; these consist of:

- Workforce

- Estates and Facilities

- Primary Care

- Technology

- *Data & Informatics*

- Commissioning

- Funding

- Legislation and Policy

2.4   Approach to Strategy Development

Figure 1 summarises the approach undertaken to developing this strategy. The work was undertaken by representatives from Capita in conjunction with a wide range of staff from across HSSD.

Figure 1 – Summary of approach taken to strategy development
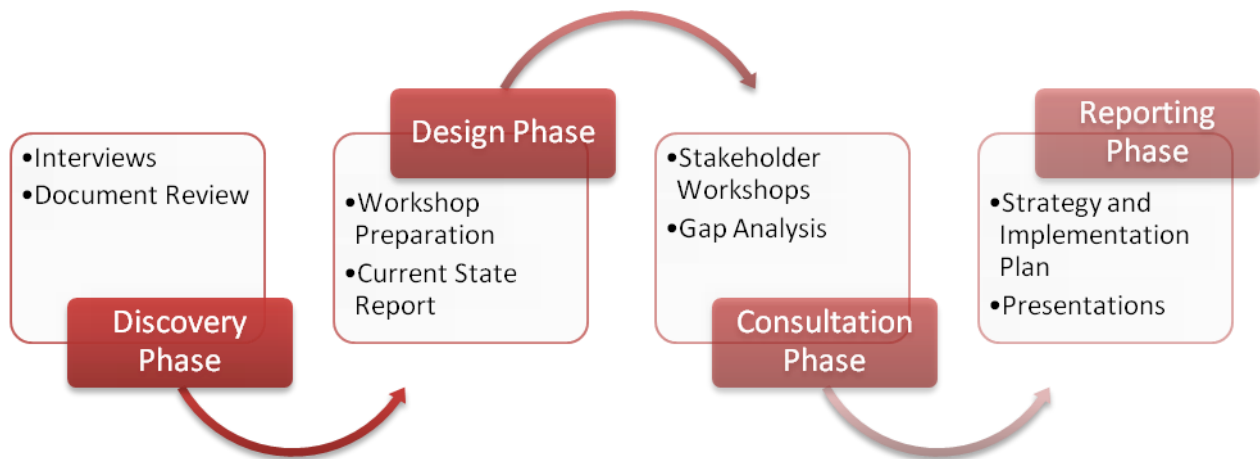
The work undertaken in each phase is now broken down in more detail in the following sub-sections of this document.

2.4.1   Discovery Phase

The main activities undertaken in this phase of the work were:

- A review of key documentation provided by HSSD to better understand the current structure and status of informatics in HSSD, and any known plans for future development

- Interviews with a wide range of stakeholders from across HSSD (and beyond) to understand in more detail the current issues with informatics provision and to get an initial insight into future informatics requirements.

A summary of the documents reviewed can be found in Appendix A, whilst the list of stakeholders who were interviewed is listed in Appendix B.

Figure 2 illustrates the dimensions that were used when undertaking the Discovery Phase assessment:

Figure 2 – Scope of the Informatics Strategy
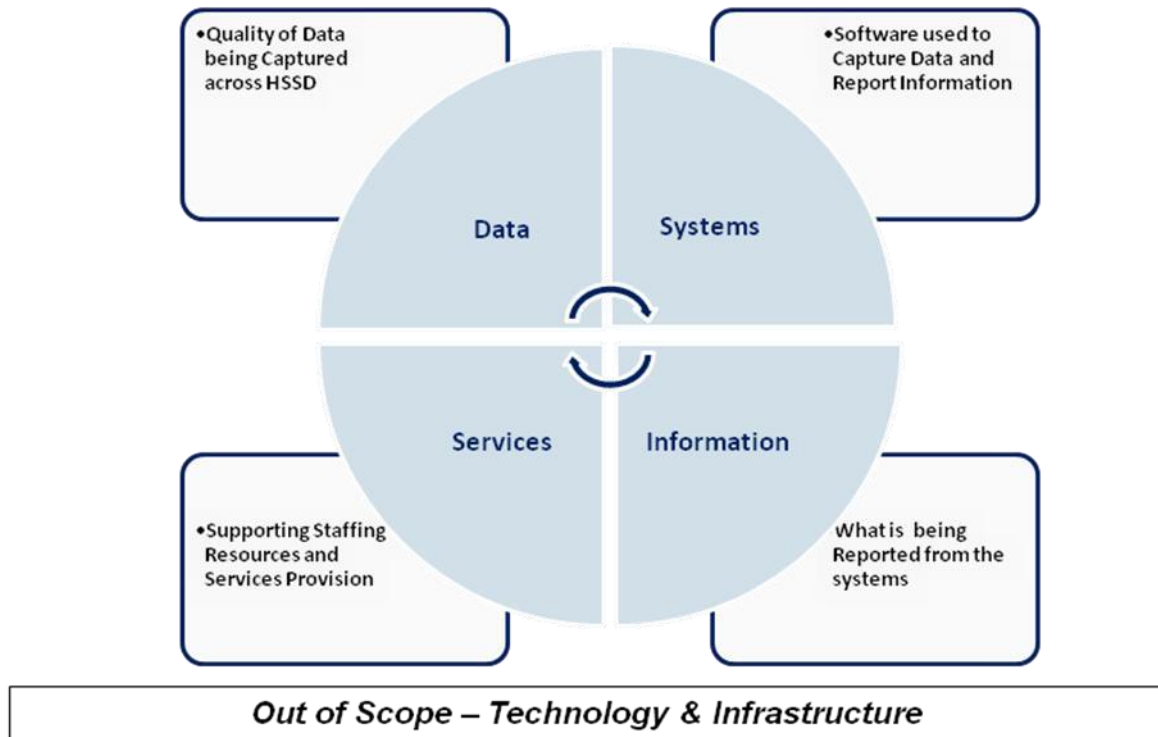
As noted in the diagram, issues related to underpinning infrastructure or technology solutions to support data capture were deemed out of scope of the strategy. This will however be a key dependency for the successful delivery of the informatics strategic vision and links with the Technology cross cutting workstream will be required.

2.4.2   Design Phase

Following the review of supplied documentation and interviews with key stakeholders, the strategy development team produced a set of „emerging themes" for discussion with the Senior Responsible Owner (SRO) for the Strategy (HSSD Director of Finance and Information) as well as a series of representations of the current status of informatics, which were validated and subsequently form part of this report. Also during this phase, draft future state materials were developed for discussion during consultation workshops which took place in the next stage of the strategy development project.

2.4.3   Consultation Phase

Two types of consultation workshops were undertaken as part of this phase of work:

- Strategy and Vision Workshops

- Integrated Care Records (ICR) Option Workshop.

The strategy and vision workshops brought together stakeholders from across HSSD (and its partners) to:

- Provide an overview of the informatics strategy development project and emerging themes from the Discovery Phase

- Share views on the future Informatics Vision and Strategic Objectives needed to deliver the White Paper aims

- To explore the "What" element of the future Vision, namely o What are the main

  Informatics requirements? o What are the priorities for Phases 1 & 2?

  o What are the key enablers and barriers?

The ICR Options workshop brought together a smaller group of stakeholders to discuss a series of options as to how the ICR vision could be achieved, and the relative costs, risks and benefits of each option. The outcomes of both of these workshops form the basis of sections 4 and 6 of this document.

The list of attendees at both workshops can be found in Appendix C.

At the end of this phase of work, a gap analysis exercise was undertaken between the current state and the required future state of informatics systems, services, data capture and information reporting so that the strategy and associated action plan could be produced.

2.4.4   Reporting Phase

In the final phase of the project, the strategy development team produced drafts of the strategy document and associated action plan for iterative review with the Project Sponsor and the Clinical Lead for Informatics. A summary of the final draft document was presented to the Information Systems Steering Committee (ISSC) for comment and final sign-off was undertaken by CMEX

2.5   Structure of the document

The remainder of this document is structured as follows:

Section 3 – Drivers for Change

Section 4 – Future Informatics and Requirements

Section 5 – Current Informatics Provision

Section 6 – Informatics Strategy

Section 7 – Strategic Work Programme

3   Drivers for Change

3.1   States-wide Drivers

3.1.1   Population and Economic Factors

There are a number of drivers and current initiatives that are being undertaken on a States wide basis which indicate the changing nature of the demography in Jersey and the consequent increasing demands upon the health and social care services for the island.

The overall population is rising but at a slow rate, but it is aging rapidly. Over the 30 years from 2010 to 2040 the number of Islanders over the age of 65 will rise by around 95% to almost 30,000 with consequences upon the current model of delivery for a range of public services. In recognition of both this and the low economic growth issues that are impacting Jersey and wider economies, there is a States wide reform agenda in place to consider the future delivery of public services.

The reform process will consider key areas around service redesign, workforce modernisation and culture change that can improve productivity in the delivery of all services.

3.1.2   Information and Technology

Information and associated technology will be an important enabler in helping to meet the overall reform agenda and there are States wide initiatives already identified to bring change in the following areas:

- Gigabit Jersey – Jersey Telecom have embarked upon a 5 year programme to deliver a fibre-optic broadband network across the island aimed at providing world leading internet speeds

- Citizens Portal – development of a citizens portal to support the "channel shift" towards demand for more on-line interaction from individuals with the public services for Jersey. This will require the inclusion of high quality information regarding health and social care provision for patients and clients

- Population Database – provision in 2013 of a Jersey population database holding demographic details (including the JY identifier number). The aim is to use this as the definitive source of demographic data across the island and as a feed into electronic patient records

- Freedom of Information Law – the States of Jersey have drafted a new Freedom of Information law with a view to the law being fully implemented by the end of 2015. This will allow residents to access information and increase transparency

3.2　HSSD Drivers

3.2.1　Health and Social Services White Paper

The White Paper "Caring for each other Caring for ourselves" sets out a programme of change for the next 10 years for Health and Social Services provision that seeks to generate benefits to Islanders relating to:

- Quality of care

- Improving productivity

- Reducing costs

- Managing the demand for hospital beds

In addition to the population issues listed in 3.1 above the White Paper also identifies the significant challenges facing health and social services in terms of:

- Pressure on hospital length of stay through the limited range and availability of community services

- Lack of enablers for care in non hospital settings e.g. Telehealth and Telecare

- The need for new models of care

- Disjointed services with limited patient choice and poor integration

The States" 3 year planning cycle provides the phases for the proposed White Paper changes which are identified within Phase 1 running from 2013 – 2015, Phase 2 running from 2016 – 2018 and Phase 3 running from 2019 to 2021. The strategic priority service changes identified within these phases will focus on each of:

- Services for Children

- Services to encourage healthy lifestyles

- Services for adults with mental health issues

- Services for older adults (Mental Health, Long Term Conditions, Intermediate Care and End of Life Care)

Data and Informatics is identified as one of the essential enabling and "cross-cutting" workstreams to support the service development plans. The vision for how informatics can help deliver these service changes is explained in section 4.1 below.

3.2.2　Other Drivers for Change

Whilst the White Paper remains the overarching change programme for HSSD over the next 10 years, there are a range of other factors that contribute to the need for driving informatics development across the organisation:

- Comprehensive Spending Review (CSR) – in line with other services HSSD has been subject to cost saving measures through the CSR process to ensure an overall budget balance

- Lean Process Improvements – HSSD has recognised that in fulfilling the vision set out in the White Paper it will need to modify the way it thinks, improve its skills and capabilities, develop policies and practices that support business transformation and create a culture of continuous improvement. This has resulted in the "Jersey Lean System" (JLS) which aims to bring sustainable transformation using lean thinking and methodologies

- Development of a Commissioning Process - to deliver services that provide value for money and decisions that are based on information, evidence and best practice there will be a demand upon the provision of high quality information to monitor contracts with providers locally (including primary care, third sector, and off-island). This will drive the need for improved data collection, development of condition registers (e.g. DNR and LTCs) and information provision from non HSSD providers including the Family and Home Nursing Service and Hospice.

- The Primary Care Quality Improvement Framework (QIF) has added performance monitoring and outcome measures for GPs into the funding and payment mechanisms. This will drive improved data collection and information production through the central GP server project and encourage data sharing between primary care and HSSD.

- Demand for evidence based management decision making and access to online evidence based information sources (e.g. NHS Evidence).

- The proposed Regulation of Care Law in 2013 will seek to ensure that health and social care services are safe and of the highest quality and that systems are in place to meet acceptable standards of quality and safety. This will increase demand for information production to support service reviews.

4   Future Informatics Vision and Requirements

4.1   Future Informatics Vision

4.1.1   Overview

The informatics strategy will support the strategic priorities set out in the Health and Social Services White Paper where it is identified as one of the key "enablers" for delivery of the required service developments.

Informatics will play a significant role in helping to meet the core aim of the White Paper to provide safe, affordable and sustainable health and social services. It will do this by helping to enable the following service characteristics identified in the White Paper:

- Services "wrapped around the individual" with a single point of access for patients/service users and care professionals

- More delivery of health and social care available in individuals homes and in community and primary care settings

- Care that is efficient, effective, safe, productive and integrated

- The ability to use telehealth, telecare and telemedicine as part of an integrated set of services

- Improved value for money and robust contract management

- Effective workforce development

Consequently the vision for Informatics across HSSD is based on a series of Strategic Objectives which outline that informatics will:

- Underpin the vision for Health and Social Services set out in the White Paper

- Enable and support continuously improving clinical care through a coherent and integrated care record of an individual"s health care experience

- Enable the development of new models of care

- Ensure that HSSD has timely and accurate information to manage it"s current services and plan future services and to provide business intelligence that informs decision making

- Support staff who are educated and trained to maximise the potential of the informatics tools available to them - (Informatics teams & wider workforce)

- Allow efficient and effective electronic communication between HSSD services, patients, staff and partner organisations.

4.1.2   Impact of the Vision

It is intended that:

Integrated Care Record / Patient perspective

- A single „person centred" care record will exist that allows those involved in their care (whether on the island or off it, and whether part of HSSD or not) to be able to access relevant health and social care information contained in the record to support the specific episode at the point of care

- Patients will be able to access their own healthcare record to empower their self-care and to improve the partnership between the patient and clinician when discussing current and planning future treatment options.

Systems

- IT systems will be put in place that provide demonstrable improvements in the quality and safety of the delivery of patient care, and well as improvements in the commissioning and management of care and the management of the workforce operating across the health and social care system

- Existing and future systems will support (and where necessary mandate) the capture of data to support the direct care of the patient and the improvement of the service going forward using systems and tools that minimise the time impact on those involved in the care process

- Patient data held in any system supporting health and social care provision will be linked together between different systems using a common unique patient identifier

- IT systems, and their underpinning infrastructure, will be sufficiently responsive, resilient and reliable to support the 24/7/365 service that HSSD provides

- Appropriate IT access and data capture devices will be provided to maximise staff productivity and increase time for direct patient contact

- International and „best practice‟ system and data interchange standards will be used wherever possible to ensure HSSD‟s data management risks are reduced.

Data

- Data relating to the health and social care process will be captured once (wherever possible) and re-presented and referred to as many times as appropriate

- The quality of the data captured will become a priority for all HSSD employees, and all relevant data will be fully captured both accurately and in a timely manner in the most appropriate electronic system wherever possible

- Healthcare episode data will be correctly coded in a timely manner to enable accurate and up to date reporting of key performance indicators and patient outcome measures

- Information governance arrangements will be in place to support legal, safe and appropriate sharing of data between systems and care providers that ultimately are in the best interests of the patient.

Information

- The HSSD department as a whole, and each service within the department, will have a series of relevant and agreed Key Performance Indicators (KPIs) for service provision that are monitored and reported on a regular basis. Each service will also have a relevant set of key patient outcome measures that will

drive improvements in the quality and safety of patient care as well as enabling independent service reviews and benchmarking of services where appropriate

- The use of information to drive service improvements and improve care for patients will become part of the core organisational DNA and the operational culture of all those involved at every level of management of services. Decision making will become increasingly based on data and information rather than narrative as HSSD becomes increasingly „information rich"

- The use of information from electronic sources of „best practice" evidence to improve patient care will become „the norm" for all those involved in the care process

- Provision of information on services offered by HSSD and their performance will be published openly on the HSSD website

Staff

- Staff will be provided with the training and on-going support required to maximise the utilisation and value of investment in current and any new IT systems put in place to improve the quality and safety of patient care or improvement the management of the care process. This will include information management and data quality training in additional to any specific training required to use a particular system

- Business process redesign will be undertaken and on-going change management support provided to staff to improve utilisation of new IT systems and to ensure maximum improvement in process efficiency and staff productivity

Governance, Leadership and Service

- A programme of informatics enabled change projects will be put in place to deliver the informatics vision and support the White Paper over the next ten years

- Robust governance and on-going management arrangements will be put in place to ensure that the work programme required to implement the informatics strategy is aligned with wider White Paper developments as well as existing operational service management, is adequately resourced and provides demonstrable benefits for patients, staff and the wider States of Jersey public

- A dedicated informatics leadership team will take responsibility for implementation of the strategy and its associated action plan, with a single senior management position taking responsibility for this

- High quality, responsive and „fit for purpose" informatics support services will be put in place to support the implementation of the strategy and on-going operational delivery of the benefits for staff and patients. This includes specific

business intelligence and reporting skills in addition to the service required to maintain the operation of systems and underpinning infrastructure.

4.1.3   Illustrating the Vision

In order to illustrate how this vision might look in reality in Jersey, Appendix D outlines a fictitious patient story and a number of vignettes from those involved in the episode of care to illustrate the difference between the current state of informatics and the planned future vision.

4.2   Future Informatics Requirements

The informatics strategy and vision workshops defined and captured the future informatics requirements against the framework of Data, Information, Systems and Services. These were documented from a business perspective and the key emerging requirements are summarised below within each category:

Data

The overarching theme from the workshops concerned the need to improve data quality in all settings and to rationalise data collection processes in Community and Social Care. It was recognised that there would need to be investment in a data quality for HSSD lead with responsibility for introducing quality reviews, improving processes and raising awareness of the significance of accurate data with staff. Key measures captured included:

• A step-change towards robust, reliable data that is trusted throughout HSSD
• A data quality lead within HSSD, with responsibility for working with managers to ensure regular data cleansing and improvement

- Define an agreed set of data definitions and data exchange standards driven by and designed to meet the delivery of care and reporting requirements of HSSD e.g. KPIs, outcome measures, pathways etc
- Instigate data quality training to raise awareness and understanding by staff of the importance of accurate data and impact of poor data quality
- Ensuring records are populated with an agreed common identifier
- Identify and merge or remove duplicate records
- Ensure real time data entry where possible, allowing for improved planning and quality of care and better informed management decision making
- Review data collection methods in Community and Social Care settings and where it is feasible move to single points of data collection allowing for multiple use
- Develop the business case for mobile working and data collection methods in home settings
- Instigate measures to manage and reduce the backlog of coding
- Assess needs for obtaining NHS numbers and access to NHS SUS data to allow benchmarking to improve performance
- Information Governance Arrangements to enable safe and secure data sharing
- Capture unstructured data, making it useable for HSSD
- Links to sensitive data such as flags to highlight where there is child protection data or mental health
- Planned migration to utilising the population database as a single source of demographic data
- Uniform integration method standard HL7

Systems

There was a common theme emerging from both workshops about achieving further integration of systems either through expansion and best use of TrakCare in the acute setting or linkage to other systems through the existing integration engine. Rationalisation and greater support of Community and Social Care systems with movement towards an EPR solution (whilst recognising the need for specialist systems to be retained) was also seen as a priority. Longer term strategies included deployment of e-prescribing and electronic data capture systems for the ambulance service. The main items captured included:

- Further systems linked to the Ensemble integration engine
- Further development of an HSSD wide integrated care record
- Access to NHS systems (e.g. Joints registry, NHS Athens evidence database) to allow better performance measurements and benchmarking
- Maximise use of the existing systems to their full potential
- Migration of stand-alone databases to TrakCare
- Introduction of an electronic deaths database
- Patient access to their information and care records
- Electronic data capture systems in ambulance and emergency department

- Community and Social Care EPR solution
- E-prescribing
- Use of Apps to link to systems user guides, best practice procedure guides and policy documents for clinicians – potential for "Bring Your Own Device"
- Appropriate upgrades to systems to allow HSSD to use them to their full potential and improve quality of patient care e.g. Softbox and FACE upgrades, TrackCare upgrade to version 2012 and rollout of EPR in hospital
- Systems should support the OBC/FBC developments from the White Paper

Information

The workshop feedback was characterised by the need to develop a culture of information usage by supporting staff and providing information management skills. Capturing the business requirements for reporting and business intelligence outputs across care settings and defining reporting against key indicators and outcome measures were also flagged as priorities. Key items included:

- Reliable, robust, trusted, regular and timely information, shared throughout HSSD
- Review the range of data currently captured, ensure it is relevant and is actually needed for reporting purposes
- Easy to Use reporting tools
- Business requirements for reporting and business intelligence defined by care setting

- Reporting and Business Intelligence specified to meet business requirements e.g. performance indicators and outcome measures.
- Business intelligence used to inform and assure management decisions
- Development of an information culture that engages all staff and where the use of information becomes the "norm" and training/support on information management skills is provided
- Awareness raising/pro-active communications regarding information management - leadership, support and ownership.
- Using information to identify areas for improvement e.g. flow back through to better data collection and quality
- Closer relationships between clinical leads and the business intelligence team leading to more targeted information production
- Capture and reporting of information to support commissioning and demand management
- Production of benchmarking information and enabling work for wider comparison
- Instigate effective use of information currently held in the systems
- Using information to identify where business process change is needed

Services

Establishing an informatics function and leadership capability was seen as a key priority together with the strengthening of existing systems training and the widening of the knowledge basis for specialist systems. Additional supporting resources for reporting and business intelligence, Community applications and future expansion of TrakCare should be factored into business requirements and business cases and introduced as developments are made. The main workshop conclusions are as follows:

- Introduce professional informatics leadership and programme management capabilities
- Responsive, skilled and appropriately resourced support teams – investment required to expand capacity for future developments e.g. TrakCare based ICR
- Skills development programme for informatics staff
- Increased training capacity to cover applications in all care settings
- Delivery of training to achieving the best use of existing systems – e.g. use of reporting tools
- Dedicated support for specialist systems within the IS Applications team - e.g. Diamond Diabetes and Datix in acute setting , Softbox and FACE in social care
- Widen knowledge base for specialist systems to remove reliance on small number of individuals

- Ensure easy access to support for system users – clarity on who supports each application
- Review existing support mechanisms for reporting, business intelligence and information analysis requirements – currently split teams

5 Current Informatics Provision

5.1 Existing Informatics Systems / Services / Processes

This section identifies the current informatics provision by using the Data, Information, Systems and Services framework illustrated below:

Figure 3 – Current Informatics Provision

Data
- Range of data collected
- Current data collection processes

Information
- Existing reports and indicators
- Areas demonstrating good practice

Systems
- Current provision of systems
- Existing systems and interface maps

Services
- Informatics support provision
- Services catalogue
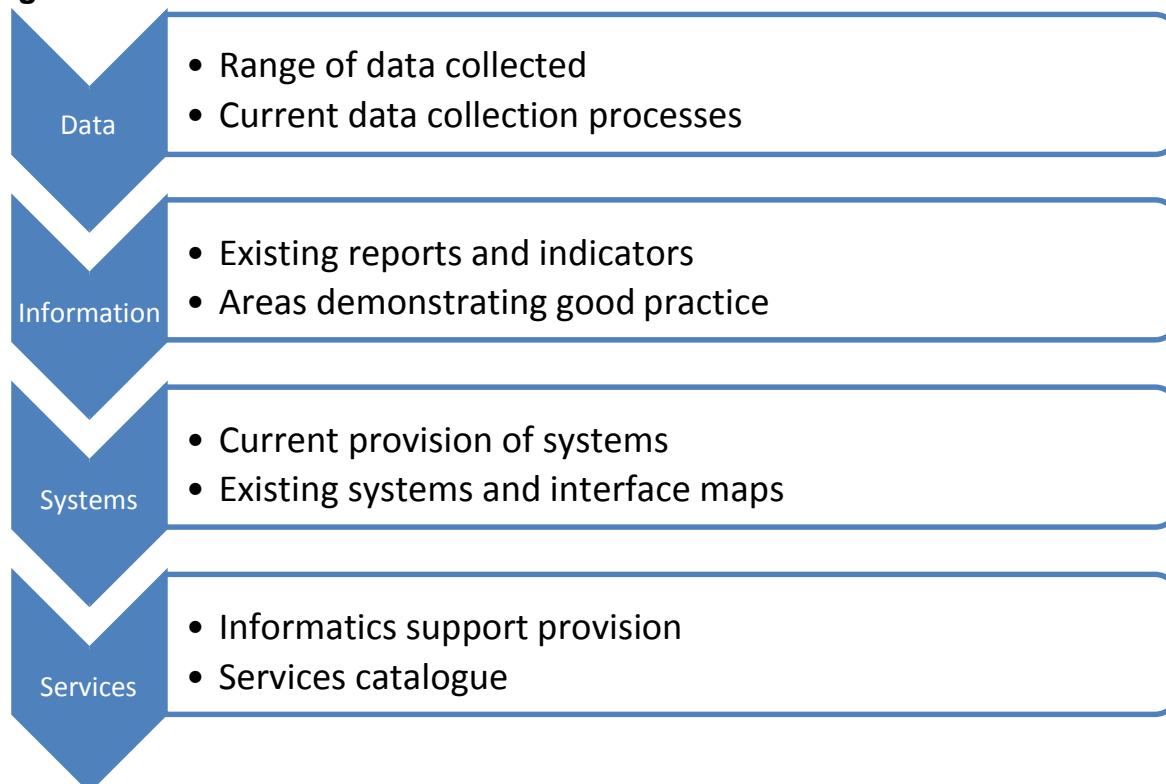
5.1.1 Data

Ambulance Service

Patient data is recorded on paper forms by Paramedics whilst on a call and entered into the C3 command and control system using the patient report form once back at base. The quality of data held is generally viewed to be of a high standard; however there is currently no auditing of the data entered with associated risks to the management of the service.

Community and Social Care Services

There is no common information system and single point of data collection and entry in Community and Social Care. Teams and departments maintain disparate client records, many on paper based recording systems or local access databases e.g. Therapy Services. There are currently no mobile working solutions to support access to information and the recording of data in the home setting.

For Adults and Older Adults the FACE system collects data to support Mental Health assessments and care plans. In the absence of alternative solutions FACE is also used to capture wider social care requirements for older people.

Childrens Social Services data is entered and held in the Softbox application providing a rich source of information dating back to 1995. The data quality is considered to be variable with a cleansing exercise needed. Due to the nature of the information held within the system there are no interfaces in place to other applications.

There is wide recognition that migration towards a single point of data entry is required to achieve a greater accuracy and consistency to the quality of data held across the Community and Social Care services.

Acute Services

Data collection and entry to TrakCare is undertaken by frontline staff and although issues do exist around duplication and consistency there are indications that overall data quality is starting to improve. This is being driven by information production from TrakCare highlighting where issues with data exist, in turn this can help to educate system users and develop a culture where staff understand the importance of accurate data.

This is seen as an on-going process which along with improving the coverage and quality of clinical coding will bring benefits to the organisation in terms of better information, indicators and outcome measures. It was noted that there is dependency upon Intersystems to provide HRG 4 functionality within TrakCare (not functioning in TrakCare 2010 but believed to available in TrakCare 2012).

Patient demographic data is provided through the Ensemble integration engine to the JAC Pharmacy, Omnilab Pathology, Radiology, and Child Health (McKesson) information systems. Data is separately entered and maintained within a number of specialist systems including the Hicom Diamond diabetes system, Wardwatcher ITU database and Prism Cardiology application.

Primary Care

Currently the 16 private GP practises hold data independently either on EMIS or ISOFT systems or in using paper systems. There is little data shared between GPs and HSSD with the exception of immunisation and screening statistics with the Public Health Team. The GP Central Server Project will align all practices onto one EMIS web solution which is scheduled to be functional by quarter 2 of 2013.
This solution will provide scope to consider the benefits and of developing greater sharing of data with Primary Care. However, the quality management team will need

to assure the quality of the unique patient identifiers (Social Security Number held in both EMIS and TrakCare) and their matching to the TrakCare URNs.

5.1.2   Information

There are examples of good practice in the reporting of information within HSSD. The standard business intelligence functionality available within TrakCare is being used to produce valuable reports for acute care management around admissions, waiting lists, and emergency department and outpatient attendances. The Zen reporting tool is also used to extract information from the currently deployed EPR questionnaires. Appendix E presents a schedule of the available BI and Zen reports.

The Heath Intelligence team within Public Health provides the capability to produce a range of indicator sets including alcohol, sexual health, child health and end of life care which, within the constraints of current data quality, are well regarded as valuable information sources. The current work programme for the HI team highlighting the full range of public health annual survey updates, indicators and other projects is shown in Appendix F.

Other good examples of reporting include the production of "best practice" Ambulance Service indicators through C3 for response times, call category and patient transport services. The Datix incident reporting system is also considered to provide valuable outputs and has new modules available to develop dashboards and CAS alerts (Central Alerts System).

Issues with the underlying data quality and levels of training and support to fully exploit the available functionality does, however, limit the depth and perceived value of the information reporting across HSSD and these factors are further considered within the issues and gap analysis sections of this strategy.

Reporting and production of management information within the Community and Social Care services is disparate and predominately manually produced rather than system generated. As with the requirement for a co-ordinated data collection mechanism there is wide recognition of the need to assess the business requirements for reporting and the options for delivering these in a systematic way. However, FACE does have a reporting capability for clinical outcomes and has the potential to be used more fully with the appropriate support and training.

5.1.3   Systems

Appendix G presents the current schematic diagram showing the systems in place across HSSD and the interfaces providing data flows both in and out of TrakCare either through the Ensemble integration engine or PAS module. The following table summarises the main systems and interfaces by care setting:

Table A – Current Systems by Care Setting

Care Setting	System	Interface
Ambulance	C3 Patient Transport	TrakCare - To & From
	C3 Command and Control	
	Patient Travel to UK	
	Community Alarms - Jontek	
Community Services	Speech Therapy Access Database	
Primary Care	EMIS GP Practice Systems	
Public Health	Child Health - Care Plus	TrakCare - To & From
	Deaths Access Database	
Social Care - Children	Softbox	
Social Care - Adults	FACE – Assessments/Care Plans	TrakCare – From only
Social Care – Older Adults	FACE – Assessments/Care Plans	TrakCare – From only
	MDS – Assessment and Placement	
Acute	TrakCare PAS	
	Pharmacy - JAC	TrakCare – From only Robotic Dispensing
	Radiology - RIS	TrakCare -To & From From PACS
	Radiology - PACS	To RIS
	Breast Screening	From RIS
	Pathology – OMNI-Lab	TrakCare - To & From To Blood Donor Service To GP Pathology Reporting

		Pilot
	Clinical Investigations - Prism	TrakCare – From only
	Blood Donor Service - Pulse	From Pathology
	Diabetes – Hicom Diamond	From Pathology
	ITU Database – Ward Watcher	Planned Interface from TrakCare
	Endoscopy Database - Endobase	

An HSSD systems catalogue was constructed by Atos in September 2012 and provides further details of the main applications. In addition to these identified systems there are a number of small access databases maintained by individuals that cover activity such as Occupational Therapy stock control, Neurology referrals, Health and Safety training records and Clinical Psychology appointments. There are also planned main system developments as follows:

- GP Central Server Project – EMIS Web solution deployed by March 2013

- Order Communications and Reporting:

  - Pathology by June 2013

  - Radiology by October 2013

  - Develop link between order communications and EMIS Web

- Public Health applications planned for 2013:

  - Bowel Screening

  - Cervical Screening

  - Environmental Health Database

- Community and Social Care Projects

  - FACE - White Paper projects for Adult Mental Health providing greater access to therapies

The original strategy for the TrakCare deployment in 2008 was for greater integration and linkage with the Community and Social Care applications. This would have led towards a Community electronic patient record but with the specialist Mental Health assessment and care planning remaining in FACE and Child Protection data remaining in Softbox only. Funding constraints have limited the scope of TrakCare to the acute setting. Consequently, the use of FACE is currently expanding to incorporate social

care for older adults with the system supporting assessments to provide a potential funding mechanism for long term care. There is a very strong demand across the Community and Social Care teams to rapidly improve the provision of information systems and move towards a Community electronic patient record.

5.1.4   Services

At present informatics supporting services and systems management are provided through dedicated resources within both the HSSD Applications Support Team and Public Health Intelligence Team.

Applications Support Team

The applications support team provides TrakCare support including configuration and change management, systems training, quality and testing and reporting services. There are super users based in each business area but the application support team provides first line support. Front line support for the specialist systems in Pathology, Radiology and Pharmacy are managed within each department although call support is provided for many of the "stand-alone" databases across the acute setting with call routing to the system vendor as required.

The current Application Support Team Structure is shown in Figure 4 Below:

Figure 4 – Application Support Team Structure
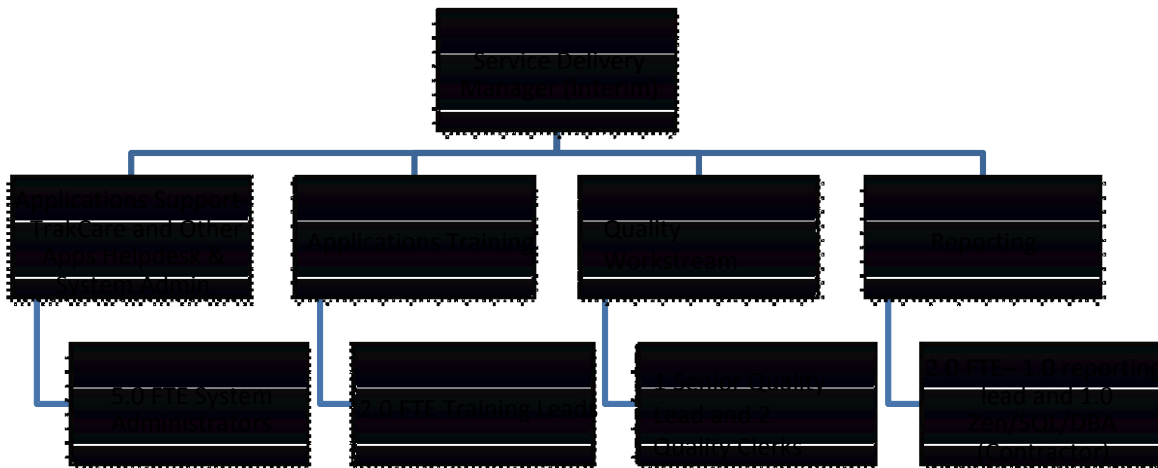
The team is currently resourced to deal with "Business as Usual" application support for TrakCare. However, demands upon the team will increase as the system is further developed towards the vision of a wider electronic patient record across HSSD and the

business requirements for reporting and business intelligence are further defined. Further investment within the team will be required once these business requirements are established and levels of demand more clearly defined. In particular skill sets to support the scope for enhanced business intelligence reporting and dashboard production will be required. This is identified as an area for action within the Gap Analysis in section 5.4 below.

There is no direct applications support for the Community and Social Care systems (FACE and Softbox) through this team although there are ISD funded project resources solely dedicated to HSSD, and located within the organisation, that provide project management support for Community and Social Care.

There is a widely reported and frequent demand for greater levels of application training and for the introduction of e-learning packages, some of which have already been procured but not yet deployed. There is also the need for wider informatics skills development in areas such as data quality and information reporting across all of HSSD. This is explored further in section 5.2 below.

Public Health Intelligence Team

The Public Health Intelligence Team provides a system management function for the Child Health Information System (Care Plus) and the Deaths database; it also administers the Cancer Registry database. This will expand to include the Bowel Cancer screening and cervical screening systems in 2013.

The primary focus of the team is upon the production of Public Health surveys and indicators. However, the team has increasingly become involved with the production of wider hospital based indicators and ad-hoc reporting requirements. They have also seen an increase in the requests for advice and support from managers and system users regarding data quality, information analysis and reporting requirements.

The team is managed by the head of Health Intelligence and consists of 2 full time and two part time staff. Their primary concern remains the general standard of data quality across the organisation and the need for this to be addressed through a dedicated data quality team.

Enabling Technology and Infrastructure

The technology and infrastructure required to deliver the HSSD applications falls outside of the direct scope of this strategy, although it remains a key enabler and dependency upon the successful development of the informatics strategy. The Service Level Agreement with the central States of Jersey ISD covering network infrastructure, telephony, desktop support and enterprise system management was last updated in 2005 and is now out of date. Section 5.2 below highlights the need for the SLA to be reviewed as a priority and for relationship management to be established to ensure that the strategic vision for HSSD is both sustainable and affordable within a reliable and resilient infrastructure framework.

5.2 Current Issues with Informatics Provision in HSSD

The following issues were identified as a result of the consultation interviews and workshops that took place as part of the process of development of this strategy:

5.2.1 Wide variation in data collection across HSSD

Although the TrakCare system has been implemented to support data collection and information reporting in acute care, it was widely reported that data quality was highly variable depending on the service involved. This included issues related to duplication of data (in particular duplicate patient records), problems with the completeness and accuracy of records, and the timeliness of completion.

It was also reported that there were issues related to both the quality of coding that had been already applied to patient records and a backlog of care episodes that had not been coded at all. Some services also noted that data was not collected routinely that was required for performance management, and where it could be collected, staff had identified shortcuts in the system so that they only had to enter the minimum amount of data (rather than the whole form) in order to deal with issues related to patient throughput.

In some areas of the hospital it was noted that staff didn"t fully trust the system and therefore data was being entered retrospectively instead of in real time. This is thought to be due to both insufficient training and knowledge transfer at the time of deployment but also the lack of "buy-in" and ownership from business users towards viewing data collection and quality as an essential element of patient care. The lack of consistency in data collection approaches and the issues with data quality have created a perception that the system is not adding value.

Outside of the acute setting, there are a wide variety of systems in use for different aspects of community, mental health and social services. Primary care systems are currently locally hosted at each GP practice and therefore there is no sharing of data at present, although this is being addressed through the current GP Central Server project which is due to go live in March 2013. The lack of a dedicated information system for mainstream community services was reported on a number of occasions as being a major barrier to collection of data to support direct patient care, manage performance and improve future service planning. The FACE and SoftBox systems provide functionality to support specific aspects of the Adults, Older Adults and Children"s Services (e.g. mental health assessments, child protection registers etc), but due to the lack of dedicated systems in this area, other solutions are used including recording data in TrakCare or in stand-alone databases, which leads to duplication of effort and an increase in clinical risk through lack of sharing of information. As a result of a lack of suitable systems, a lot of the clinical information is recorded on paper (e.g. Single Assessment Process) and therefore reporting is done manually through trawls of paper records, which for community services, may be held in many different parts of the island. Some of the systems used in community and social services are now old and out of date (e.g. SoftBox was last upgraded in 2000), and updating such systems

would provide benefits in terms of functionality improvements and improved reporting facilities to support existing care requirements.

However, there are some examples across HSSD where data collection and reporting is perceived to be of high quality. This included the risk, incident and complaints management system (Datix) which was noted as being populated with risks and incidents on a regular and timely basis, and actively used by senior managers in the organisation to deal with complaints and other related matters. The C3 system used by Ambulance Control was also noted as being well populated with up to date information which allowed service managers to produce regular performance measures in line with those used by ambulance services across the mainland UK

5.2.2   Developing an Information Culture

There are some good examples of information reporting across HSSD which „add value" to the overall health and well-being agenda for Jersey. One prime example of this is the production of public health indicators by the Health Intelligence team, which produce an annual assessment of the health of the States using data from a variety of sources (both inside and outside HSSD). There are also an extensive range of pre-defined reports available for users of the TrakCare system on a wide variety of areas of acute care management. These reports are largely based on those used in the earlier PAS solution and are not widely perceived to add value. Some departments are however successfully extracting data, analysing it and using it to improve performance, for example the theatre management group

Generally however there is not an organisational culture where information is used on a regular basis to manage services and drive improvements in patient care, efficiency of service provision and the productivity of staff. This manifests itself in a number of ways:

- Although data is collected, it is often not presented in a meaningful way to support managers of services and there is general mistrust of the quality of the data in the systems in the first place (see Section 5.2.1)

- Apart from a small number of services, there are not a clear set of Key Performance Indicators (KPIs) in place to manage service performance, and the link to how these contribute towards the overall performance of HSSD level as a whole is not known or unclear

- Apart from a few „information innovators", there does not appear to be a strong demand from staff for information to support performance management and decision making is often based on narrative rather than on information.

As a result of this, very little benchmarking of services takes place with the mainland UK or beyond (one example is pharmacy which benchmarks pricing information), but there is a desire in some quarters to define outcome measures and undertake comparative analysis with other off-island providers. In addition, there is a desire for information sources to improve evidence based practice on the island and improve

compliance with „best practice" care. There is also a recognition that information on the quality of care provided will be required should external service review either by requested voluntarily or made mandatory by law in future. This will require the definition of outcome measures that are not currently reported on a regular basis.

5.2.3 Integrated Care Record vision remains broadly valid but expectations are high

There is still a strong desire with large groups of staff in HSSD to deliver further phases of the Integrated Care Record (ICR) project that started in 2008, which will cover a significant part of the future vision outlined in this strategy. At present it was widely reported that there are too many informatics systems in use and there is substantial duplication of data entry as a result of poor integration between systems. It was also felt that the supplier would need to make a significant commitment to working in partnership with HSSD towards this delivery.

There is also big demand for a wide variety of informatics solutions across all care settings to either improve the quality and safety of patient care, or improve the care management process. Demand for solutions is so strong that it is unlikely that all expectations will be met and the prioritisation of requirements based on a robust set of criteria will be required to ensure that the most appropriate and effective solutions are taken forward during the various phases of the White Paper.

5.2.4 Leadership, Management and Governance arrangements for informatics

Although the Director of Finance and Information for HSSD is the Senior Responsible Owner (SRO) for the Informatics Strategy and ultimately accountable for its implementation, there is no position within the current management structure of the organisation responsible for operational management of the current informatics provision across HSSD and implementing future strategy. This is needed in order to drive forward developments at a strategic level and to ensure on-going alignment with White Paper implementation. This role should complement the Chief Clinical Information Officer (CCIO) role already in place (2 sessions per week of a Consultant Anaesthetist) which is to be commended in order to obtain clinical buy-in to the strategy.

The current Information Systems Steering Committee (ISSC) has a hospital, community and public health based membership. It will oversee the implementation of the strategy with work programme activities being accountable to the group. Rebranding this group as the HSSD Informatics Strategy Board/Committee should be considered. It will also be essential that ownership of the strategy and the associated work programme is achieved at the executive management level.

There is some duplication between the ISSC and the group set up to develop the Terms of Reference and plans for the Data and Informatics cross-cutting workstream of the White Paper, as well as significant duplication between this workstream and the

associated Technology group, all of which will need addressing to ensure that there is no duplication of effort going forward.

There is currently no group constituted across HSSD for developing, prioritising, agreeing and testing information reporting requirements and key performance measures either at HSSD or service level. This is needed in order to ensure that current systems are configured to ensure the capture of the right data at the right level of quality to support these reporting requirements, and where gaps exist, these are filled with upgrades to existing systems or new systems where appropriate.

The existing organisational and governance arrangements that operate around integrated working, between the informatics teams in HSSD and the central IS Department (ISD), have created structural tensions. Changes were planned to these arrangements to accompany the original ICR project, but budgetary constraints have meant these are not fully implemented and current structures remain in an interim state.

There are, however, opportunities to improve these processes and governance arrangements. Efforts are currently underway to recruit to the vacant ISD Business Support Group (BSG) Relationship Manager post. Further on-going improvements to support services and IT infrastructures are being considered and there is senior ISD representation within the current HSSD IS Steering Committee.

The current Service Level Agreement (SLA) dates back to 2005 and there is wide agreement that there should be an SLA refresh undertaken as an early priority.

5.2.5   Minimal support for training and business change

Within existing resource levels the currently constituted Training Team, which forms part of the Applications Support Team within HSSD, is only able to provide a limited amount of training and on-going support for Trakcare system users. It is not in a position to offer staff the opportunity to get the most out of systems already in place in HSSD. Training in wider informatics skills (such as data quality, information management etc.) is also limited for the wider workforce and needs to be addressed going forward to support improvements in data quality and information reporting.

In addition, dedicated business change resource is limited and often utilised on the implementation of new projects (such as Order Communications). This limits the ability to spend time on existing systems and the need to redesign processes and ways of working to maximise the value from investment in such systems and improve staff productivity and efficiency as well as patient care outcomes.

5.2.6   Information Sharing Challenges

At present, there is limited sharing of information between systems and there is significant duplication of data entry, which means that HSSD is currently a long way from the vision of having data being captured once but used many times. There is currently no common identifier to link together systems and information governance arrangements are not currently robust enough to enable sharing of data between systems, both within HSSD and with external providers of care. There is also a need

for common data definitions and standards to ensure that data interchange is undertaken safely and reliably. Currently the majority of data sharing is done manually. For example discharge letters from the hospital to GPs can take up to two weeks to arrive. The data is then manually entered into separate systems with associated risk of transcription errors.

There are examples of automated interfaces being established at departmental level such as the diabetes Diamond system which interfaces with the pathology system. This provides a weekly update, run manually by the diabetes team. However this is not formally supported and runs with limited resource. A further example is the GP central server which, once deployed will allow limited viewing rights to the public health team to access statistical data for immunisation levels.

A further example of a functioning, secure data sharing system is Datix, used for incident reporting. The system is accessed by a web based portal and it is deemed as modern, secure and satisfactory.

5.2.7   Limited Specialist Informatics Capacity and Capability

At present, dedicated informatics resources are present in the HSSD Applications Support and Health Intelligence Teams. There is also an ISD full time project manager post fully dedicated to health and based in HSSD. This leads to an inefficient operation with potential for duplication of effort and management overhead. There is currently limited capacity within Clinical Coding which has led to the backlog of records that have not been coded. There are also some limitations upon the available resources providing specialist skills for performance report development and engagement with the business to define reporting requirements.

There are also a number of risks associated with key person dependencies in the informatics service and a reliance on interims to provide" stop gap" services for the organisation. Skills transfer from external service providers to substantive staff needs to take place to ensure on-going development of services within the organisation in future. This will also require investment in further training and development of informatics staff to ensure they have the skills required to take forward the informatics requirements of the organisation in future.

Generally the Applications Support Team is highly regarded, however, some individuals were not always clear about where to go for applications support and others felt that the team are often too busy managing existing queries or incidents to help with their specific problems. It was generally observed that there is sufficient support to troubleshoot real time "Business as Usual" problems, but that lack of capacity severely restricts the support available for creative developments.

5.2.8   Limited Funding available for Informatics Developments

As with any service development, there is a requirement for investment to improve the quality of the service provided. This is particularly true for IT enabled change projects where there is often significant capital investment required up-front before benefits are

realised, which means the need for robust business cases to support the investment in the first place.

HSSD is engaged in a Comprehensive Spending Review (CSR) programme to reduce its cost-base for „business as usual" services whilst new recurrent monies received for implementation of the White Paper have been reduced by 10% compounded by a significant additional decrease in non-recurrent funding for Phase 1, again limiting the opportunity for monies outlined in business case for the main workstreams to be used for underpinning informatics investments. These developments mean that any plans for investment will need to be appropriately prioritised and targeted to ensure „best value" for delivery of the White Paper requirements and „business as usual" HSSD services.

5.3   Summary of Key Risks

As a result of the work undertaken to understand the current informatics provision across HSSD, Table B identifies the summary of key risks that need to be addressed in taking forward informatics provision through this strategy.

Table B – Summary of Key Risks

Risk Description	Potential Impact
Data	
There is a risk that data recorded in existing systems is not of sufficient quality to enable robust information reporting (e.g. poor or incomplete clinical coding, duplication of data, data accuracy / completeness etc)	Significant amount of specialist informatics staff time spent on undertaking data cleansing which detracts from time spent on producing management reports Information required to manage current services and plan future service provision (as outlined in the White Paper) is incomplete or inaccurate leading to reduced quality of management decision making
There is a risk that the data required for information reporting purposes is not currently collected in an electronic format (e.g. in community services, the majority of information is still collected on paper and stored in a variety of offices across Jersey)	Data transferred manually from paper to electronic systems to support information reporting is at risk of errors being introduced during transcribing Information required to manage current services and plan future service provision (as outlined in the White Paper) is incomplete leading to reduced quality of management decision making
There is a risk that separate data sources that are needed to provide meaningful information reports cannot be linked together in an efficient manner (e.g. data from TrakCare being linked with information from the Deaths Database and other sources to provide Public Health Indicators)	Significant amount of staff time spent on undertaking „work-arounds" to link together data sets which detracts from time spent on producing management reports Information required to manage current services and plan future service provision (as outlined in the White Paper) is incomplete leading to reduced quality of management decision making

There is a risk that the lack of a common patient identifier across the different systems and data sources limits the ability to populate comprehensive patient treatment pathways (e.g. hospital has its own numbering system, as does the GP Central Server project)	Information required to manage current services and plan future service provision (as outlined in the White Paper) is incomplete leading to reduced quality of management decision making Lack of data linkage and information to inform the development and monitoring of effective patient outcomes and quality measures

Risk Description	Potential Impact
Information	
There is a risk that the current reporting tools available to HSSD do not have the functionality / capability to provide appropriate reports to staff with a managerial or service planning responsibility (e.g. BI / Zen Reports)	Reports do not meet managers requirements, leading to dissatisfaction with the informatics service received and increased risk of reduced quality of management decision making and future service planning
There is a risk that managers do not have sufficient awareness and training in order to request meaningful information to support the management of current services and future service planning (e.g. hospital and community service managers and those working for them)	Lack of an „Information Culture", where managers do not request information to support performance improvement and future service planning, leading to reduced quality of management decision making and future service planning
Systems	
There is a risk that the current information systems do not have the functionality / capability to record all of the data required or to integrate with other systems to manage and plan services (e.g. FACE is predominantly a mental health assessments tool and not an Adult Social Care EPR solution)	Information required to manage current services and plan future service provision (as outlined in the White Paper) is incomplete leading to reduced quality of decision making on use of resources and future service planning
There is a risk that the current functionality in the existing information systems in HSSD is not used to its full potential to support both direct clinical care and future service planning (e.g. current TrakCare data capture fields replicate data entry and don‟t mandate certain critical information in some settings)	Inefficient working practices remain in place, taking up valuable time and resource of HSSD staff Information required to manage current services and plan future service provision (as outlined in the White Paper) is incomplete leading to reduced quality of decision making on use of resources
There is a risk that existing systems are not sufficiently future proofed and the criteria for assessing replacement systems are not appropriately robust (e.g. upgrade to FACE using White Paper monies during 2012)	Lack of sufficient system capability in some areas and an associated proliferation of local databases limits the availability of integrated information and linkage of data Information required to manage current services and plan future service provision (as outlined in the White Paper) is incomplete leading to reduced quality of decision making on use of resources
Services	

Risk Description	Potential Impact
There is a risk that the current capacity of staff with dedicated informatics roles and responsibilities is insufficient to support both existing applications and future clinical and managerial requirements (i.e. current Application Support and Health Intelligence teams are under-staffed to support White Paper requirements).	Demand for information services outstrips capacity leading to a potential dissatisfaction with informatics service provision in HSSD, reports not produced on time or to the right level of quality, and increased risk of reduced quality of management decision making and service planning
There is a risk that staff with dedicated informatics roles and responsibilities do not have the skills to support future clinical and managerial requirements (e.g. specialist SQL / Zen reporting skills)	Poor quality reports developed that do not maximise the value of the data contained in the various information systems
There is a risk that separate informatics teams duplicate effort or provide inefficient service provision to end users of the service (i.e. informatics skills are currently in two teams –	Inefficient use of the scarce informatics workforce which detracts from the need to improve management reporting for improved decision making and service planning
Risk Description	**Potential Impact**
Health Intelligence and Applications Support)	
There is a risk that the IT service (provided by ISD) is not sufficient to support users of HSSD systems (e.g. network infrastructure and telephony, desktop support, enterprise system management)	IT resource is insufficient to support the current and future HSSD informatics strategy and White Paper requirements, thus limiting future progress
Other	
There is a risk that the current relationship with ISD will limit progress towards the development and delivery of a robust informatics strategy and vision, and slow down the development of an information culture within HSSD (i.e. SLA was last updated in 2005 and is out of date)	The pace at which the informatics strategy and vision can be delivered within HSSD will be impacted as ownership and budget issues are resolved and responsibility parameters agreed with ISD
There is a risk that the lack of a long term strategy for informatics will severely limit future systems integration, improved reporting and the development of patient centred records for HSSD	Implementation of the White Paper recommendations will be adversely impacted in terms of costs, benefits and timescales Without a long term informatics strategy and shared vision across the whole of HSSD the proliferation of disparate systems and information provision will continue
There is a risk that funding levels will constrain the ability to deliver any agreed strategic vision within the required timescales (i.e. capital and revenue funding for both „business as usual" and data / informatics cross-cutting workstreams will be limited)	Implementation of the White Paper recommendations will be adversely impacted in terms of benefits and timescales Information required to manage current services and plan future service provision (as outlined in the White Paper) is incomplete leading to reduced quality of decision making on use of resources

5.4   Gap Analysis

Table C below highlights the key informatics requirements within the Data, Systems, Information and Services categories and by comparing against the current provision

identifies the main informatics gaps to be addressed by this strategy and the associated work programme:

Table C – Informatics Gap Analysis

Informatics Requirement	Current Informatics Provision	Informatics Gap to be addressed by the Strategy
Phase 1 (2013 - 2015)		
Data		
To improve quality of data held in existing informatics systems	Wide variation in data collection methods (some still paper based) and quality across HSSD	Improving data collection processes and associated data quality for each major information system
To improve awareness of the importance of data quality	Lack of "buy-in" from staff who do not see benefits from improved information, service improvements etc	Campaigns highlighting impact of poor quality data and targeted data quality training interventions
Completeness and accuracy of records	Known issues with data entry and lack of routine updates	Resources to address specific issues - duplicate records, coding backlog, incomplete records and agreed common identifier. Provision of HRG 4 functionality within TrakCare
To capture data once and use many times	Known duplication of data entry	Consistent data definitions and data exchange standards for electronic data interchange
Systems		
Delivery of an HSSD wide Integrated Care Record (ICR)	Multiple systems in place and strong demand for integrated solutions	Identify and obtain widespread agreement on the preferred option for delivery of a core person centred ICR
To confirm future strategy for community and social care systems	Disparate systems that require upgrades and lack of any community/social care EPR	Define requirements for functionality and reporting ensuring retention of specialist capabilities e.g. assessments and care plans, integrity of child protection data Prepare Business Case

Perceived need for access to NHS systems (SUS, NHS Athens, Joint Registry)	Currently no access for benchmarking, off-island provider data sets and clinical evidence systems	Strategic work programme to investigate benefits/costs/disbenefits of NHS access and underpinning infrastructure needed to achieve this
Maximise the use of existing systems to their full potential	Number of stand-alone specialist acute systems in place e.g. Diabetes, ITU, Clinical Investigations	Movement towards further integration of applications into TrakCare (note dependencies upon support, data quality, reporting)
Information		
Develop a culture across HSSD that engages staff to become confident in using system generated information	Significant reliance in manually produced information – notable in community and social care.	Training and support to improve information management skills Wider promotion of health

	Data is collected but often not presented in a meaningful way – notable exception to this is the public health indicators	intelligence and indicators
Engage Clinical staff in using targeted information and intelligence through main systems	Current low confidence in underlying data structures, reporting tools and business intelligence capabilities	Work programme to analyse requirements and specify BI and reporting (note dependencies upon support capabilities and data quality improvements)
To improve provision of service level performance indicators and outcome measures	Some information "innovators" but not a strong demand for information to support performance management and decision making	Work Programme to agree cross organisation KPI"s and outcome measures and identify gaps in current data capture and systems set-up to meet these needs
Business requirements to drive reporting and business intelligence outputs.	Current pre-defined TrakCare reports are largely based on those used in earlier PAS system. Significant dependence upon manual processes in Community and Social Care	Work programme to incorporate analysis of business requirements for reporting

Benchmarking	Limited benchmarking capabilities – possible in Ambulance Service via C3 standard UK based KPIs (but limited due to peer group size with Guernsey, IOW and Isle of Man) and in Pharmacy with other JAC users (which includes Guernsey).	Enabling work for benchmarking – establish services, peer groups, benefits of mainland links (N3 SUS etc). Develop Service Line Reporting and future scope for Patient Level Information Reporting in Phase 2
Services		
Informatics Leadership and Governance	Director of Finance as SRO and CCIO role in place but no specific post with responsibility for informatics provision	Proposals for leadership, management and governance arrangements
Increased capacity for training	High demand for informatics training – information management, reporting/BI skills data quality – exceeds current resources.	Strengthening training resources in key areas e.g. data quality, information reporting and use of systems. Addition of 1 FTE trainer into the team and temporary elearning expert resource.
Business and process change	No specific role to own	Proposals for Business Change

around existing systems and ICR development	process re-design or benefits management/realisation	Manager role
Informatics Support Capacity and Skills Development	Applications support team able to manage existing scope of Business as Usual TrakCare support but very limited capacity to support any new developments, extended use of TrakCare or new reporting/BI requirements	Investment in support teams – increased capacity will be needed to meet demand for new developments and skills e.g. expansion of EPR and new Reporting/ Business Intelligence requirements. These additional resources should be informed by the business requirements and included within appropriate business cases. Introduce skills development programme for Informatics Staff.
ISD SLA and Relationship Management	SLA dates back to 2005 and requires updating to current and future levels of support	SLA refresh and relationship management role
Phase 2 (2016 -2018)		
Data		

Single point capture of data in community social care settings	Single point capture of data in community social care settings	Deployment of community & social care solutions – with appropriate training and postimplementation support.
Data sharing with Primary Care – GP Central Server Project	Current links to acute setting are paper based manual processes	Establish secure electronic links with Primary Care data in line with Information Governance arrangements confirmed within phase 1
Ambulance Service – electronic data capture	Currently paper based patient report forms subsequently entered to system manually	Requirements and business cases prepared Solution deployed
Systems		
Implement Community and Social Care Electronic Patent Record	Phase 1 will have defined requirements and established functionality to remain in specialist systems	Deploy solution and associated support arrangements
Telecare/Telehealth Solutions	Not currently used – potential to support White Paper themes and Community/Social Care	Define business requirements and draft business case for telecare and telehealth solutions

	mobile working	– note key touch point with Technology cross cutting workstream Deploy solutions and confirm support arrangements
e-Prescribing	Phase 1 will have incorporated e-prescribing within ICR investment business cases	Deploy solution and associated support arrangements
Information		

Information flows to support commissioning and demand management	No established process or information flows	Workstream to establish detailed requirements and any short term information provision in Phase 1 (e.g. condition registers) and automated information flows in Phase 2. SUS Extracts for Jersey Patients with mainland providers – link to NHS Health and Social Care Information Centre regarding SUS access.
Evidence based practice resources	No current electronic evidence based practice information sources	Implement evidence based practice resources and associated training/business change processes to embed within working practices
Patient & Client Access to care records	No current provision for access to records	Define requirements for patient and client electronic access to records – link to horizon scan for White Paper phase 3 and portal access to records.
Services		
Support for Community and Social Care EPR and specialist applications	Support for Community & Social Care Applications is severely limited.	Dedicated support for Community EPR and specialist systems – training (could be from supplier, reporting and BI support.
Growth in support team capacity and capability for applications and reporting needs	Current capacity is not sufficient to deal with new developments.	Ensure additional support levels for further applications (eprescribing, telecare/telehealth) and information management/reporting (benchmarking, commissioning information and automated dashboard/performance indicators).

6 Informatics Strategy

6.1 Strategy requirements

The strategic objectives confirmed at the Informatics Vision workshops provide the foundation for developing the direction and requirements for the strategy across phase 1 and 2 of the White Paper timeframe. These strategic objectives outline that informatics will:

- Underpin the vision for Health and Social Services set out in the White Paper

- Enable and support continuously improving clinical care through a coherent and integrated care record of an individual"s health care experience

- Enable the development of new models of care

- Ensure that HSSD has timely and accurate information to manage it"s current services and plan future services and to provide business intelligence that informs decision making

- Support staff who are educated and trained to maximise the potential of the informatics tools available to them - (Informatics teams & wider workforce)

- Allow efficient and effective electronic communication between HSSD services, patients, staff and partner organisations

By adopting these objectives within the strategy, supported by appropriate enabling activities and resources, it will be possible to address the initial HSSD drivers for change set-out in section 3.2 and to meet many of the requirements emerging from the Informatics Vision workshops. The main drivers and requirements are summarised below in Table D:

Table D – Meeting the Drivers for Change and Emerging Requirements

HSSD Drivers for Change	Potential to meet over WP Timeframe	Emerging Requirements from the Informatics Vision Workshops	Potential to meet over WP Timeframe
Underpinning the White Paper Objectives	√	Person centred care record accessible across all care settings	√
Lean Process Improvement – information enabled change	√	Initial progress towards development of a clinical portal (delivered outside of current timeframes)	√
Developing new models of care	√	Data should be captured once where possible and	√

and Care Pathways		used as many times as appropriate	
Evidence based management decision making	√	The quality of data collected should be seen as a priority by all staff	√
Information Governance and data sharing e.g. Primary Care and QIF	√	Developing a culture where information is used as the core for service improvement and decision making	√
Comprehensive Spending Review – achieving more with current information systems	√	Patient or client data held in systems will be linked together using a common unique identifier	√
Information to support service reviews	√	Robust governance arrangements and dedicated informatics leadership is needed to implement the informatics strategy	√
Information to support a developing commissioning function	√	Staff should be provided with training and on-going support to maximise the utilisation of new systems and improve processes	√

The strategy will seek to achieve this by establishing an informatics led work programme in each of first two phases of the White Paper timeframe that will lead to:

- Development of a full integrated care record in manageable stages

- Definition of the business requirements that will drive information reporting and business intelligence

- Improvements in data quality through the introduction of common data definitions and data exchange standards, the consistent use of a common identifier and introduction of routine quality reviews

- Providing users with the levels of training and support they require to maximise "best use" of existing and new information systems and improve information management skills

- Development and implementation of KPIs and outcome measures across the service

6.2   Options for delivery of the strategy

There are many informatics enabling activities to address during the first phase of the White Paper from 2013 – 2015 and these are set-out in the strategic work programme in section 7 below. At the core of the strategic vision, however, is the development of a person centred integrated care record. This will seek to broaden out the current electronic patient record (EPR) established in Maternity and Emergency Care across the acute setting. It will also extend the EPR concept towards the inclusion of community and adult social care and mental health services with specialist systems only being used where absolutely necessary e.g. assessment and care planning for Mental Health within FACE and Child Protection within Softbox. This vision also incorporates information sharing with Primary Care and the removal of as many of the stand-alone databases in the acute setting as is possible.

A number of options for how this might be achieved have been identified and evaluated in a workshop. Evaluation criteria had previously been discussed and ranked in importance as High, Medium or Low during the Strategy and Vision workshops. These rankings are presented in Table E below:

Table E – Assessment Criteria

Assessment Criteria	Ranking
Alignment to strategic informatics vision	High
Enablement of White Paper Reforms	High
Quality of Care	High
Patient Safety	High
Capability and Capacity for enablement	High
Cost of Implementation	High/Medium
Staff Productivity	Medium
Efficiency Savings	Medium
Ease of Implementation	Medium
Time needed for implementation	Medium
Future Proofing	Medium

The options considered for achieving delivery of an ICR were as follows:

- Option 1 – Do Nothing

- Option 2 – Do Minimum

- Option 3 – TrakCare based ICR

- Option 4- TrakCare Acute plus separate Community ICR

- Option 5 – Best of breed ICR

Appendix H provides schematic diagrams for each option with a brief overview of the solutions. The "Do-nothing" option is included to indicate the current position only and is not included within the evaluation process.

Table F below summarises the high level assessment of the options:

Table F – High Level Assessment

Option & Assessment Criteria	Option 2 Do Minimum	Option 3 TrakCare based ICR	Option 4 Separate Community/Social Care ICR	Option 5 Best of Breed ICR
Alignment with Informatics Vision	✗	√	✗	√
Enablement of White Paper Reforms	✗	√	√	√
Quality of Care/Patient Safety	✗	√	✗ Although improvement on Do Minimum	✗ Although improvement on Do Minimum
Capability and Capacity for enablement	√	✗	✗	✗
Cost of Implementation	√	✗	✗	✗
Staff Productivity	✗	√	√	√
Efficiency Savings	✗	√	✗	✗
Ease of Implementation	√	√	✗	✗
Time needed for implementation	√	√	✗	✗
Future Proofing	✗	√	✗	√
Status	**Rejected**	**Preferred**	**Rejected**	**Rejected**

This represents a high-level assessment of the options from a strategic perspective only. A business case style options analysis considering the detailed component option dimensions, costs, risks and benefits against specific investment objectives and critical success factors would be required for a full evaluation to be completed.

However, option 3 emerges as a clear preferred approach for achieving a managed expansion of EPR functionality and achieving integration across HSSD. This option is considered in more detail below.

6.3   Recommended Strategic Approach

6.3.1   The Preferred Option

The preferred strategic option emerging from the evaluation was to develop the ICR based on TrakCare as the underpinning product. This approach is illustrated and further elaborated below:
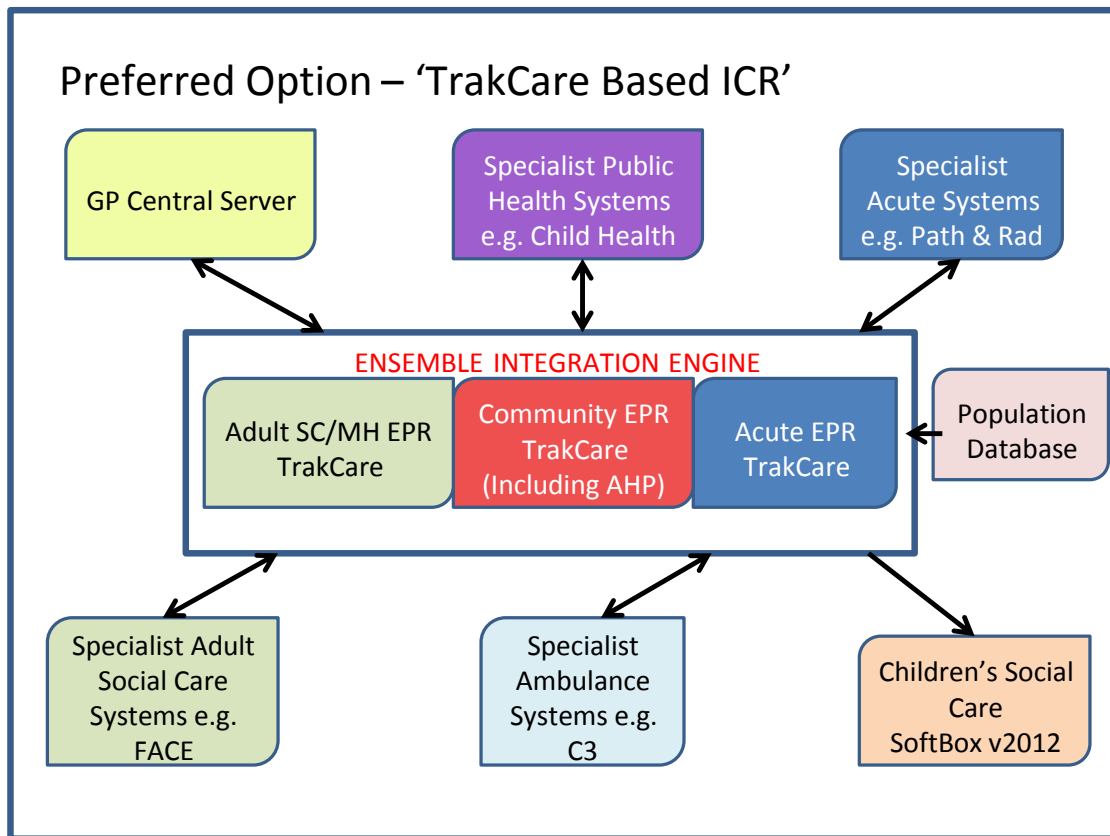
Achieving the vision will require further investment and a number of key steps will be required towards reaching the position illustrated above.

Acute Care

For acute care, the TrakCare based Electronic Patient Record (EPR) would be expanded (currently operating as an EPR in Maternity and the Emergency

Department only). This would allow the removal of as many specialist systems and stand-alone databases as possible, recognising that specialist systems such as PACS / RIS / Pharmacy and Pathology will continue to be required. Levels of application support and training will also need to be increased to ensure optimal use of the system and production of high quality reporting and business intelligence outputs.

Community and Social Care

Additional modules of functionality will be added to TrakCare to build the core of an EPR for community, adult social care and adult mental health services. Specialist systems remain in place where necessary to provide specific functionality, with bidirectional interfaces being established to ensure data transfer based on a unique common identifier. The interfacing will be achieved through the Ensemble integration engine already in place through the original TrakCare procurement. This will ensure one core version of the client record in terms of demographic details, client appointment scheduling and health professionals" diary management and planning. However, specialist functionality associated with, for example, mental health assessments and care planning are able to remain within the existing applications (FACE in the case of mental health for adults and elderly adults). Dedicated application support and training will be required for community and social care system users.

Due to Data Protection concerns, Children"s Social Services systems will remain separate (currently Softbox) but will be interfaced to TrakCare for client demographics only (i.e. one way interface).

Achieving this step will require initial enabling work to be undertaken around coordinating data collection and improving data quality within community and social care settings and defining the business requirements for reporting and business intelligence outputs. Dedicated application support and training resources will also be required for system users.

Other Areas – Ambulance, Public Health and Primary Care

Due to their specialist nature, Ambulance systems will also remain separate but will have a two way interface to TrakCare to enable data sharing.

Where possible, specialist Public Health systems (such as screening registers) will be developed in TrakCare but where this is not achievable, specialist systems will remain in place until the functionality can be transferred to TrakCare.

This option also addresses the issue of interfacing between the TrakCare system and the GP Central Server project to enable data to be shared between primary care and other care settings where appropriate. Integration would be provided through the existing integration engine that is provided with TrakCare (Ensemble).

Linkage of order communications functionality with EMIS Web will also be a priority and a business case will be produced during Phase 1 of the work programme to take this initiative forward.

In terms of user access in this option, it is expected that TrakCare will be the predominant system that most people would use to access ICR based data, with context switching to specialist systems through the TrakCare interface where appropriate. Over time it may provide a route towards development of a clinical portal as a single point of access.

6.3.2   Rationale for Selection

The TrakCare ICR option was selected for the following reasons:

- It provided the best fit to the evaluation criteria in terms of:

    - Enabling the White Paper reforms and fit to the strategic vision

    - Time to implement (given the foundation for the EPR already exists)

    - Capacity and Capability for enablement – there is already an understanding of the TrakCare EPR

    - Ease of Implementation – rolling out of the already known product set and with an existing EPR partner organisation (Inter Systems) who understand Jersey"s requirements

    - Staff Productivity & Efficiency Savings – some process reengineering has already occurred and there are users with product knowledge and experience

    - Cost of Implementation – there is already a "sunk cost" in terms of the existing TrakCare product set deployed in the acute setting

    - Quality of Care – the ability over time to migrate the stand-alone databases into an integrated solution and to develop new models of care

    - Future Proofing – the product upgrade migration path and the ability to add further modules e.g. full business intelligence module and Deepsee toolset

- Contracts already exist with the supplier and a lengthy procurement process is avoided

- Clear support remains across HSSD for delivery of further phases of the original ICR vision that was started in 2008 with the acute TrakCare PAS deployment

- It provides a basis for delivering a co-ordinated informatics programme to underpin the blueprint for key health and social care service changes set out in the White paper, it does this by:

    - Building on a platform that already exists

- Providing a basis to rapidly expand EPR modules beyond the acute hospital setting

- Growing analytical capacity through reporting and business intelligence tools to inform planning, commissioning and decision making

- The Emsemble integration engine is widely seen as a leading market product and provides a ready approach to further development of a wider ICR and for interfacing with specialist systems

- There is immediate scope, at a relatively modest cost, to enhance the integration capability and provision of business intelligence upon both the directly captured TrakCare data the interfaced data, through the acquisition of the Intersystems Healthshare Foundation platform which will provide the full BI module (Deepsee) and i-Know product set. An assessment of the capabilities of these tools is recommended both in terms of functionality and scope of integrated reporting and dashboard production. There would, however, be the need to enhance the Business Intelligence support team to acquire the required skill sets

- Users will move towards a single sign-on solution with context switching to specialist systems

- It drives best value for money by fully utilising the existing TrakCare product

- It offers a route for creating early "wins" e.g. data sharing with the central GP Server solution – Trakcare holds both the system URN and the Jersey social security (JY) number which will be used as the unique identifier within the central GP solution

- It would support use of the Jersey wide population database which is due to be implemented in 2013 and aims to become the definitive source of demographic data across the island

Some risks were identified with this approach, these are summarised below

- TrakCare is not well regarded by all existing users – this is largely due to the perceived levels of training and support and this will need to be addressed in the phase 1 work programme

- Some of the owners of specialist stand-alone systems e.g. the Hicom Diabetes system, are reluctant to migrate their solutions into TrakCare – further analysis of the business needs for these systems will be required

- Specialist systems in child, adult and older adult social care will need to be retained for specific assessment, care planning and child protection functionality – users may be reluctant to use TrakCare as the prime system for scheduling

and diarising etc. Consultation and involvement of these teams will be essential during the enabling and planning work in phase 1

- Funding remains an overarching concern – in particular funding to enable data sharing with Primary Care will need to be identified if this is to proceed

- Clarity on reporting requirements - It will be essential to undertake a full business analysis of the reporting and business intelligence needs across the organisation to ensure that the initial structures and required data collection processes are put in place to enable delivery of the required system outputs

- Overarching concerns with data quality – this applies to all potential options and will require a dedicated workstream to identify the extent of the data quality issue in each system

- Capacity and Capability within the organisation to project manage the deployment and to support the roll-out of a full ICR

- Capacity of the EPR supplier to support Jersey with the deployment and skill transfer requirements

6.4   Blueprint / Roadmap for informatics provision

The Informatics strategic work programme to support the vision and requirements from this strategy will cover the first two phases of the White Paper delivery timetable. The roadmap for these activities is presented in Figure 5 below and shown as a full page in Appendix I. It provides a blueprint for the work programme described in section 7 by setting out the headline enabling activities required in Phase 1 and implementation activities in Phase 2 for each of the informatics scope dimensions – data, information, systems and services.

Figure 5 – Informatics Strategy Roadmap

Jersey HSSD Informatics Strategy Roadmap

	Phase 1 2013 - 2015	Phase 2 2016-2018	Horizon Scan for Phase 3 only
Data	Data Quality -Review existing systems & address issues; IG to enable Data Sharing; Review & Improve existing Data Capture for Community & Social Care; Implement Data Quality Initiatives e.g. awareness, training, data collection, DQ reviews; Condition Registers e.g. DNR & LTCs; Access Security Measures	Requirements and Business Case for Ambulance Service Electronic Data Capture; Data Sharing between Primary Care and Acute; Deploy Ambulance Data Capture Solutions	
Information	Define Business Reqs for Reporting & BI by setting; Review & Update Service Information on HSSD Website; Training/Support – Information Management Skils; Define Information to support Commissioning & Demand Management; Develop Service Line Reporting; Develop/implement KPIs & Outcome Measures; Enabling Work for Benchmarking of Services – SUS, N3; Plan Evidence based practice resources; Produce Information to support Commissioning & Demand Management; Benchmarking & Reporting; Implement Evidence based practice resources; Develop Patient Level Information & Costing - PLICS	Requirements for Patient or Client access to Care Records	
Systems	Confirm HSSD wide agreement for ICR Preferred Option; Produce detailed Requirements for Community & Social Care Systems; Indentify "Invest to Save" proposals e.g. Winscribe Digital Dictation; Develop ICR Investment Business Cases & Secure Funding; Expand Acute TrakCare EPR; Enhance TrakCare Integration & BI capabilities – Healthshare & I-Know; Electronic Document Management – current state and convergence with ICR; Systems to support Commissioning and Demand Management	Detailed Requirements & Business Case for Telecare Solutions; Procure & Deploy Community & Social Care EPR; Deploy Telecare Solutions; e-Prescribing	Solutions for Patient or Client access to Care Records
Services	Establish Informatics Function - Leadership & Programme Man; Investment in Training & Business Change Support; Investment in Data Quality Team; Investment in Application and BI Support – informed by ICR Business Case & Requirements for BI & Reporting; SLA & Relationship Management for ISD support services	Additional Investment in Support Teams - Community & Social Care EPR Reporting & Information Management; Refresh Informatics Strategy for 2018 -2021	

As identified in section 5.2 there is a very strong demand for information solutions across the whole of HSSD. However, it will be essential that the enabling workstreams highlighted above for leadership and governance, data quality improvement, reporting requirements, training and business change are instigated prior to solution delivery, and that the findings from these work programmes are used to inform the future levels of application and informatics support to sustain the future systems deployment and information requirements.

The actual timing of deployment activities will be dependent upon the analysis with the investment business cases produced during phase 1. There will also need to be an overall view of the affordability position taken across all the proposed activities to inform the final phasing of deployments. This is further considered at 7.2 below within the delivery costs section.

7 Strategic Work Programme

7.1 Implementation Plan

Appendix J presents an initial implementation plan for both phases outlining the work packages and projects to be undertaken to support implementation of the strategy. This outlines the nature of the tasks and the expected outputs and timeframes.

This should become an iterative process with the implementation plan being regarded as a "living document" that is further refined, updated and underpinned by operational

project plans co-ordinated by an Informatics Programme Manager. It is possible that the actual phasing may vary dependent upon the outcome of business cases and the potential introduction of "Invest to Save" proposals (see 7.2.3 below).

Key inclusions within the implementation plan are summarised in Figure 6 below:

Figure 6 – Implementation Plan – Key Inclusions
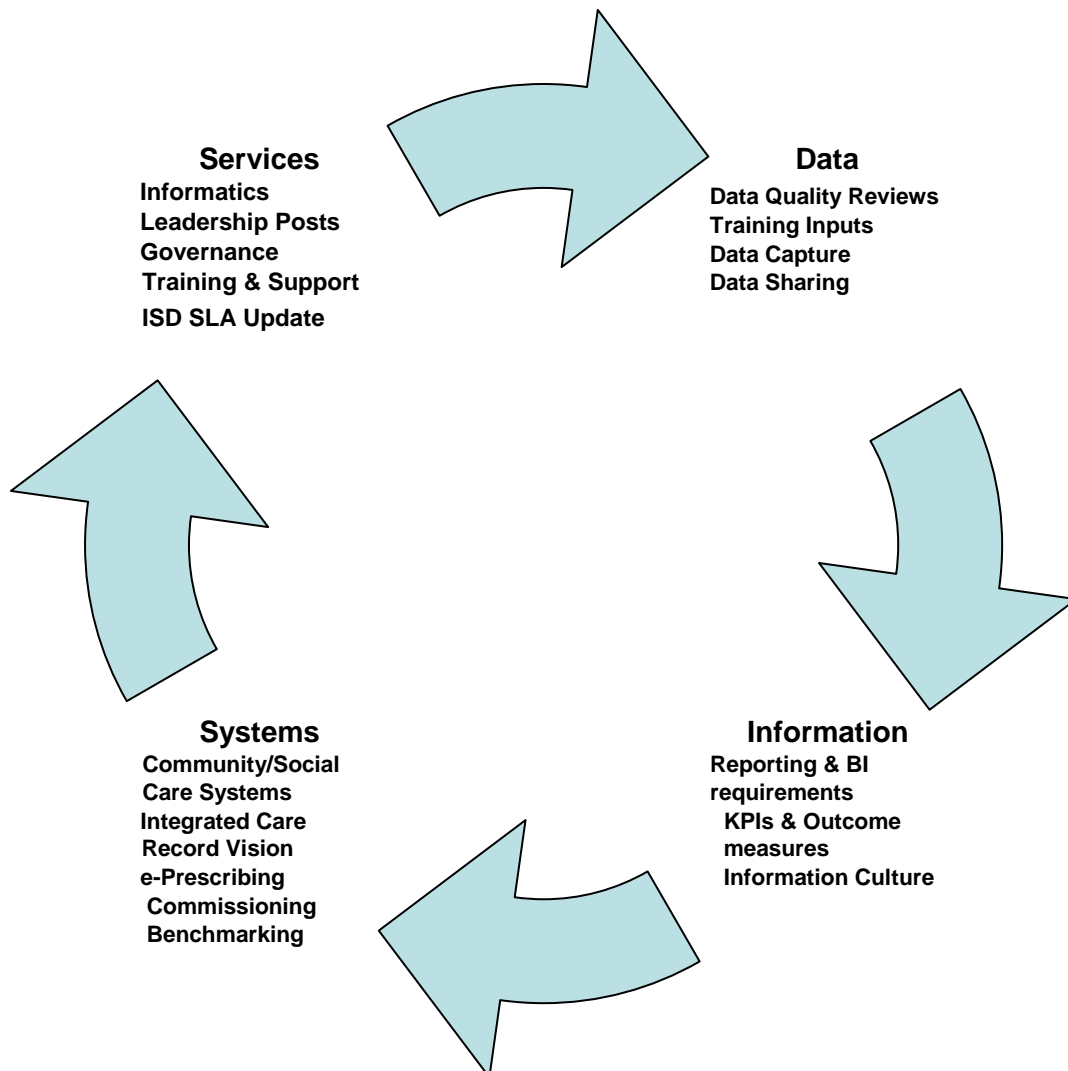
7.2 Delivery Costs

7.2.1 High Level Cost Estimates

Appendix J provides the schedule of indicative "order of magnitude" costs for the strategic informatics work programme across the 6 year timeframe. These are based on the best estimate of likely investment levels available at December 2012 and include a number of planning assumptions at this stage.

In line with the implementation plan refining costs will be an iterative process with further versions being introduced as firmer costs become available. Detailed cost profiles and financial analysis will be provided through the business cases produced during Phase 1 of the work programme covering the major investment areas. These business cases will include:

- Further development of EPR and an Integrated Care Record (Hospital expansion and Community/Social Services)

- E- Prescribing

- Ambulance Service – electronic data capture

- Integration with Primary Care – e.g. expansion of Hospital Order Communications with the EMIS Web solution

The current indicative investment profile is summarised in Table G below: **Table G – Informatics Investment Profile**

	Phase 1			Phase 2			Total
Cost Type	**2013 £'000**	**2014 £'000**	**2015 £'000**	**2016 £'000**	**2017 £'000**	**2018 £'000**	**All Years £'000**
Recurrent	182.0	555.0	520.0	980.0	1670.0	1820.0	5727.0
Non-Recurrent	220.0	565.0	450.0	3440.0	3875.0	400.0	8950.0
Total	**402.0**	**1120.0**	**970.0**	**4420.0**	**5545.0**	**2220.0**	**14667.0**

Headline non-recurrent figures within this initial assessment include:

Non-Recurrent Costs	**Total Value £'000**	**Source**
All remaining TrakCare EPR/ICR Functionality (including Community & Social Care)	5,000	Rough order of magnitude (ROM) cost from supplier
E-Prescribing	1,000	Estimate from Chief Pharmacist
Technology Innovation (Devices etc)	900	Planning Assumption
Ambulance - Electronic Data Collection	250	Planning Assumption
Electronic Document Management	500	Planning Assumption
Softbox Upgrade	130	Estimate from Children"s Social Services

Backfill for Staff seconded to ICR Project	300	Planning Assumption
Access and Smartcards	250	Planning Assumption
BI Functionality (Healthshare & I Know)	120	Provided by Supplier

Headline annual recurrent costs are highlighted below:

Recurrent Costs	Annual Cost £'000	Introduced From	Source
R/ICR Annual Maintenance/Software	750.0	2016	Supplier ROM Cost
E-Prescribing Annual Maintenance/Software	250.0	2017	Estimate from Chief Pharmacist
Head of Informatics and Informatics Programme Manager Posts	150.0	2013	Planning Estimate
Business Intelligence Expert User	60.0	2014	Planning Estimate
Database Analyst	50.0	2014	Planning Estimate
Data Quality Resources	40.0	2014	Planning Estimate
Training Resources	50.0	2013	Planning Estimate
Community/Social Care Application Support	50.0	2014	Planning Estimate
Application Support Team Resources (Full EPR/ICR)	200.0	2016	Planning Estimate
Business Change Manager	60.0	2014	Planning Estimate

7.2.2 Affordability and Prioritisation

Affordability will need to be a key consideration within the business cases and a process of prioritisation will be required within the informatics work programme to provide an affordable profile of activity within the available funding framework. This will require decisions to be made about the timing of activities within each of the White Paper phases:

Phase 1

Prioritisation will need to occur regarding the identified posts and the timing of appointments to provide an appropriate expenditure profile within the funding framework.

Phase 2

Prioritisation will be required regarding the deployment activities within phase 2. Decisions will need to be made about the sequence and timing of proposed deployments. The investment business cases produced during phase 1 will inform this process through the analysis of costs and benefits and will lead to further development of the Roadmap (shown at 6.4 above) to provide the optimum phasing of activities.

7.2.3   Invest to Save Proposals

Priority is also likely to be given to proposals which provide a firm case for generating recurrent cost savings through an initial informatics investment. These "invest to save" opportunities will typically provide scope for implementing business process change leading to resultant cost savings.

There are expected to be a number of proposals with expected examples including the introduction of e-prescribing and the use of the "Winscribe" digital dictation software.

7.3   Governance arrangements

7.3.1   Delivery of the Informatics Strategy

It will be important to ensure there is organisational support and ownership of the informatics strategy and the associated high-level implementation plans. It is recommended that the existing Information Systems Steering Committee (ISSC) is re-branded as the Informatics Strategy Board or Committee and adopts responsibility for delivery of the strategy and strategic work programme. It also becomes the approving body for operational plans for Phase 1 and Phase 2 informatics activities.

There should also be a route by which informatics can feed into the HSSD corporate management executive group to ensure sponsorship and approval of the overall strategy from the Chief Executive Officer. This could be achieved by crossmembership between the Informatics Board/Committee and CMEX group or by direct reporting from the Informatics Board/Committee into the executive group.

Operational responsibility of implementation plans should sit with the newly introduced Head of Informatics role and the Clinical Chief Information Officer. This will be best achieved through a working group where the Informatics Programme Manager (another newly introduced role) and nominated work package leads are accountable for operational progress against each of the informatics workstream project plans. This is illustrated in figure 6 below:

Figure 6 – Informatics Strategy Governance Structure
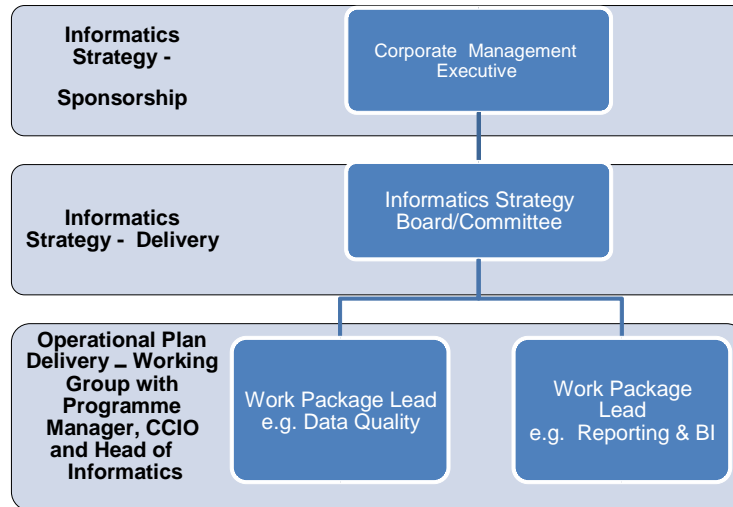
7.3.2 Joint HSSD and ISD Working Group

Section 5.2 highlights the need to review and update the Service Level Agreement held with the States of Jersey Information Services Department (ISD) covering network infrastructure, telephony, desktop support and enterprise system management.

The approach to achieving this and establishing relationship management arrangements will need to be agreed by both senior management teams. Once an updated SLA is in place establishing a joint working group to co-ordinate on-going business as usual management of the SLA should be considered.

Appendix A – Documentation Reviewed

- White Paper and related OBCs

- HSSD Business Plan 2012

- Reform of the Public Sector 2012 – 2018

- HSSD IT Systems Catalogue

- Data and Informatics cross-cutting workstream documentation

- Technology cross-cutting workstream documentation

- Information Systems Steering Group ToR, meeting minutes etc

- HSSD ICT Strategy 2001- 2005

- Lean project documentation

- Long list of reports available from TrakCare

- Summary of Health Intelligence 2012 work programme

- Summary of current, planned or required informatics projects

- List of all independent stand-alone databases

- Informatics presentation to CQG

- Application Support Team Org Chart

- Map of current interfaces to TrakCare

- Business cases for AMDS (ambulance)

Appendix B – Stakeholder Interviewee List

Name	Job Role	Organisation
Tony Le Sueur	Children"s Social Services, Policy, Government and Quality manager. (previously Softbox)	HSSD
Richard Jouault	Community and Social Services Director	HSSD
Jill Birbeck	Head of Public Health Intelligence	HSSD
Manuel Saenz	GP Central Server project lead	
Graham Prince	Consultant Anaesthetist, Clinical Lead for informatics	HSSD
Helena Sumner	Head of applications support team	HSSD

Kevin Tierney	Project manager (including FACE)	States of Jersey ISD
Neil Wells	CIO	States of Jersey ISD
Andrew McLaughlin	Managing Director	HSSD
Esta Williams	Control Centre Manager, Ambulance Services	HSSD
Angela Body	Head of Operations	HSSD
Susan Turnbull	Public Health Director	HSSD
Nigel Minihane	GP	Jersey GP
Michelle Cabot	Head of Information Governance & project manager (Ordercomms)	HSSD
John Cox	Head of Adults and Older Adults - community	HSSD
Rose Naylor	Director of Nursing, Governance and Quality	HSSD
Rachel Williams	Director of Strategy	HSSD
Alan Chapman	Assistant Director – Performance Improvement and BI	States of Guernsey
Paul McCabe	Chief Pharmacist	HSSD
Peter Bates	Consultant - Diabetes (Diamond owner)	HSSD
Simone Olds	Head of Operational Support Services	HSSD
Tarina Le Duc	Head of Risk Management, corporate planning and performance management	HSSD
Tracey Fullerton	Planning and Performance Manager	HSSD
Salman Zaman	Consultant Radiologist	HSSD
Alan Warr	ISD Head of Business Support	States of Jersey ISD

Appendix C – Consultation Workshop Attendees

Informatics Strategy and Vision Workshops

Name	Job Role	Organisation
Graham Prince	Consultant Anaesthetist, Clinical Lead for informatics	HSSD
Jason Turner	Finance Director	HSSD
Alan Warr	ISD Head of Business Support	States of Jersey ISD
Paul Patterson	TBC	States of Jersey ISD
Peter Bates	Consultant – Diabetes	HSSD
Paul McCabe	Chief Pharmacist	HSSD
Esta Williams	Control Centre Manager, Ambulance Services	HSSD
Nigel Minihane	GP	States of Jersey
Helena Sumner	Head of Applications Support Team	HSSD
Kevin Tierney	Project manager (including FACE)	States of Jersey ISD
Neil MacLaughlin	Consultant - Obstetrics	HSSD
Ian Dyer	Services for Older Adults - Community	HSSD
Chris Dunne	Services for Adults - Community	HSSD
Liz Walsh	Chief Biomedical Scientist, Pathology & Histology	HSSD
Michelle Cabot	Head of Information Governance & Project Manager (OrderComms)	HSSD
John Cox	Head of Adults and Older Adults - Community	HSSD
Tarina Le Duc	Head of Risk Management, Corporate Planning and Performance Management	HSSD

Phil Dennet	Children"s Services, Community	
Tony Le Sueur	Children"s Social Services, Policy, Government and Quality manager. (previously Softbox)	HSSD
Nigel Minihane	GP	Jersey GP

Integrated Care Record Options Workshop

Name	Job Role	Organisation
Graham Prince	Consultant Anaesthetist, Clinical Lead for informatics	HSSD
Helena Sumner	Head of Applications Support Team	HSSD
Kevin Tierney	Project manager (including FACE)	States of Jersey ISD
Michelle Cabot	Head of Information Governance & Project Manager (OrderComms)	HSSD
Paul Patterson	TBC	States of Jersey ISD

Appendix D – 'Day in the Life Of' – illustrating the future vision of informatics services in Jersey

The following story and the views of those involved in it, are entirely fictitious but are designed to illustrate how the future vision for informatics across HSSD in Jersey may look in reality at the end of the ten year reform outlined in the White Paper. It is intended that this approach of illustrating „A Day in the Life Of" a number of different people will help stakeholders involved in the implementation of the strategy better understand the benefits of undertaking these changes to both themselves and others involved in it.

Christine's Story

Christine is 67 years old, retired and lives on her own in St. Ouen. Christine"s husband died two years ago from lung cancer but she has two children, one who lives in St. Clements and the other in Grantham, Lincolnshire. Christine has smoked for a large part of her life and as a result has Coronary Heart Disease (CHD). She had a heart attack four years ago and since then has attempted to cut down on her smoking and improve her diet in order to reduce the risk of having another attack. She also regularly

takes medication to reduce her blood pressure and cholesterol and has regular check-ups with the GP.

One Saturday morning, as Christine was getting out of bed, she started to experience some chest pain. This got worse as she got dressed and went downstairs and given that she had previously had a heart attack and knew the symptoms were similar to those she had had before, and the pain was getting worse, she decided to call for an ambulance. She also called her son in St. Clements to come over urgently. During the time it took for the ambulance to arrive, Christine"s pain became much worse and she collapsed onto the floor, finding breathing difficult and becoming unable to speak clearly.

On arrival, the Ambulance Crew were able to gain access to Christine"s house through an open window as Christine was now unable to get to the door. With only the information they had received from the Ambulance Dispatch Centre regarding Christine"s name, address and reported condition of „Chest Pain", the Ambulance Crew begin to treat Christine using their knowledge, skills and training. After taking vital signs and treating Christine with oxygen and other medication, Christine began to stabilise enough for the Ambulance Crew to consider transporting her to hospital. As medication was given and observations taken, these were recorded on the paper form held by the Ambulance Crew. As they were loading Christine onto the Ambulance, her son arrived from St. Clements and was able to give the Ambulance Crew some basic background on medical history but did not know what medication she was currently on.

Whilst on the trip to Jersey General Hospital, Christine deteriorated in the Ambulance and the crew continued to provide medical assistance to ensure she remained stable. Upon arrival at the A&E department, Christine was quickly transferred into resus and the Ambulance Crew provided a verbal handover and gave the receiving clinician a copy of the Patient Record Form (PRF) they had completed during the initial assessment and on-going treatment of Christine whilst in their care. Whilst the A&E team provided emergency treatment, her son provided information to reception on his mother so that she could be registered on the hospital"s Patient Administration System (PAS). The team treating Christine could now see some basic details regarding her previous interactions with the hospital, but decided to pull her paper notes to get more detail on her previous medical history (including test results). In the meantime the A&E team ordered a series of blood tests and an ECG to confirm their suspected diagnosis of a „heart attack".

After receiving stabilising treatment in A&E for what was confirmed as a heart attack by the clinical team, Christine started to improve sufficiently for her to be transferred to the Coronary Care ward in the hospital for on-going treatment and rehabilitation. After a short spell in hospital, Christine improved quickly and started to receive input from a multi-disciplinary team including doctors, nurses, physiotherapists and exercise specialists, and Christine"s paper notes were updated with the various assessment forms and clinical notes that were produced by those responsible for her care. Given Christine lived on her own, a multi-disciplinary team meeting (including a representative from Older Adults Social Services) was called to discuss her discharge

care plan. This was eventually agreed and Christine was discharged and went back home with a package of care which included on-going assessments by the Community OT team to ensure she was able to undertake basic household tasks to allow her to continue to live independently, and a package of social care including short term „meals on wheels" to aid her recovery. Christine remained under the care of her GP and had regular on-going reviews of her medication and care input to ensure her condition remained under control.

GP View

<u>Current State</u>

„Christine"s case is not unusual on Jersey, and management of long term conditions such as Coronary Heart Disease is hampered by the lack of shared information on the patient from those providing her care. I have my records in my GP system for the times I have treated Christine in surgery, but I can"t see the clinical details of her treatment in hospital (only the brief summary of surgical procedures, medical interventions and medications I get in the hospital discharge summary which gets posted to me far too many days after discharge), which makes it difficult to manage the continuity of her care once she comes home. Last time she had a heart attack I didn"t know she"d had hospital treatment until she told me when she came into surgery and showed me her copy of her care plan, which is just outrageous in this day and age! I also don"t get an awful lot of information put onto my clinical system regarding the outcomes of any outpatient appointments or other care interventions in the community and often rely on the patient to tell me about their care to fill in the gaps in my knowledge. Any information we do get comes in the post and someone has to summarise it and add it my clinical system manually which is just a waste of time and effort. This is even worse when you have patients who aren"t as conscientious as Christine and bring in the information they receive from the hospital for me to see, or have difficulty in remembering what happened or what medication they received.

Surely we can do better in the 21st century?"

<u>Future State</u>

„The transformation of the care process for patients such as Christine"s is nothing short of miraculous. We now have a single shared record for the patient which means that on my computer I can get access to the relevant clinical details of all the health and social care interactions Christine has had in relation to this condition and the information is presented to me in a relevant form for treating her primarily as a CHD patient, although I can change view whenever I want if we are discussing other aspects of her care. The best part is that I can now see not only the discharge summary but also the care plan and any tests ordered (and their results) as soon as they are available on the system – no more waiting for letters to arrive in the post which has got to be a good thing. I can also see details of other assessments and relevant interventions from community clinicians and social services which means that when I meet with Christine in surgery, I have a much fuller picture of her care and can have a

more informed discussion with her about her future care options and choices. Even referrals are now done electronically and the patient is more in control of when they attend outpatient appointments

As a result of the ICR programme, I can now provide better quality, more targeted care for patients such as Christine, and I am finding the time I have with the patient more productive and meaningful both for me as a clinician and for the patient. I also think that I provide safer care as a result of having more evidence-based information available at the touch of the button, and if I am not sure about something, having access to credible on-line knowledge sources is enormously beneficial to „just make sure". Being able to order and view test results on-line means that care can be provided „closer to home" and Christine has to visit the hospital less as they are more aware of her „vital signs" thanks to the tele-monitoring system that she has in place. Finally I feel that Christine is so much more in control of her care by having access to her healthcare information – this in turn influences her lifestyle choices and therefore the management of her CHD on an on-going basis, rather than just when she has a regular check-up with me.

It really does feel like healthcare has finally made it into the 21st century, and I really don"t want to go back!"

Paramedic View

Current State

„I love my job but there is so much time wasted at the moment on paperwork which I really don"t see the point of. Having to treat an often very poorly patient, such as Christine, whilst filling out paper forms with all the readings and care interventions we give whilst the patient is in our care, and then having to go over it all again when we handover the patient to A&E or another service, just seems so repetitive and time consuming. At the end of a busy shift, the last thing I want to do is go back over all the Patient Report Forms and ensure they are fully completed and filed and so I often leave them to when it is a bit quieter, but that never comes in my experience. Anything that gives me more time to focus on keeping the patient stable and improving their life outcomes will be welcomed, but I can"t see how a lot of this paperwork does that"

Future State

„With all this new technology, our job has been transformed. These days when we get a call, we now get access to a summary record on the patient on a rugged tablet device in our Ambulance so whilst we are on the way to the scene we can check our their current medications, allergies, summary medical history (including diagnoses) and any specific patient requests (such as End of Life DNR requirements). We can even see other incidences of when ambulances have been called to the same address and what is was for. We now arrive on scene with a much better insight to the patient and their particular circumstances, and are therefore able to provide a higher quality of care in many cases as we are better informed in advance.

When treating the patient, we use devices that connect wirelessly to the tablet so that the majority of vital sign readings are now captured automatically and included in the electronic record without any intervention from ourselves. We still have to put in our notes using the tablet but this is made easier using the system which automates the process as much as possible. We now have no problems completing our records before the end of the shift in the majority of cases, rather than the minority as it used to be. Whilst in the Ambulance, we can send current information on the state of the patient automatically to the A&E department which makes handover of the patient smoother and less time consuming as they already have the vital signs data at their fingertips. It also helps them prepare more effectively in advance which has to improve the chances for the patient. I know the A&E team just love the fact that they can now get access to the full patient history immediately without having to wait for patients notes to be brought from the medical records department or some other part of the hospital, which means they too can provide a better quality of care to the patient. Having the information at your fingertips means we can spend more time with the patient, which given we deal with emergencies, means we can do more to reassure them and their families as they go through what is often a difficult time receiving emergency care" **Theatres Manager**

Current State

„My job as manager of the theatres and wider surgical services team is to ensure that we provide the highest quality of care to patients and that we use our resources most effectively whilst providing a safe service to patients. However doing this without having timely access to the information that I need to manage the service is very difficult. Our current systems do hold data on the procedures that have been carried out but the data is often incomplete or inaccurate and so when I run reports I cannot be sure that I am getting the right information. For example coronary angioplasty, which Christine had, is a good example of this. For this procedure I want to be sure that the surgical resources required to undertake this type of operation (theatre, equipment etc) are used most effectively and that the patient outcomes are of a high quality. At the moment the systems we have do not allow for or force the collection of the data that I need to be able to do this and I am unable to accurately compare our service with others in the mainland UK or beyond. This is frustrating as a manager as I am dedicated to ensuring our patients get the best treatment, but at the moment, I cannot be sure we are doing that, despite everyone"s best endeavours"

Future State

„Since we started on the journey to improve informatics across the whole department, not just our service, it has been nothing short of a transformation in terms of the information that we now use to manage current services and plan future service provision. To start with, we met as service to determine what our clinical and process KPIs should be and made sure these supported the overall HSSD KPIs and any other information required from us as a service. Each of the individual specialities also met to determine the key patient outcome measures against which they would be performance management against. Once we had our requirements, we met with the

informatics team and they configured the existing systems and brought in new solutions where necessary to ensure that the right data was captured using tools to make this as automated and easy as possible. They even put in checks and balances to ensure data quality was high at the point of capture. Our staff went through some training and awareness raising events so they understood why we were doing this and the impact it would have on patient care. We got resistance at first, as you would expect with any change in ways of working, but people soon started to appreciate the new way of doing things and quite quickly found it made their life easier, so got on board with the whole idea without too much fuss. We now have a higher confidence in the information we report out of the system, which we do on a regular basis, and this information is used by specialty teams to regularly review their performance and put in place changes to improve things as they go along. I can also benchmark certain aspects of the overall surgical service with other service providers on the mainland and compare our performance and outcomes (taking into account that the service in Jersey is different due to it being an island. This has led to an increased confidence from all those involved that we are providing a safe, high quality service to patients that is continually looking to improve outcomes for patients"

Christine's View

„I used to dread having to go to see the GP and tell them all that had happened when I was in hospital, and when I was in hospital tell them all I could remember from the chats I had with the GP and what medication she had put me on. Now life is so much easier – they know all this stuff before I get there and so I don"t have to go over everything again. We now talk more about how I am feeling and whether I need to make any changes to my medication or treatment. I can even access my own record and add my own blood pressure readings, which I do using this device I strap on my arm a couple of times a day, and it does it all for me which is great as I am useless with technology. However my doctor can see all that data and tell me if there is anything to worry about which is great. Even the OTs who visit me every now and then to make sure I am OK seem to know all about me (medically that is!) which is great, and it is good to see them not having to carry those heavy bags full of notes anymore, as they can get access to my information using a little portable electronic device which show them and me what"s happened before and what"ll be happening next, which is very reassuring to me. When I last come out of hospital, even the social services person who made sure I was able to live on my own OK again had one of these new fangled things and showed me what had been ordered for me and what else was being done to make sure I was safe at home. I don"t think I could work this technology stuff but I am glad there are people that do as it is has made such a difference to me and my quality of life".

Appendix E – Schedule of Current TrakCare Business Intelligence Reports

Business Intelligence Reports

Microsoft Office
Excel Worksheet

Appendix F – Schedule of Health Intelligence Indicators and Public Health Annual Updates - 2012

Annual updates (2011 data)

Deaths – calculate ASR, YOLL, LEB, infant mortality etc + 2011 summary
Conceptions & Births (fertility, age of mother etc)
Cancer   Incidence & Mortality summary
            Update trends for indiv cancers
            Update world comparisons
Alcohol related admissions & deaths
Screening coverage (breast + cervical)
Mental Health (summary indicators)
Sexual Health (KC60, summary indicators)
TOP
Diet & obesity (adults, children, breastfeeding)
Immunisations (annual coverage, GP qtrly activity & payment, seasonal flu)
Drug related admissions, deaths, possession
ESSD morbidity data 2009-2011
JASS submit questions for 2012 JASS
Health Profile 2011
Complete 2008/09 Health Profile Report
Monitor Brook SLA data

Other Projects in 2012:

- 2010/11 Jersey Health Profile Report (with or without Guernsey data)- Sept
- Campylobacter data collection (Jer+Guer)
- Update annual Health Profile to show UK ranges
- Develop European Health profile
- Calculate Healthy Life Expectancy (new measure)
- Childrens & Young Peoples Profile – update with new data
- Update data in alcohol needs assessment report and create 1p profile ▢ Develop smoking profile
- Research —what measure/indicators being used elsewhere? Suggestions for Jersey.

- o Hospital data (admissions, chronic disease etc)
  - o Community (adult & children"s services) o Social data (outside of health)
- o Public health measures/comparisons outside of UK
- Mens" Health – in line with European Mens" Health report
- All deaths by cod & place of death + repeat same work for 65+ (2011 data)
- Develop indicator sets (1 page) for alcohol, tobacco, mental health, Brook, lifestyle? etc
- Develop ESSD data for our needs (grps, no.individs, no. days)
- Battery of lifestyle questions for JASS (update annually)
- Process for disseminating annual data to PHD Mgt team, CMEX + onto intranet ▯ Childrens survey – other options for HRBQ
- Data for HSSD white paper business cases (<5"s, alcohol, cancer, end of life, COPD)

Appendix G – HSSD Systems and Interfaces

HSSD Informatics Strategy 2013 - 2018

HSS Interfaces
(Trakcare and Associated Systems)
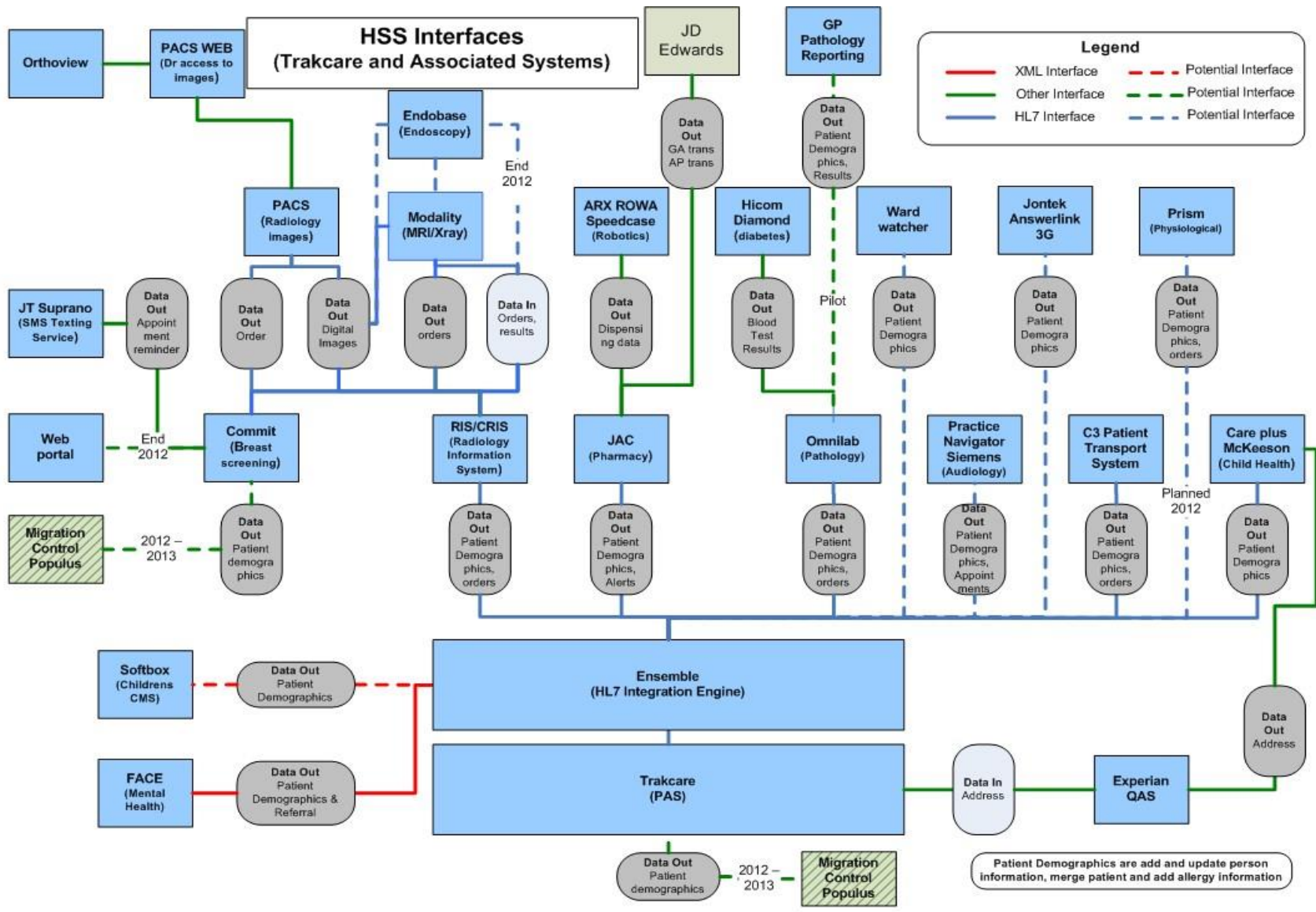
Appendix H – Options for Achieving an Integrated Care Record

Option 1 – 'Do Nothing'

- Maternity & E.D EPR
- MPI & Acute Care PAS TrakCare v10
- GP Central Server
- Standalone Access Databases
- Specialist Acute Systems e.g. RIS / PACS / Pharmacy / Pathology etc.
- Specialist Public Health Systems e.g. Child Health, Screening Systems
- Adult Social Care FACE
- Ambulance C3 / C3 PTS / Jontec
- Children's Social Care SoftBox v2000
- Specialist AHP Systems e.g. Speech Therapy, OT

This was not considered a viable option to evaluate as it fails to meet any of the key objectives underpinning the strategic informatics vision.

Status – Rejected.

Option 2 – 'Do Minimum'

- Maternity & E.D EPR
- MPI & Acute Care PAS TrakCare v12
- GP Central Server
- Standalone Access Databases
- Order Comms
- Specialist Acute Systems e.g. RIS / PACS / Pharmacy / Pathology etc.
- Specialist Public Health Systems e.g. Child Health, Screening Systems
- Adult Social Care FACE (upgraded)
- Ambulance C3 / C3 PTS
- Children's Social Care SoftBox v2012
- Specialist AHP Systems e.g. Speech Therapy, OT

The Do-minimum option provides upgrades to the existing versions of TrakCare, Softbox and FACE to improve functionality. It also continues with the existing TrakCare order communications deployments and integration of Jontec alarms into the main C3 Ambulance service application. It does not address integration of wider primary care and Community/Social Care data.
Status - Rejected

Option 3 – 'TrakCare Based ICR'

GP Central Server	Specialist Public Health Systems e.g. Child Health	Specialist Acute Systems e.g. Path & Rad

ENSEMBLE INTEGRATION ENGINE

Adult SC/MH EPR TrakCare	Community EPR TrakCare (Including AHP)	Acute EPR TrakCare	Population Database

Specialist Adult Social Care Systems e.g. FACE	Specialist Ambulance Systems e.g. C3	Children's Social Care SoftBox v2012
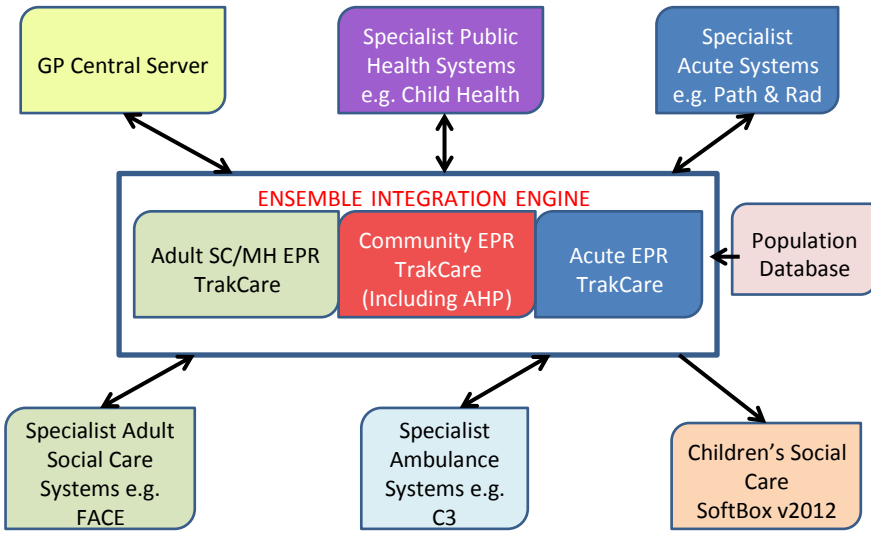
This option enhances TrakCare providing an EPR for Community and Social Care it also provides for integration with other specialist systems through interfacing in both directions through the existing Ensemble Integration Engine. This option is described more fully in section 6.3

Status – Preferred Option.

This option develops an EPR for Community and Social Care through major new system procurements providing all the required functionality currently undertaken in FACE and Softbox plus a core EPR. TrakCare continues in the acute setting with an integration engine providing interfaces between applications. Fails to lever existing investment in TrakCare and Rio/PARIS type solutions not ideally favoured.

Status – Rejected.

Option 4 – 'Trak + Community ICR'

Option 5 – 'Best of Breed ICR'
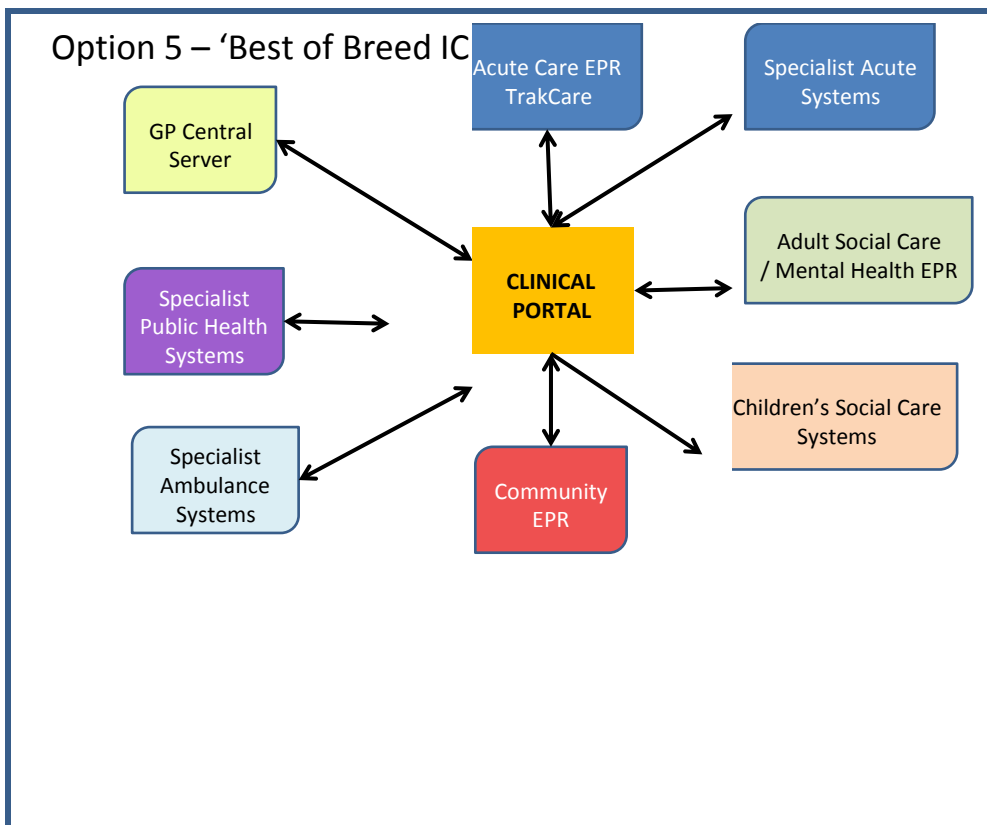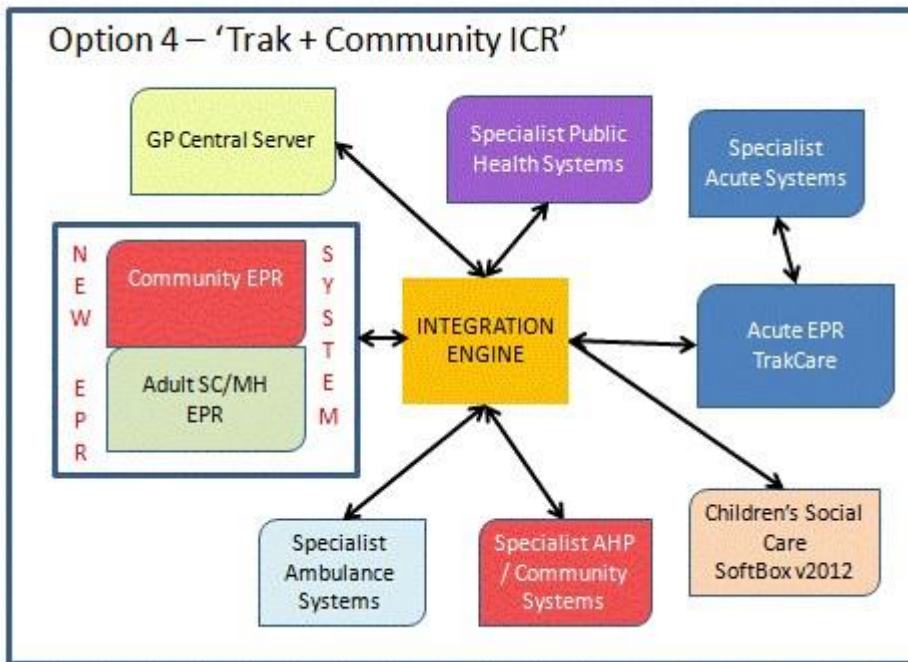
This option involves procuring best of breed solutions in Community and Social Care to replace all existing applications and retaining the acute TrakCare EPR. Links would be created to other specialist areas through an integration engine and presented back through a portal with a common user interface for accessing data outside of the individual users" core domain. Discrete solutions likely to increase risk to effective data sharing and costs will be high

Status – Rejected.

Appendix I – HSSD Informatics Roadmap

HSSD Informatics Strategy 2013 - 2018

Jersey HSSD Informatics Strategy Roadmap

	Phase 1 2013 - 2015	Phase 2 2016-2018	Horizon Scan for Phase 3 only
Data	Data Quality -Review existing systems & address issues • IG to enable Data Sharing • Review & Improve existing Data Capture for Community & Social Care • Implement Data Quality Initiatives e.g. awareness, training, data collection, DQ reviews • Condition Registers e.g. DNR & LTCs • Access Security Measures	Requirements and Business Case for Ambulance Service Electronic Data Capture • Data Sharing between Primary Care and Acute • Deploy Ambulance Data Capture Solutions	
Information	Define Business Reqs for Reporting & BI by setting • Review & Update Service Information on HSSD Website • Training/Support – Information Management Skils • Define Information to support Commissioning & Demand Management • Develop Service Line Reporting • Develop/implement KPIs & Outcome Measures • Enabling Work for Benchmarking of Services – SUS, N3 • Plan Evidence based practice resources → Produce Information to support Commissioning & Demand Management • Benchmarking & Reporting • Develop Patient Level Information & Costing - PLICS • Implement Evidence based practice resources	Requirements for Patient or Client access to Care Records	
Systems	Confirm HSSD wide agreement for ICR Preferred Option • Produce detailed Requirements for Community & Social Care Systems • Indentify "Invest to Save" proposals e.g. Winscribe Digital Dictation • Develop ICR Investment Business Cases & Secure Funding • Expand Acute TrakCare EPR • Enhance TrakCare Integration & BI capabilities – Healthshare & I-Know • Electronic Document Management – current state and convergence with ICR • Systems to support Commissioning and Demand Management • Detailed Requirements & Business Case for Telecare Solutions • Procure & Deploy Community & Social Care EPR • e-Prescribing • Deploy Telecare Solutions	Solutions for Patient or Client access to Care Records	
Services	Establish Informatics Function - Leadership & Programme Man • Investment in Training & Business Change Support • Investment in Data Quality Team • Investment in Application and BI Support – informed by ICR Business Case & Requirements for BI & Reporting • SLA & Relationship Management for ISD support services • Additional Investment in Support Teams - Community & Social Care EPR Reporting & Information Management • Refresh Informatics Strategy for 2018 -2021		

Appendix J – Work Programme - Implementation Plans for Phase 1 and Phase 2

Phase 1 Implementation Plan

Microsoft Office
Word Document

Phase 2 Implementation Plan

Microsoft Office
Word Document

Appendix K – Indicative Implementation Costs

HSSD Informatics Strategy 2013 - 2018

Jersey HSSD Strategy Implementation Costs		Cost Type - Recurring/Non Recurring	Annual Cost	Cost per Quarter	Phase 1 2013 -2015			Phase 2 2016-2018		
Plan Reference	Cost Item				2013 Total	2014 Total	2015 Total	2016 Total	2017 Total	2018 Total
			£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000
1.1, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11	1.0 FTE Associate Director of Informatics	R	90.0	22.5	45.0	90.0	90.0	90.0	90.0	90.0
1.1, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11	1.0 FTE Informatics Programme Manager	R	60.0	15.0	30.0	60.0	60.0	60.0	60.0	60.0
1.3, 1.4, 1.12	1.0 FTE Application / Data Quality Trainer	R	50.0	12.5	25.0	50.0	50.0	50.0	50.0	50.0
1.2	Clinical Coder	NR	40.0	10.0	40.0	0.0	0.0	0.0	0.0	0.0
1.4	E-Learning Training Lead for 6 months only	NR	60.0	15.0	30.0	0.0	0.0	0.0	0.0	0.0
1.2	1.0 FTE Data Quality Clerk	R	40.0	10.0	20.0	40.0	40.0	40.0	40.0	40.0
1.12	1.0 FTE Business Change Manager	R	60.0	15.0	30.0	60.0	60.0	60.0	60.0	60.0
1.2	External System Data Quality Review	NR	20.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0
1.4	1.0 Information Analyst Role	R	40.0	10.0	10.0	40.0	40.0	40.0	40.0	40.0
1.4	1.0 FTE Business Intellience Expert User	R	60.0	15.0	0.0	45.0	60.0	60.0	60.0	60.0
1.4	1.0 Database Analyst in IS Applications Team	R	50.0	12.5	12.5	50.0	50.0	50.0	50.0	50.0
1.4	TrakCare - BI Upgrade (Healthshare & I-Know includes Deepsee)	NR	125.0	125.0	0.0	125.0	0.0	0.0	0.0	0.0
1.4	TrakCare - BI Upgrade (Healthshare & I-Know includes Deepsee)	R	30.0	7.5	0.0	30.0	30.0	30.0	30.0	30.0
1.4	TrakCare - 2012 Upgrade	NR	150.0	150.0	0.0	150.0	0.0	0.0	0.0	0.0

Ref	Description	R/NR								
1.6	Commisioning/Benchamarking Enablement (Use of English Shared Service for SUS Provider datasets)	R	40.0	10.0	10.0	40.0	40.0	40.0	40.0	40.0
1.7	Community & Social Care Application Support 1.0 FTE	R	50.0	12.5	0.0	50.0	50.0	50.0	50.0	50.0
1.7	Softbox Upgrade	NR	130.0	130.0	0.0	130.0	0.0	0.0	0.0	0.0
1.13	Access Security/Smartcard - planning assumption only	NR	250.0	250.0	0.0	0.0	250.0	0.0	0.0	0.0
1.14	External Review of Website	NR	10.0	10.0	0.0	10.0	0.0	0.0	0.0	0.0
2.1	ICR Vision - All Remaining TrakCare Functionality including Community & Social Care EPR	NR	5000.0		0.0	0.0	0.0	2500.0	2500.0	0.0
2.1	ICR Vision - TrakCare Annual Maintenance Cost	R	750.0		0.0	0.0	0.0	350.0	750.0	750.0
2.1	ICR Vision - 4.0 FTE Additional Support Team (Planning figure only)	R	200.0	50.0	0.0	0.0	0.0	100.0	200.0	200.0
1.9 & 2.1	Provision of backfill to cover posts seceonded to project team - assume 5.0 FTE posts - planning assumption only	NR	300.0	75.0	0.0	0.0	0.0	150.0	225.0	0.0
2.2	Electronic Document Management - planning assumption only	NR	500.0		0.0	0.0	0.0	500.0	0.0	0.0
2.3	JAC - e-prescribing - Procurement Cost Estimate	NR	1000.0		0.0	0.0	0.0	0.0	1000.0	0.0
2.3	JAC - e-prescribing - Annual Maintenance estimate	R	250.0		0.0	0.0	0.0	0.0	125.0	250.0
2.3	JAC - e-prescribing 1.0 FTE Support post	R	50.0	12.5	0.0	0.0	0.0	0.0	25.0	50.0
2.3	Electronic Data Capture - Ambulance service (Planning Figure)	NR	250.0		0.0	0.0	0.0	0.0	0.0	250.0
2.4	Evidence Based Resources - Enablement - planning assumption only	NR	100.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
2.6	Technology Innovation - Mobile Devices (Tablets/Laptops/Telecare etc)	NR	150.0		150.0	150.0	150.0	150.0	150.0	150.0
TOTAL					402.5	1120.0	970.0	4420.0	5545.0	2220.0
	Key : Planning Figures Only				402.5	1,120.0	970	4,420	5,545	2,220	14,677.5

Recurrent		182.5	555.0	520.0	980.0	1670.0	1820.0	5,727.5
Non-Recurrent		220.0	565.0	450.0	3440.0	3875.0	400.0	8,950.0
Total		**402.5**	**1120.0**	**970.0**	**4420.0**	**5545.0**	**2220.0**	**14,677.5**