Research Data Scotland- Full Business Case

Research Data Scotland

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Executive Summary

> ‘Bad times call for good data…a fragile statistical infrastructure can mean the difference between life and death for millions.’
>
> Tim Harford, Financial Times, 23 April 2021

Introduction

This Full Business Case (FBC) sets out detailed proposals for the set-up and operation of a new national service delivery entity, which will support improved access to linkage ready public sector datasets for research in the public interest.

The FBC builds on the Outline Business Case (OBC), which was approved by Ministers in early 2021. It follows standard Her Majesty’s Treasury (HMT) guidance, and is aligned to both the Green Book and the “5 Cases” Model.

A glossary is included at Appendix One.

Strategic Case

The offering from Scotland around data needs to be much stronger; speed of delivery, ease of access and linking of diverse datasets are impacting on the strength of our offering. There are also challenges with how long it takes to access Scottish data and about the quality and costs of the services required to enable that. More specifically, for academia, this means we are not securing a suitable share of the available UK research funding, and, additionally, public bodies do not have the data to support public service reform.

Data are also dispersed both between and within public sector organisations. For linkage projects that use datasets from multiple data controllers this means multiple data access processes. This can lead to blockages in data being available for research and innovation. In essence, we are currently facing a variety of concurrent challenges, including multiple data controllers; multiple data access processes; and data not always linkage-ready.

To address these particular challenges and realise our ambition for Scotland’s data vision we need to make progress in a number of areas. A key improvement is providing a single-entry point for researchers regardless of data controller and offering a seamless access pathway by bringing together and coordinating the various moving parts of the researcher access journey, including the commissioning arrangements.

Research Data Scotland (RDS) will provide a service for accessing public sector datasets that has the potential to save time, money and lives. It will offer safe, secure and cost effective access to data for research, innovation and investment by enabling its users to deliver insight and understanding that will help create a more successful country through increased wellbeing, sustainable and inclusive economic growth, and improving the health of the nation. We will work collaboratively with data controllers and users to develop the service while building trust and support from the public.

Scotland has a rich history of public sector data informatics, which has served to enrich and inform our most valued public services. Collaboration in Scotland between academia and the public sector has supported a national model of cross-sectoral research which has delivered path-finding innovation and won numerous civil service awards, delivering key insights and furthering our understanding of some of the most pressing public policy issues.

While this collaboration has proven hugely successful, embedding learning and cultivating long term relationships across organisational and sector boundaries, it has grown out of the efforts of a small number of dedicated individuals and teams across Scotland to make it work. It has also relied on informal collaborative arrangements around services and infrastructure.

This small scale initiative for data linkage has delivered efficient research flexibly; however, more recent innovations in the way public value is added through data mean the system needs to grow and flex if it is to stay relevant and meet the needs of a growing community of users. Changes to the types of data being collected and brought together for analysis, combined with advancing analytical techniques and computing power are placing tensions on a system, which was not designed to service this activity at scale and at pace.

The present work is therefore needed to place the current national arrangements supporting cross-sectoral research on a more formal footing - within an entity to be known as RDS - and to ensure the service model within this possesses the necessary resources, skills and infrastructure to meet changes to demand, technology and legislation.

The strategic case looks at the model proposed under RDS, which will enable services to invest in future proofing, including expanding the range of data that is linkage-ready and available for use in research, whilst creating ongoing efficiencies.

The programme will:

- Seek the full support of the Scottish public, acting in an open and transparent way
- Strive to deliver value for money
- Improve the service quality to users, by improving reliability and efficiencies by responding to the needs of different types of user
- Maintain/build strong relationships with data controllers, acting under clear information governance (IG) processes

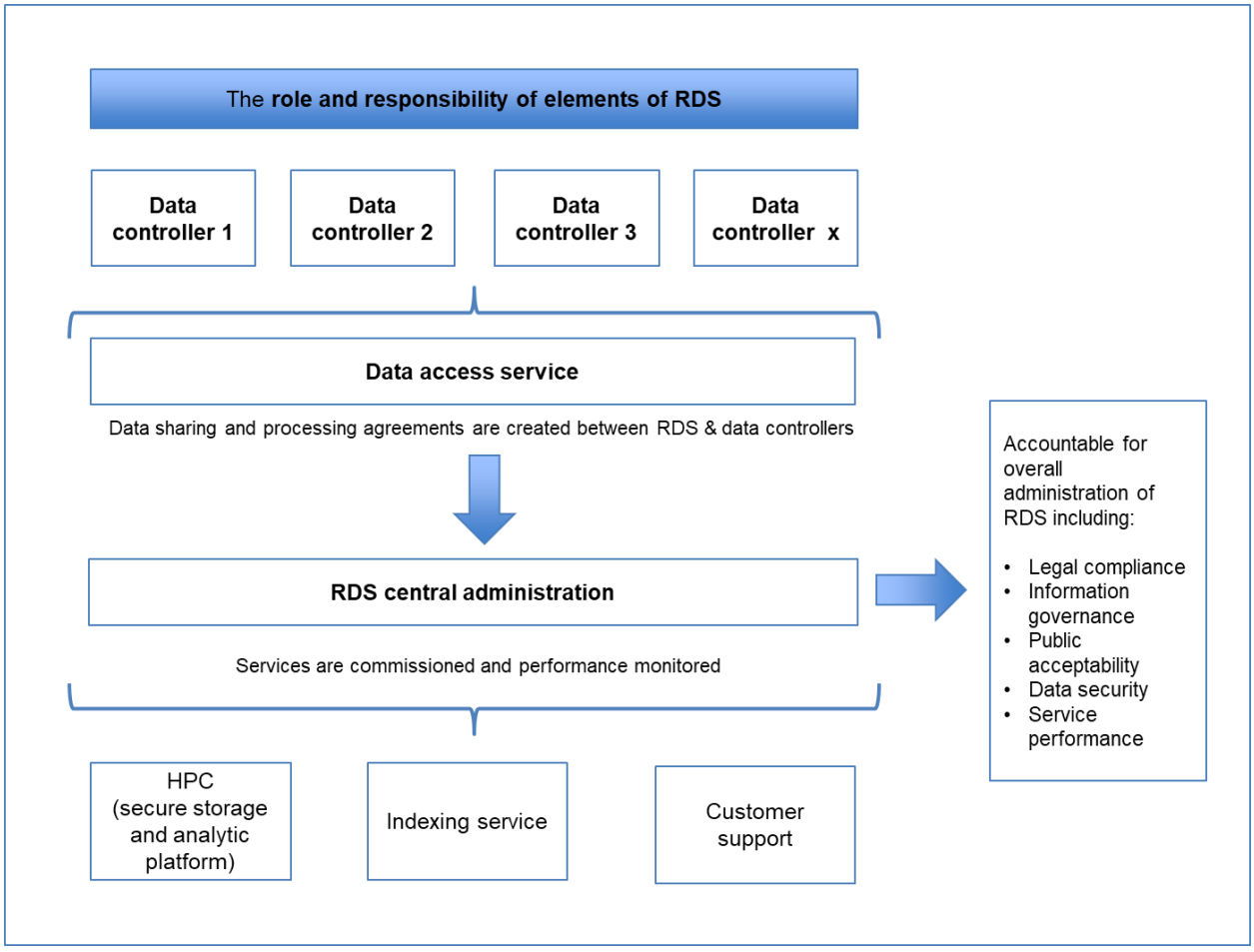
- Comply with all legal requirements and protect the privacy of citizens and businesses
- Will build upon the 5 safes principles[1] used for data linkage (safe projects, people, settings, data and outputs).

These expectations will be delivered via a programme of activities covering:

- Service
- Public trust and transparency
- Cost effectiveness
- Commercial and procurement
- Safety and security
- Financial
- Accountability
- Legislation.

The services that RDS will oversee, are shown in Figure 1:

Figure 1: **Elements of RDS**



[1] fivesafes.org

Socio-Economic Case

The first of the five cases in the FBC focuses on setting out the option appraisal, demonstrating public value through specifying a set of success criteria against which each of the possible options for delivering RDS is assessed.

Five delivery options are identified and described. The analysis assesses four strategic options for the service delivery vehicle, alongside the status quo option of maintaining the current informal contracting arrangements. These options were formulated following consultation with internal Scottish Government (SG) colleagues, including legal teams, and external delivery leads.

In addition to following the standard HMT guidance on business cases and being aligned to both the Green Book and the "5 Cases" Model, the FBC is consistent with the wider approach taken by SG in considering the wider socio-economic impacts of spend and policy decisions.

The difference between the various options relates to the structure of the overseeing organisation that will deliver the function of the delivery vehicle and where these functions operate within the existing Scottish public service landscape.

The four options are:

a) Amending the functions of an existing body
b) Amending the functions of the emerging Public Health Scotland (PHS) as an arm's length body
c) Establishing a new standalone public body for RDS
d) Establish a joint venture (e.g. under Section 84B, NHS Act 1978).

These options are compared against the base case "Do Nothing" option, which consists of maintaining the current arrangements.

Following the options appraisal the preferred option highlighted under the socio-economic case is identified as option (d) to establish a Joint Venture, initially with PHS and the University of Edinburgh.

Commercial Case

The procurement path and commercial risk for the establishment of RDS is covered in the commercial case. This section considers the interactions between the legal and governance setup of RDS and the risks associated with contracting and commissioning.

The Commercial Case also sets out the implications for procurement as developed from the initial OBC for RDS. It confirms RDS as a contracting authority and gives more detailed consideration of the associated requirements, proposed sourcing options, commercial considerations and risks. This section also summarises the commercial implications from the joint venture delivery option for RDS. The participation in RDS of public sector bodies, other partners and service providers is a key aspiration and this section of the FBC details the intended vehicle/strategy to

achieve this organisational objective. As part of this, contractual and legal considerations are set out.

A brief summary of existing procurement and governance arrangements is presented. Building on the OBC, details have been sought from existing service partners to inform a collective picture of the current legal and contracting landscape in this FBC.

A Legal Working Group (LWG) was convened in 2019 comprising representation from service partner organisations, along with solicitors contracted by SG. The remit of the LWG is to provide information and advice to support the process of identifying options for models for establishing RDS as a legal entity, including the contractual and regulatory requirements. The legal advice has been included in the OBC and the FBC.

From a procurement perspective, the Commercial Case includes a procurement plan with details of what RDS needs to procure in areas including:

- Office space
- IT equipment, telephony services
- Web domain and development
- Staffing
- Service development support.

Financial Case

The Financial Case sets out a detailed picture of the financial and funding position for RDS over the first five financial years from the current FY 2021/22. It captures a detailed contemporary account of current income and expenditure associated with the services that will form the service model under RDS. The Financial Case is predicated on a detailed financial model developed specifically for RDS business planning.

Some backdated information on the Scottish Informatics Linkage Collaboration (SILC) funding and financing is presented where this was available. The main sources of income for RDS are identified and modelled, with assumptions and caveats set out. To develop an income profile out to FY 2025/26, it has been anticipated that RDS will take over the revenue-raising function of eDRIS and will combine this with grant income sources, including an agreed £5m annual grant from the SG Health portfolio in each of the five financial years from FY 21/22. Where grant income sources are ring-fenced to a particular activity, this is noted.

Expenditure is driven by demand and by modelling of agreed requirements for RDS to achieve its longer-term objectives. To ensure a sustainable and quality service, staffing levels are modelled on forecast volumes of work.

Existing financial and commissioning arrangements for SILC are described. These identify the current avenues through which funds feed into the existing data linkage service model and currently fund the different cost elements of providing these

services. Financial sustainability is addressed, with some reference to how the model was set up and maintained in the past.

To support the financial case, a Financial Working Group (FWG) was established and this group has provided oversight during development of the OBC and the FBC. Throughout the business planning, discussions with funders and partners have taken place to validate the current financial situation and these are highlighted in the 'How could RDS be funded?' section.

Fundamentally, the Financial Case shows that based on the assumed future service model, RDS would be in a surplus position over five years (average surplus of approximately £137k per annum compared to an average annual deficit of £635k for the status quo)) and RDS would be sustainable. This financial position remains sensitive to increased costs and this will require to be monitored as RDS becomes operational.

Management Case

The purpose of the management dimension of the business case is to demonstrate that robust arrangements are in place for the delivery, monitoring and evaluation of RDS, including feedback into the organisation's strategic planning cycle.

It is about effective governance ensuring appropriate scrutiny, monitoring and contract management. Much of this will cover practical issues around what and how the performance of RDS should be monitored against agreed SMART objectives and operational key performance indicators (KPIs).

The management case will also provide details on how and when RDS mobilises through a soft launch and takes responsibility for the current service. Thereafter, there will be a transition to a new Target Operating Model (TOM), and this is also included in this section of the FBC.

Conclusion

This FBC concludes that it is possible to establish RDS to achieve the stated objective of realising greater value from Scotland's data. It will inform our public services and support social and economic development, maintaining public confidence in the appropriate use of data, whilst making access quicker and delivering a more effective service for researchers who want to access data.

The establishment of RDS will build on Scotland's existing investment and expertise to do the following:

- Deliver a service to researchers enabling secure access to data about Scotland's people, businesses and places for projects in the public good
- Transform the design, commissioning and funding of processes and services to promote more efficient access to data, whilst maintaining security and privacy
- Creating a "social contract" to ensure public awareness and support
- Enable access to a secure computing infrastructure.

However, we also recognise the challenge of doing this in a highly innovative, competitive and evolving data–driven environment. As a result, an overriding consideration for the establishment of RDS is how to ensure it provides a compelling, and competitive research data service representing a one-stop-shop solution in a diverse and multi-faceted data landscape.

Achieving this will allow us to maximise Scotland's world leading capabilities and technology in the data–driven innovation space.

This FBC builds on the OBC approved by Ministers in early 2021 and sets out further details on why RDS needs to be established, how it will operate, and shows that it will be financially sustainable. The argument for RDS is compelling and, because of its absence, Scotland is suffering a competitive disadvantage and considerable economic opportunity cost. The FBC recommends RDS is established as soon as practicable.

Strategic Case

Purpose

The purpose of the Strategic Case is to provide strategic justification for the Project, including outlining the background and associated objectives of the Project, as well as assessing stakeholders, opportunities and risks.

The chapter is set out in the following sections:

1. Strategic context: drivers for change and opportunities
2. Project background
3. Mission statement
4. Founding principles
5. What RDS will do and deliver: scope - required organisational capability
6. Benefits of RDS
7. Business needs – responding to Covid 19 research requirements
8. RDS delivery programme
9. Strategic risks
10. Constraints and dependencies
11. Conclusions.

Strategic Context: Drivers for Change and Opportunities

Scotland has a rich history of public sector data informatics, which has served to enrich and inform our most valued public services. Collaboration in Scotland between academia and the public sector has supported a national model of cross-sectoral research which has delivered path-finding innovation and won numerous civil service awards, delivering key insights and furthering our understanding of some of the most pressing public policy issues.

While this collaboration has proven successful, it has grown out of the efforts of a small number of specialist technical teams and academics across Scotland to make it work. This has made it less resilient to change as data science and innovation have progressed and the system needs to grow and flex if it is to stay relevant and fit for purpose to meet the needs of a growing community of users.

Joined Up Data for Better Decisions

In 2012, following public consultation, the Scottish Government (SG) published Joined Up Data for Better Decisions. This strategy set out SG's ambitions for making better use of existing public sector data sources. The focus was on building outward from the strengths and successes of health data informatics[2].

The Data Linkage Framework was established as a mechanism to deliver this strategy and set out three core ambitions:

[2] Scottish Health Informatics Programme (SHIP)

i. To build on existing successful programmes collaboratively to create a culture where legal, ethical, and secure data-linkage is accepted and expected

ii. To minimise the risks to privacy and enhance transparency, by driving up standards in data sharing and linkage procedures

iii. To encourage and facilitate full realisation of the benefits that can be achieved through data-linkage to maximise the value of administrative and survey data.

A set of Guiding Principles was consulted on and published alongside the strategy and laid out a consistent decision making framework for data controllers and others involved in data linkage for research and statistics. These are still valid today and support all of the data linkage activity that takes place.

While the aims have not changed, the ambition has intensified. This is because projects that have delivered policy insight have increased interest in the use of administrative data and linkage methods to address public policy challenges. Fiscal consolidation has further heightened the need to look beyond expensive longitudinal surveys and studies towards more efficient and cost effective methods of answering research questions.

Covid 19

The onset of the Covid 19 pandemic and urgent need to progress the scientific evidence relating to the virus and its transmission has also reinforced the need to transform the existing service offering. The system faces a variety of concurrent challenges that require solutions; some of these are new – others, identified earlier, require fresh thinking and renewed commitment.

Office for Statistical Regulation: UK Statistics Authority

In 2018, the Office for Statistical Regulation published their systematic review of data linkage, Joining up Data for Better Statistics, which set out to identify key priorities and areas for improvement to the way the UK statistical system makes use of data linkage methods to deliver public policy insight. The report identified six key outcomes designed to deliver an effective and safe data linkage system, and against which existing services should be evaluated. The report celebrated success stories and found impactful examples of data linkage being used to inform policy making; however, it noted that this was the exception rather than the rule. It warned that the time and effort required to deliver projects was putting people off relying on this as a core research method.

In Scotland, as elsewhere, information about datasets is not readily available and it takes too long to access and link diverse datasets. Data are dispersed both between and within public sector organisations and are not always available in a linkage ready format.

Furthermore, the system of IG is not designed to deliver projects that draw in data from multiple data controllers. This also leads to delays in data being available for research and innovation. For academia, this means we are not securing a suitable share of the available UK research funding, and for public bodies, there is a lack of data to support public service reform.

Scotland is fortunate to have some of the best data in the world. Some data are about people - their characteristics and behaviours; other data are non-personal - such as data about climate or pollution. Being able to access this data or to bring this data together can help address complex social and environmental issues and fill vital evidence gaps. Scotland also possesses world-leading expertise, particularly in our universities, in ethical, legal and social disciplines, as well as resources and skills in data infrastructure, data management, analysis and informatics.

Scotland is therefore well placed to harness the value and benefit inherent in our public sector data assets to deliver better outcomes for the people of Scotland whilst safeguarding the privacy of individuals.

There is, therefore, a real opportunity for RDS to serve as a catalyst in unlocking the social value inherent in our data assets and research. This is coupled with potential economic benefits too: a recent study for Scottish Enterprise[3] suggested data innovation could potentially benefit Scotland by £20bn over the next five years. A report on the value of big data to the UK Economy for CEBR identified similar value[4].

Using data better supports improvements to society, productivity and organisational efficiency, attracting new businesses and highly paid jobs to Scotland. The average salary of a data professional in Scotland in 2018 was £50,000[5]. However, due to delays in provisioning complex data, investment that could be happening in Scotland is beginning to flow elsewhere, and this represents a national competitive disadvantage with an increasing opportunity cost.

System Challenges

The current data access set-up has delivered effective research flexibly; however several challenges remain unaddressed and these are further exacerbated as new demands are placed on the system. The most pressing of these challenges are set out here.

Uncoordinated Data Governance processes and structures

Policies and structures supporting IG functions have come into existence over time in response to data protection legislation; however this has given rise to a system that cannot easily support cross-sectoral research. IG policies are perceived as a hurdle rather than as a springboard to ethical research in the public interest. This perspective needs to shift.

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[3] https://www.scottish-enterprise.com/support-for-businesses/develop-products-and-services/data-driven-innovation

[4] CEBR (2015) https://www.sas.com/content/dam/SAS/en_gb/doc/analystreport/cebr-value-of-big-data.pdf

[5] In September 2018 https://www.indeed.co.uk/salaries/Data-Scientist-Salaries,-Scotland

This is particularly the case where different data sources are linked for a single project, requiring several un-coordinated data access processes. This has resulted in difficulty knowing who owns the data of interest and putting permissions in place can often take over 12 months: this leads to project delays and timelines can be difficult to predict. There is a need to better co-ordinate and streamline processes relating to all types of data availability and promote sharing of best practice across the community of public sector data controllers. This builds trust, expertise and experience.

The public also hold mixed views about the use of their data in research - we need to ensure there is ongoing engagement, trust, support and feedback from the public.

Data is often of unknown or poor quality - lack of information about data

It can be unclear what public sector data are available for use in research and data can be of unknown or poor quality. This means that some data are collected more than once and significant effort is expended to find out where helpful data is and the best route for access. We need to work with data controllers and users to improve the quality of data for research use.

There is an increasing demand for more recent and real-time data. This poses challenges for our infrastructure due to the investment and automation required in securing that data, as well as ensuring the quality of this information.

Projects require a lot of effort in preparing data where this is not already done. This means that the business case for using existing data sources rather than collecting fresh data is less clear cut in many cases, again a barrier to helpful research happening.

Less mature service model for cross-sectoral data linkage research

It can take a long time to assemble data for cross-sectoral research projects and this can be expensive. RDS will establish a standard approach by fitting a service model around such needs and supporting the skills, training and resources to deliver on this demand.

To date, making progress in data linkage projects has required several teams stepping in to support delivery with valuable and diverse skillsets but the result is a process where the roles across service providers become blurred. This leads to inefficiencies and has meant reduced resilience within each of those functions and some skill and technology deficiencies that make the current approach imperfect.

Bilateral/separate commissioning arrangements in Scotland

Existing funding and commissioning arrangements for the data infrastructure and data linkage service model comprise largely of a set of bilateral arrangements and financial transfers between various funders and service providers. This arrangement does not lend itself to ready appraisal of the cost effectiveness of the system as a whole in meeting its objectives, or of the individual parts therein. Alignment of the various funding sources through RDS with single contracts for activity with each

service provider is expected to promote more efficient and effective service provision, to better align incentives and to realise non-cash releasing efficiencies.

Stakeholder-specific issues

Ongoing feedback from stakeholders has highlighted several challenges and communicated expectations around optimal future data provisioning and access for research in Scotland. These views were further captured as part of a Discovery Phase to inform the OBC and this FBC. Some of the issues raised consistently by stakeholders, and that RDS is seeking to address, are as follows:

Academics/researchers/analysts

- It is unclear which public sector datasets are available for use in research and information is not readily available to potential users about what the process to gain access to the data involves
- There is increasing demand for more recent and real-time data. This is currently difficult due to the investment and automation required in securing that data, as well as ensuring the quality of this information
- Data are not always "linkage ready" so projects require a lot of preparatory effort; some of this upstream work and curation could be done earlier so that at the point a researcher expresses interest in using the data, it is clear what is available and how that can be used
- Assessments of the privacy/public benefit and ethics are not co-ordinated and researchers are left to navigate several processes for a single programme of work. This duplicates effort and can introduce delays in decision-making
- There are several legal frameworks in the data and data protection space including common law, Digital Economy Act 2017, Human Tissue Act 2006, Human Rights Act 1998, Data Protection legislation – and their application and interaction is not always clear.

Data Access and Linkage Service providers (NRS, EPCC, eDRIS/PHS)

- While there has been funding for data linkage services in recent years, and many successful data linkage projects have been delivered, there has not been a sustainable business model that enables services to invest in future proofing, expands the range of data that is available for use in research, or creates ongoing efficiencies and innovation
- The lack of distinct legal footing of the Scottish Informatics Linkage Collaborative (SILC) from its partner organisations and the collective of people, resources, technologies and platforms means that there has not been the required accountability, transparency and openness which is required of a modern efficient service.

Government

- Government researchers and analysts also need access to data in a timely and cost-effective fashion

- As regards data held by Government and the public sector there are also clear costs savings in terms of enabling data access via RDS instead of burdening individual data controllers with many individual requests
- A centralised system of access/brokering point will ensure greater consistency of decision-making about what public data can be used for, who can access it, as well as more consistent management of public sector bodies' data related risk
- It will promote further confidence in the data hosting and provisioning system in Scotland – to seek and attain accreditation through the UK Digital Economy Act 2017 (DEA) for use of the National Safe Haven (NSH) to host data from UK Government Departments such as HMRC and DWP.

Data controllers

- Under RDS, data controllers will have the opportunity to host linkage ready datasets in the NSH
- RDS will work with data controllers to agree clear, efficient and proportionate data access arrangements and IG processes for all data access requests
- RDS will also facilitate access to non-linked datasets – for both individual level and aggregate level data, thereby relieving burden on data controllers to service these requests
- It is anticipated that these changes will deliver efficiencies and economies of scale and will enable ongoing learning and testing of IG processes
- RDS will provide resources and/or skills to facilitate the holding and curation of data which some data controllers currently lack, hence access to data is often seen as a costly and time-consuming operational exercise
- A centralised system of access will foster greater consistency in decision-making about what data can be used for, who can access it, and how the risk management of the data can be undertaken more consistently
- A clearer offering for data controllers in terms of benefits they will derive from sharing their data, for example, by supporting a specific and well identified research or policy challenge; helping with own evaluation and assessment /audit requirements (e.g. statutory and non-statutory); and improving operational effectiveness and service improvements.

Data professionals: statisticians/data scientists

- Improved coordination of data access and better transparency of all data held within the public sector. This will enhance the opportunity to address important research and policy challenges and will therefore encourage more people to work with data by building capacity and capability in skills and experience that is in demand by Government and businesses, but currently in short supply
- Building wider data science skills will benefit the wider economy
- Building and enhancing skills capacity in the data space will also support social scientists to develop quantitative skills, which is vital for the

development of social science and maximising the value of the wealth of data which already exist.

Project Background

Scottish Informatics Linkage Collaboration (SILC) - Business As Usual Service Model

The Scottish Informatics and Linkage Collaboration (SILC) came together in 2014 with the participation of several public sector and research council funding partners. Its purpose was to realise the vision of the Data Linkage Framework through delivery of a shared service model to support public benefit research using data linkage methods in Scotland. It aimed to promote collaborative cross-sector working, the sharing of best practice and joined-up approaches to resource investment across public bodies operating within the research data landscape. Oversight was provided by the SILC Senior Management Board (SILC-SMB).

This investment supported the setup of the state-of-the-art facility with associated national infrastructure located at No. 9, Edinburgh BioQuarter in which the Scottish nodes of the Farr Institute and Administrative Data Research Centre (ADRC) located as well as the Electronic Data Research and Innovation Service (eDRIS). Further funders joined at later dates. The SILC-SMB acknowledged the importance of establishing a legacy for SILC with respect to the grant-based funding mechanisms of many of its component parts, and ensure its future success as a national resource.

The model comprised a set of shared resources that reflect closely how the service model delivers currently. This comprised the eDRIS team of research co-ordinators, the National Records of Scotland (NRS) indexing team, FARR IT infrastructure located now at the University of Edinburgh's Edinburgh Parallel Computing Centre (EPCC).

SILC SMB discussion about the need for change, SOC to OBC

Following discussions among senior stakeholders and funders participating in SILC[6] and taking on board feedback from users of the SILC resources, a sub-group of the SILC-SMB was convened to scope priorities and options for transforming the system supporting public benefit research in Scotland, with the aim of addressing some of the highlighted challenges and to ensure any solution was fit for the future.

This work rehearsed the shortcomings of the existing legal and commissioning arrangements and explored how these might best be addressed. The Board reached consensus on the need to place the current national arrangements supporting cross-sectoral research on a more sustainable and formal footing and to ensure the service model within this possesses the necessary resources, skills and infrastructure to meet changes to demand, technology and legislation. It was agreed that a key priority would be provision of a single-entry point for researchers and

[6] SILC and SILC-SMB were formally wound down in 2019.

offering a seamless data access pathway, by bringing together and coordinating the various moving parts of the researcher access journey, including the commissioned services.

A Strategic Outline Case (SOC) was developed, which explored an initial long list of options to determine the purpose and feasibility of establishing RDS. This was refined in the OBC and again in this FBC.

The strategic objective is that the future offering from Scotland becomes much stronger, with public benefit research undertaken at scale. The following section outlines the model proposed under RDS.

Research Data Scotland – Mission Statement

Research Data Scotland will provide a service for accessing public sector datasets that have the potential to save time, money, and lives. It will offer safe, secure and cost effective access to data for research, innovation and investment by enabling its users to deliver insight and understanding that will help create a more successful country through increased wellbeing, sustainable and inclusive economic growth, and improving the health and social care of the nation. We will work collaboratively with data controllers and users to develop the service while building trust and support from the public.

RDS Seven Founding Principles

To support the achievement of this mission, RDS will be predicated on seven key principles:

1. RDS will only enable access to data for research that is for the public good
2. RDS will ensure that researchers and RDS staff can only access unconsented data once an individual's personal identity has been removed
3. RDS will ensure that all data about people, businesses or places is always kept in a controlled and secured environment
4. RDS will only create a dataset if it is requested for a research programme or study that is in the public good
5. All income that RDS generates will be re-invested into services to help researchers continue to access data
6. RDS will secure a share of commercial benefits from any firms that access our public data, ensuring any benefits are returned into public services
7. RDS will be transparent about what data it provides access to and how it is being used for public benefit.

What RDS will do and deliver

RDS will provide a 'one-stop-shop' for access to a range of services and resources aimed at supporting access to data about people, places and business in Scotland.

It will:

- Deliver a service for researchers, assisting them with research design and providing secure access to public sector datasets and those that are “linkage ready” datasets, with the flexibility to link to other data where required
- Help facilitate the creation of “linkage ready” versions of high value datasets and provision of key metadata and data access criteria for each dataset
- Commission and monitor an IT infrastructure to securely transfer, store and provide secure access to datasets, allocating resources to three services: high performance computing; indexing; and, customer support
- Stay in touch with technical and methodological developments to continuously improve the service seeking ongoing feedback on performance and progress from stakeholders.

RDS will build upon our regional and national data informatics expertise to:

- Enhance the eDRIS service that already delivers hundreds of health and non-health data access requests and linkage projects each year
- Utilise the Edinburgh International Data Facility (EIDF) being developed at the University of Edinburgh’s EPCC
- Use expertise for data indexing that exists at NRS
- Build on the national data infrastructure being developed by SG: the underpinning of data policies, standards, legislation, approaches to ethics and information governance, and arrangements for cyber resilience
- Work to make our National and Regional Data Safe Havens interoperable.
- Develop data services that further improve public wellbeing, system efficiency or user experience.

While longer term, it will be important to use data from both public and private sectors in research, our initial focus will be on getting arrangements working well for data collected by any part of the public sector providing services to people in Scotland, and should cover both linked and standalone de-identified datasets. There must be secure and carefully controlled access for different types of users from various sectors (NHS, SG, academics, third sector and industry).

Building upon existing arrangements, critical success factors for the RDS service are to:

- Have the support of the public, acting in an open and transparent way
- Deliver value for money
- Improve the service quality to users, both delivering faster and more reliably, responding to the needs of different types of user
- Foster strong relationships with data controllers, acting under clear and consistent IG processes
- Comply with all legal requirements and protect the privacy of citizens and businesses
- Build upon the 5 safes principles used in data linkage (safe projects, people, settings, data and outputs).

Trustworthiness will be at the heart of everything RDS does and this includes:

- Maintaining the security and privacy of unconsented data by removing personal identifiers
- Ensuring data is accessed in a very secure place
- Only allowing access to accredited researchers where linked datasets are required.

Benefits of RDS and Spending Objectives

RDS will address many of the current challenges inherent in accessing data for research. It will also strengthen institutional capability, investment and profile, enabling it to work with other public sector partners on these issues.

- RDS will be able to commission services in its own right. This will improve co-ordination and promote a more effective and efficient system
- The establishment of RDS will address the issue of service quality, working to improve the end to end user journey, addressing strengths and weaknesses of current processes
- RDS will also facilitate the sharing of information about what data is available and the quality of that data via an interactive website and service
- It will provide underpinning investment for research using linked datasets at greater scale than the current model delivers – allowing a greater number of linkage projects each year with projects progressing more quickly.

What will a successful RDS look like?

The RDS team and its stakeholder partners agree that the following indicators will demonstrate successful delivery against scope:

- Service – consistency in the level and quality of service
- Safety & security – compliance with legal, IG and ICT requirements
- Public trust & transparency – people trust their data is used appropriately
- How people's data is processed will be clear and readily understandable by users, providers of services, and the public at large
- Timeliness – data access is streamlined and efficient
- Sustainability – the new model being operationally and financially sustainable
- Cost effectiveness – efficient use of resources. Value for Money (VfM) will be taken into account when making decisions, and allocating roles, responsibilities and resources amongst service delivery partners
- Accountability – RDS held to account through its own governance as well as through external scrutiny and audit, adopting a strategic, proportionate and risk-based approach.

Business Needs – Responding to Covid 19 Research Requirements

The vision for RDS is for a partnership, initially between SG, PHS and the University of Edinburgh, which accelerates the realisation of public value and economic advantage through data driven research and innovation. Shortcomings of the current data access and linkage service arrangements are likely to become more

acute over time. The establishment of RDS future-proofs capability for both data linkage and non-linkage projects, addressing future business needs by thinking longer term about service requirements, resource, investment and infrastructure.

Present health challenges reinforce the need for a more strategic approach at a time where data about people, places and businesses has never been more important, supporting Government in assessing the full impact of Covid 19; evaluating strategies for re-opening the nation; and safeguarding people's health and wellbeing.

RDS will provide a single system approach to realising greater social benefits (via research) from existing public sector datasets, bringing these together in novel ways to respond to new research questions and gaps. It is appreciably a lengthy journey to source, clean, link and assemble data for individual research projects and there are clear gains to be had from coordinating this work to serve many users, thereby realising/recouping the investment in data quality, curation and service development.

Public sector data possesses some of the attributes of a *public good*[7] making it unlikely that the service of RDS will be provided by the market at the scale required to realise full social and economic benefit – this highlights the *market failure*. So RDS facilitates the unlocking of this potential, enabling research and acting as a trusted institution that bears risk (reputational, privacy, financial, security, cyber).

Establishing RDS will also harness the potential of the Edinburgh City Deal to foster innovation and development in Scotland and will support our ambition to make Scotland a data destination, attracting inward investment which is currently going elsewhere.

RDS Delivery Programme

The RDS Delivery Programme comprises six integrated elements, each with a separate delivery work-stream.

1. Public engagement and provision of clear information to citizens about the use of public sector data in Scotland
2. Transparent IG processes and procedures, these must incorporate public sector data controllers' requirements
3. Provision of a secure de-identification and data linkage service
4. Provision of a secure high performance computing environment
5. Provision of a one-stop-shop user service
6. High quality data assets.

These expectations will be delivered via a programme of activities covering:

- Service
- Public trust and transparency
- Cost effectiveness

[7] Access the HM Treasury discussion paper of research ready data at: HMT Discussion Paper – The Economic Vlaue of Data

- Commercial and procurement
- Safety and security
- Financial
- Accountability
- Legislation.

The development of RDS is a specific part of the SG's Programme for Government[8].

Strategic Risks

The RDS project will face several strategic risks including:

- Service – complexity of the 'as is' model and a lack of widespread understanding as to how it works. Work has been undertaken to understand the current access journey, and service redesign will be central to the operations of RDS. Stakeholder engagement will be an important means of ensuring consistency with the level and quality of service and confidence with the new process, whilst ensuring all data access is streamlined and efficient

- Public trust and transparency – people must trust that their data is used appropriately; how data will be processed will be made clear and transparent through public engagement with users and providers of the service as well as the public at large

- Ensuring cost effectiveness – resources need to be reviewed to ensure value for money is taken into account during decision making, allocation of roles, responsibility and resource capacity

- Commercial and procurement – the model must be sustainable operationally and financially, and must adhere to procurement legislation. An overview of the likely procurement arrangements for the preferred option is included in the Commercial Case

- Safety and security – as data will be fundamental to the role of RDS, sensitivity and transparency are required, and concerns from data controllers regarding privacy, security, data storage and sharing need to be managed; Information governance must be of the highest standard.

- Financial – developing, implementing and supporting RDS requires agreement on longer-term funding models. That model needs to be acceptable to all key stakeholders whilst also delivering VfM. The proposed model is documented in the Financial Case

- Accountability – RDS will be held to account through external scrutiny and audit adopting a strategic, proportionate and risk-based approach; the RDS board will include independent and partner representatives

[8] Protecting Scotland's Future: the Government's Programme for Scotland 2019-2020

- Legislation – (UK and Scottish) RDS will liaise with legal teams and other stakeholders to consider perceived legislative or statutory constraints, and follow-up action where needed

- Covid 19 – key staff across the stakeholder organisations have been diverted to responding to the pandemic over the short and medium term, and sourcing backfill staff remains an issue.

Specific transition risks have been included in a risk management plan included in Appendix Three and this will be refined further during the transition phase.

Constraints and Dependencies

Legislation

RDS will operate within a framework of regulations governing the use and processing of personal data for research; (Digital Economy Act 2017), physical and cyber security, data protection legislation (Data Protection Act 2018, UK GDPR), and other legal codes (Human Rights Law, Human Tissue Act), as well as the common law duty of confidentiality.

Covid 19

A key dependency is the development of the Covid 19 Research Data Service, which has been brought together from across the existing service partners. The need to urgently address priority Covid 19 research projects has drawn on existing resources and people in the short term, displacing other activity that would have taken place in its absence. While this is inevitable, there will need to be some form of de-brief and review to re-consider funding requirements in order to ensure service transformation work is progressed.

A wider Covid 19 Data & Intelligence Network across the Scottish public sector is overseeing the development of a strategy to address the data requirements for the pandemic, covering both use for research and for service delivery and operations, including the IG and information assurance frameworks for making the data available via bespoke infrastructure.

It will be important to seek clarity from service partners and stakeholders in SG and more widely about how this work interacts with RDS; where this network addresses some of the identified challenges and where it may introduce new tensions.

ADR-Scotland, Edinburgh South East Scotland City Deal

Two other key initiatives will support the delivery of RDS:

The first is partnership with Administrative Data Research UK (ADR UK), which is the UK wide data acquisition and research programme funded by the Economic and Social Research Council (ESRC). Its aim is to develop capacity and capabilities that support innovative and cutting edge research in the public interest using existing

administrative data sources. The ADR UK investment in Scotland is administered through the Administrative Data Research – Scotland (ADR-S) partnership.

The ADR delivery team within SG has been designing and building a new method for linking personal data within the Scottish National Safe Haven. Working with partners from the University of Edinburgh and eDRIS (part of Public Health Scotland) a new ingest process has been designed to securely hold and manage a wide range of datasets from across the Scottish public sector.

Secondly, the investment into data-driven innovation through the Edinburgh & South East Scotland City Region Deal and partnership with the Edinburgh Parallel Computing Centre (EPCC) will ensure RDS can harness wider resources and secure the momentum for a wider partnership between public sector and academia, building on existing data infrastructure, and Scotland's reputation for how we manage and use data and trustworthiness in what we do.

Both the ADR-S programme and the the Edinburgh & South East Scotland City Region Deal taken together will kick-start and support the delivery of a new data linkage user service provided through RDS.

Conclusion

The existing services and investment supporting public benefit research in Scotland have delivered valuable insight through ground-breaking programmes, embedding a culture of evidence-based policy making and extending our understanding of the most complex of public policy issues facing Scotland.

However the contractual and financial arrangements that supported the initial phase of delivery of the partnership over the last seven years require to be formalised in order to take advantage of the scale of opportunity now facing Scotland. This requires a step change to the way services are supported and contracted for; and to the way the system, and its parts, work towards shared and agreed collective outcomes.

We need to place these arrangements on a more formal footing, to attract significant new investment and promote a more efficient and scaled-up model that can respond to future needs. The opportunity cost of not responding to this growing demand for change and reform is significant – including both the direct impacts on research and public services – and the indirect impacts on the Scottish economy if a healthy and growing data innovation sector fails to take off at scale.

A Ministerial commitment in the 2019 Programme for Government, the establishment of RDS will provide a researcher support service across the whole public sector and ensure that the service is sustainable and resilient.

Socio-Economic Case

Introduction

A key part of the business case process is the Socio-Economic Case, in which the potential delivery options for RDS are assessed to identify the one that offers best value. This case builds on and extends the findings and conclusions of the SOC and the OBC, which undertook an initial appraisal of potential options and, in addition to the status quo, identified four potential delivery options. These options were formulated following consultation with internal SG colleagues, including legal teams, and external stakeholders.

In addition to following the standard Her Majesty's Treasury (HMT) guidance on business cases and being aligned to both the Green Book and the "5 cases" model, the FBC is consistent with the wider approach taken by SG in considering the wider socio-economic impacts of spend and policy decisions.

The Socio-Economic Case in the OBC assessed the options available to deliver RDS, identified their costs and benefits including the effect on public welfare, and set out the preferred option. Critical success factors that RDS must meet have been identified and each of the options is scored against these. The options appraisal undertaken in the OBC has been reviewed following the confirmation of the founding partners, and the outcome, restated in this FBC, remains appropriate.

Early discussions with stakeholders ruled out the possibility of including an option to place RDS within a private sector, for-profit company: this would neither align with RDS's public interest mission, nor be acceptable to the Scottish public. The four options that have been considered are all aligned with the seven Founding Principles of RDS.

Summary of Options

Option 1: Retain the status quo (SQ) – this includes "business as usual" for data linkage requests using the SILC model. The status quo for data linkage is based on a series of agreements between various partners and faces several issues relating to the complexity of the current arrangements:

- No clear structure under SILC
- No single financial overview of SILC's activities
- Administration, budgeting and governance sit across numerous organisations.

SILC is not a legal entity in its own right and does not have the capability to enter into contractual arrangements.

SQ for non-linkage projects faces similar issues:

- Inconsistency with data access routes across numerous organisations
- Lack of transparency on data holdings across numerous organisations.

Option 2: Amend the functions of an existing public body (EPB) – this option involves housing RDS as part of an existing public body. Given data protection considerations, there could be a requirement that the existing public body has a health focus. In this option, RDS would not be a separate legal entity and would not be able to enter in contractual arrangements in its own right. RDS would not be the sole focus of the existing public body and it is likely that RDS would have to adhere to the existing public body's operational processes, working culture, and governance requirements.

Option 3: Amend the functions of Public Health Scotland (PHS) – this option relates specifically to the amendment of the functions of PHS, which launched in April 2020 and includes NHS Health Scotland, Health Protection Scotland and Information Services Division. In this option, RDS would be established as a part of PHS. As with Option 2, RDS would not be a separate legal entity and would not be able to enter in contractual arrangements in its own right. RDS would not be the sole focus of PHS and it is likely that RDS would have to adhere to PHS's operational processes, working culture, and governance requirements. Given the health focus of PHS, there may also be a constraint on RDS's ability to focus on non-health related research.

Option 4: Establish a New Public Body, such as a new standalone body (NPB) – in this option, RDS would be created as a new public body in its own right. Delivery of the RDS business plan would be the sole focus of the new public body. It is likely that Scottish Ministers would have control of a new public body although there are options where this could be shared with other stakeholders. To create a new public body, legislation would have to be enacted and this would take considerable time and cost.

Option 5: Establish a Joint Venture (JV) – this option involves a joint venture company being created, in which each of the key current public sector stakeholders could be involved (if they wished to be so). Delivery of the RDS business plan would be the sole focus of the JV. Governance of the JV would include the relevant partners. If RDS were established as a JV, the legal recommendation is that it should be constituted as a Company Limited by Guarantee (CLG), which would allow it to achieve charitable status.

Socio-economic Appraisal

The socio-economic appraisal focuses on the value of the different options including non-cash efficiencies, qualitative benefits and opportunity costs. The status quo would have an ongoing operational cost but would also incur an opportunity cost due to the current arrangement's competitive disadvantage.

Options 2-5 are based on the new RDS service operating as part of an existing public sector organisation, a new public body or in some form of public sector joint venture. All these options are likely to enable RDS to achieve its mission and deliver greater value to Scotland.

The operational and delivery costs of the different options are not materially different with the exception of Option 4, which would have a longer, more constrained and

more involved delivery that would require legislation to be enacted and the commitment of considerable resource and time.

In the OBC the indicative costs of the different options[9] over the first five years of operations were:

- Status quo - £25.2m (£22.7m NPV)
- Amend the functions of an existing body - £28.5m (£25.7m NPV)
- Amend the functions of PHS - £28.5m (£25.7m NPV)
- Establish a new public body - £30.6m (£27.7m)
- Establish a joint venture - £29.0m (£26.2m NV)

At that time, compared to the five-year costs of the status quo, the new options were slightly more expensive, ranging from £3.3m to £5.3m (£2.9m to £4.9m NPV). This equated to a yearly average additional cost of £0.7m to £1.1m (£0.6m to £1.0m NPV) to secure the anticipated benefits that RDS will bring.

Following further refinement of the financial model an updated five year cost profile (see the Financial Case for more details) has been produced for this FBC as follows:

Table 1: Indicative five year costs for the different RDS options for FBC (not including service development costs)

	Status quo	Amend the functions of an existing body	Amend the functions of PHS	Establish a new public body	Establish a joint venture
Staff costs	£19,123,437	£7,306,920	£7,306,920	£7,306,920	£7,306,920
Non staff costs	£3,387,120	£3,568,657	£3,568,657	£3,568,657	£3,568,657
Commissioning	£-	£23,842,418	£23,842,418	£23,842,418	£23,842,418
Transition costs	£-	£75,000	£150,000	£505,000	£505,000
Legislative costs	£-	£-	£-	£1,300,000	£-
Sub-total costs	£22,510,557	£34,792,995	£34,867,657	£36,522,995	£35,722,995
Risk contingency[10]	£4,502,111	£6,958,599	£6,973,599	£7,304,599	£7,144,599
Total (5 years)	£27,012,668	£41,751,594	£41,841,594	£43,827,594	£42,867,594
NPV (5 years)	£24,077,306	£37,218,768	£37,303,862	£39,158,661	£38,219,412

Compared to the five-year costs of the status quo, the updated option costings are slightly higher than the OBC, ranging from £14.7m to £17.4m (£13,1m to £15.0m NPV). This equates to a yearly average additional cost of £2.9m to £3.5m (£2.6m to £2.0m NPV).

[9] It should be noted that the indicative costs above do not include service development, the costs for which were not available at the time of the options appraisal. Given the need to develop the service across all the options this is not material to the decision.

[10] Risk contingency added at 20%. Risk has been added to the SQ option to reflect the risk associated with the SILC model

The higher costs are due to a larger RDS core team, which has increased staff costs, refined non-staff costs, and more detailed transition costs. Updates to the financial model were made following the commitment of £5m pa over the next five years from the SG Health portfolio, with funding confirmation allowing more accurate budgeting.

The benefits to government from spending typically fall into four main categories:

1. Cash releasing benefits (CRB). These benefits reduce the costs to organisations in such a way that resources can be re-allocated elsewhere. This typically means that an entire resource is no longer needed for the task for which it was previously used. This can be staff or materials/assets.

   For RDS, there are unlikely to be short-term material CRB: this is because the existing SILC data linkage service is being replaced with a new linkage service under RDS (initially on a largely like-for-like basis).

2. Financial but non-cash-releasing benefits (non-CRB). This usually involves reducing the time that a particular resource takes to do a task but not sufficiently to re-allocate that resource to a totally different area of work.

   For RDS, the expected non-CRB benefits include quicker and clearer processes for researchers and investment in linkage ready data meaning linkage projects can be processed more efficiently.

3. Quantifiable benefits (QB). These benefits can be quantified, but not always easily. The extent to which QBs are measured will depend on their nature and significance; however, as a general rule every effort should be made to quantify benefits financially wherever possible and proportionate to do so.

   The benefits of RDS very much focus on the assumed high level of opportunity cost from the status quo regarding data linkage, with a belief that Scotland is missing out on research opportunities: investment that could be secured in Scotland is currently going elsewhere e.g. a major (£58m) research programme on lung disease went to England.

   If RDS were to be established, the investment in service improvements, digital development and specific communications would allow more projects to be progressed more efficiently leading to an increase in the economic value that research projects bring thus avoiding competitive disadvantage and reducing the opportunity cost. In doing so, there could be considerable value to the Scottish economy.

   A key metric of the economic value created by linkage projects has been developed by ADR UK and used in their business cases: they state that on average each project generates between £275k and £345k of economic value (2018 prices). Inflating this range by CPI (1.8% in 2019 and 0.9% in 2020) would mean an updated range of £282k and £354k (FY 20/21 prices).

To identify the economic value added by RDS, a baseline position based on the FY 20/21 status quo (including increased demand due to Covid 19) is compared to the RDS position. This includes a prudent level of growth based on improved knowledge of available databases, greater efficiency and a more streamlined process allowing quicker throughput of projects. The comparison is shown over the first five years of RDS in the following table:

Table 2: Added economic value for RDS over first five years[11]

	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	Total
Baseline number of projects issuing fees	60	64	68	74	81	346
Baseline projects ending (SG/ADR)	5	6	6	6	7	30
Baseline total projects	65	69	74	80	88	377
Baseline EV lower range	£18.5m	£19.5m	£20.9m	£22.7m	£32.6m	£104m
Baseline EV upper range	£23.2m	£24.5m	£26.3m	£28.5m	£40.9m	£134m
NPV EV lower range						£96m
NPV EV upper range						£120m
Assumed reduction - ave proj duration						20%
RDS number of projects issuing fees	60	84	90	97	106	437
RDS baseline projects ending (SG/ADR)	5	7	8	9	9	38
RDS total projects	65	91	98	106	115	476
RDS EV lower range	£18.5m	£25.8m	£27.7m	£29.9m	£32.6m	£134m
RDS EV upper range	£23.2m	£32.3m	£34.7m	£37.6m	£40.1m	£169m
NPV EV lower range						£120m
NPV EV upper range						£151m
Difference EV lower range	£0m	£6.7m	£7.2m	£7.2m	£7.9m	£28m
Difference EV upper range	£0m	£8.4m	£9.0m	£9.0m	£9.9m	£35m
Difference NPV lower						**£25m**
Difference NPV upper						**£31m**

This analysis shows that during its first five years of operations, RDS is expected to add economic value of between £134m to £169m (£120m to £151m NPV).

Compared to the status quo, this is an increase of £28m to £35m (£25m to £31m NPV). This equates to between £5.0m and £6.2m of economic value each year. It should be noted that year one is assumed to be a transition year with no difference to the baseline.

4. Non-quantifiable benefits (non-QB). These are the qualitative benefits, which are of value to the public sector but cannot be quantified.

   For RDS, these include:

[11] Some rounding errors

- Increased public trust in handling of personal data, and reductions in risk of data being misused;
- Potential for further quantifiable benefits from the streamlining of existing data collections, for example household surveys can be shorter (or collect different information) through linkage to administrative data;
- This opens new possibilities for value adding data services, for example enabling a digital clinical trials service, which helps organisations understand their effectiveness.

Option Appraisal Criteria: Critical Success Factors

To achieve the anticipated benefits from RDS, there are several critical success factors (CSFs), which RDS will have to meet, and these are shown in the following table:

Table 3: RDS critical success factors

Critical Success Factors	Rationale
Service	This will ensure consistency in the level and quality of data access and a linkage service with smoother research user journeys. The timeliness of service delivery. The extent to which RDS will be the sole focus of the organisation.
Safety & security	Compliance with legal, IG and ICT requirements. Does the option promote a continued focus on the specialist processes and systems of IG, information assurance and cyber security that underpin the research data holding of RDS?
Public trust & transparency	A key element of delivering RDS is ensuring trust and public acceptability. People should trust their data is used appropriately. How people's data is processed will be clear and readily understandable by users and providers of services as well as the public at large.
Sustainability	This aims to address the need to ensure that RDS data access and linkage model is a sustainable business model operationally and financially.
Cost effectiveness	RDS should maximise Value for Money (VfM). VfM should also be considered when making decisions, and allocating roles, responsibilities and resources amongst service delivery partners.
Accountability	RDS needs to be held to account through external scrutiny and audit adopting a strategic, proportionate and risk-based approach. Good governance is also an important consideration.

These criteria have been used as the basis of assessing the short list of potential options for RDS. The methodology for the options appraisal has included:

- Weighting the relative importance of each of the attributes listed in Table 3
- Scoring each of the short-listed options on the basis of its ability to deliver the CSF attributes on a scale of 0 (worst score) to 10 (best score)
- Deriving a weighted benefits score for each option (i.e. score x weighting)

Based on this methodology, scoring of the options was undertaken independently by two senior members of the RDS project team with a subsequent meeting held to justify and moderate scores. An average of the scores was then input into an options appraisal tool that had been developed for the purpose. The options appraisal assessed how well each option would support RDS in achieving its CSFs, which principally focus on the benefits that RDS would bring to Scotland, the public sector and the Scottish research community.

The scores for each of the RDS critical success factors and justification for the scores are shown in the next few pages followed by a summary of all the scores.

Criteria 1: Service

Consideration of the likely service provision from the different options included an assessment of whether there would be consistency in the level of service, the quality of service, a clear user journey, equality of health and non-health data, whether data would be accessed in a timely manner, and whether the option would enable process improvements.

Relative to the other options, option 1, the SQ, scored less well across all the questions. This was because of its greater focus on health data, an unclear user journey, and the complexity of the current arrangements, based on Memoranda of Understanding. Option 2 (EPB) and option 3 (PHS) scored only slightly higher than option 1 (SQ) with justification based on their greater focus on health data, RDS having to adhere to the existing organisations' operational processes, function and have a lower level of autonomy. Option 4 (NPB) and option 5 (JV) scored well due to having a single focus on RDS, offering a 'blank canvas' that could be used to develop bespoke arrangements specific to RDS's service requirements, and being able to adopt a more balanced approach to health and non-health data.

Table 4: Service scores

Option	Unweighted score (out of 10)
Option 1: Status quo (SQ)	4.0
Option 2: Amend existing public body (EPB)	4.9
Option 3: Add to Public Health Scotland (PHS)	5.3
Option 4: New public body (NPB)	7.4
Option 5: Public sector JV (JV)	7.5

Criteria 2: Safety & security

This criterion assessed the extent of the options' legal compliance (including 1978 Act, state aid and data protection), compliance with IG requirements, and compliance with ICT requirements.

The SQ is already compliant with the 1978 Act and data protection so had a maximum score; however, the SQ was considered to have neither efficient processes, nor to meet IG or ICT requirements optimally and, consequently, received a lower overall score. Placing RDS in an existing body had mixed scores depending on whether it was assumed the body had current obligations under the legislation.

The fact that these organisations would not have a sole focus on RDS, again, prevented them scoring higher. Although legal, IG and ICT compliance would not happen immediately, the NPB and JV options scored well as it was considered that they would achieve compliance quickly, particularly as this would be a priority in organisations with a sole focus on RDS.

Table 5: Safety & security scores

Option	Unweighted score (out of 10)
Option 1: Status quo (SQ)	6.9
Option 2: Amend existing public body (EPB)	6.1
Option 3: Add to Public Health Scotland (PHS)	7.1
Option 4: New public body (NPB)	7.9
Option 5: Public sector JV (JV)	8.2

Criteria 3: Public trust & transparency

This critical success factor related to assessment of the public trust and transparency relating to the different options. The appraisal assessed the options' ability to earn and retain the trust of stakeholders, scored how well they would enable RDS to build itself as a brand, and how well they would promote a culture of transparency and openness within RDS.

The SQ had a relatively low score due to its complexity and the feeling that stakeholders do not have complete trust because few know the full extent of the infrastructure and the intricacies of the current arrangements; and that the SILC brand was undeveloped. Scoring higher than the SQ, the EPB and PHS options scored similarly in questions relating to potential conflict between the RDS brand and the host organisation's brand; however, there were also some differences with the PHS option scoring better for stakeholder trust and IG.

The NPB did not score as well as PHS on trust at it would take time to build trust in a new organisation. The JV scored better in trust, as the partners would already have existing stakeholder trust on which to build. The NPB and JV options, again, scored well because of their single focus on RDS.

Table 6: Public trust & transparency scores

Option	Unweighted score (out of 10)
Option 1: Status quo (SQ)	3.5
Option 2: Amend existing public body (EPB)	4.8
Option 3: Add to Public Health Scotland (PHS)	6.0
Option 4: New public body (NPB)	7.3
Option 5: Public sector JV (JV)	7.4

Criteria 4: Sustainability

This part of the options appraisal assessed the potential sustainability of RDS (financially and operationally). The SQ scored less well due to the current deficit funding position in SILC, which is likely to worsen over time as grant income reduces. Although the SQ is closely tied to stakeholders, there is not a single central budget for SILC and there is uncertainty over the actual funding situation, which is complex and reliant on grant funding. The cost structures of the EPB and PHS options mean that, as RDS would not be the sole focus, although deficits could be absorbed, surpluses could be transferred elsewhere within the organisations. The NPB and JV options scored well as RDS would be their sole focus and this would provide greater control over the RDS budget. Although a deficit would not be absorbed into a parent body, any surplus must be reinvested into developing the service.

Table 7: Sustainability scores

Option	Unweighted score (out of 10)
Option 1: Status quo (SQ)	3.6
Option 2: Amend existing public body (EPB)	4.4
Option 3: Add to Public Health Scotland (PHS)	6.1
Option 4: New public body (NPB)	7.6
Option 5: Public sector JV (JV)	7.6

Criteria 5: Cost effectiveness

This critical success factor related to consideration of VfM when making decisions and allocating roles, responsibilities and resources. The lower SQ score was based on the complexity and uncertainty of the current SILC budget, which projects a deficit position. The EPB and PHS options scored only slightly higher as, although these options would allow soft budgeting, there was the possibility of resources being

transferred to higher priority areas within the parent bodies. The NPB and JV options scored slightly higher because, despite hard budgets, RDS would be the sole focus.

Table 8: Cost effectiveness scores

Option	Unweighted score (out of 10)
Option 1: Status quo (SQ)	5.5
Option 2: Amend existing public body (EPB)	6.0
Option 3: Add to Public Health Scotland (PHS)	6.5
Option 4: New public body (NPB)	7.8
Option 5: Public sector JV (JV)	7.8

Criteria 6: Accountability

This criterion related to accountability, specifically external scrutiny, the support of good governance, and the inclusion of relevant stakeholders in that governance.

The SQ does not score well as there is not a great deal of scrutiny evident at present: stakeholders are not included in governance satisfactorily and there are insufficient data controllers on the SILC senior management board. Improvement in this area of data linkage is a fundamental driver for RDS.

Whilst EPB and PHS would provide increased scrutiny, RDS would be controlled by the parent body and would be subject to its governance, which may have more of a health focus, and may see some stakeholders excluded. Whilst NPB and JV would have a sole focus on RDS, the JV scores higher due to its inclusive nature and the fact that relevant stakeholders are coming together as equal partners.

Table 9: Accountability scores

Option	Unweighted score (out of 10)
Option 1: Status quo (SQ)	4.2
Option 2: Amend existing public body (EPB)	5.0
Option 3: Add to Public Health Scotland (PHS)	5.2
Option 4: New public body (NPB)	6.8
Option 5: Public sector JV (JV)	7.3

Mandatory considerations

In addition to the above criteria, there are two mandatory stop/go considerations for the RDS service delivery option: whether the options will allow RDS to become a

legal entity and give it the ability to contract in its own right: Only the NPB and JV options enable RDS to perform these functions.

The EPB and PHS options would not allow RDS to exist as a legal entity in its own right, and would not allow it to enter into its own contractual arrangements: consequently, these options should be discounted. Similarly, the status quo could not legally be a stand-alone entity and in the current arrangements, RDS cannot contract in its own right. Consequently, options 1, 2 & 3 are not credible and should be discounted.

A summary of the weighted scores from the options appraisal and the mandatory questions is shown in the following table.

Table 10: Summary Options Appraisal (some figures rounded)

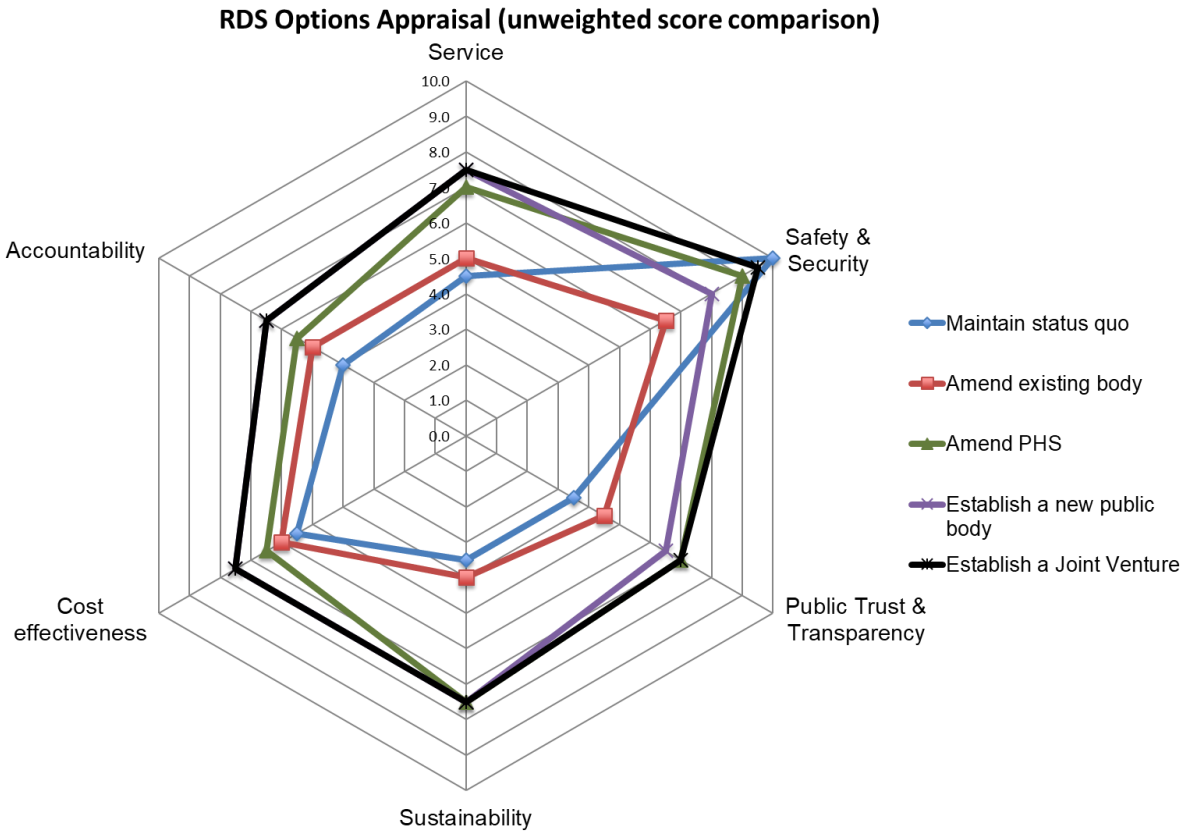
Critical Success Factors	Weight	Option 1	Option 2	Option 3	Option 4	Option 5
		Status quo (SQ)	Amend existing public body (EPB)	Add to Public Health Scotland (PHS)	New public body (NPB)	Public sector JV (JV)
Service	30%	4.0	4.9	5.3	7.4	7.5
Safety & security	25%	6.9	6.1	7.1	7.9	8.2
Public trust & transparency	20%	3.5	4.8	6.0	7.3	7.4
Sustainability	10%	3.6	4.4	6.1	7.6	7.6
Cost effectiveness	5%	5.5	6.0	6.5	7.8	7.8
Accountability	10%	4.2	5.0	5.2	6.8	7.3
Weighted score /10	100%	4.7	5.2	6.0	7.5	7.7
Rank	-	5	4	3	2	1
Legal stand-alone entity?	-	No	No	No	Yes	Yes
Contract in own right?	-	No	No	No	Yes	Yes
Final position	-	**N/A**	**N/A**	**N/A**	**2**	**1**

Therefore the decision as to which option should be the preferred option is between NPB and JV. These options have similar scores but one difference is in the legal structure of these options: a new public body would have its main control resting with Scottish Ministers whereas the JV would not have this restriction and all relevant stakeholders could be included in the governance.

It is because of this distinction, and a marginally higher score, quicker implementation and slightly lower cost, that **Option 5, Establish a Joint Venture company** remains recommended as the preferred option for RDS. Overall, on strategic fit, legal advice and outline delivery terms, this is the preferred option.

The relative scores of the different options for RDS are shown in the following diagram. It should be noted that the diagram shows un-weighted scores.

Figure 2: RDS Options Appraisal relative scores



Under the preferred option, a joint venture can take on a number of different legal forms as described in the following table:

Table 11: Potential structures for RDS

Structure	Remarks
Company Limited by Shares	This option would not allow RDS to achieve charitable status and so would not be seen as a viable option. An example of a public sector company limited by shares is SFT, which has 100% of its shares owned by Scottish Ministers.
Company Limited by Guarantee (CLG)	Different stakeholders would hold "membership", with liability limited to a nominal amount (often £1 or £5). This model is suited to charitable status or CIC status and is a viable option for RDS. A public sector example is the James Hutton Institute (which also has charitable status).
Scottish Charitable Incorporated Organisation (SCIO)	The organisation must at all times be a charity. This may be a viable option instead of a CLG if charitable status is required. An example of a SCIO is LAR Housing.
Limited Liability Partnership	This option would not allow RDS to achieve charitable status and so is not a viable option.
Community Interest Company (CIC)	When a CIC is formed, a specific "community of interest" must be defined (e.g. community public health researchers) with the CIC's assets and surpluses locked in. There is CIC regulator. CIC status can be given to a CLS or a CLG.

The two structures that are most suitable for RDS are CLG and SCIO. Legal advice sought by the RDS project team recommended that RDS should be established as a CLG.

Risk Analysis

There are some key risks relating to the socio-economic case as follows:

- A full economic cost benefit appraisal has not been conducted on all the options due to the degree of uncertainty associated with delivery. Rather, the approach taken identifies the likely key attributes and strengths of each option and potential constraints/weaknesses as per the success criteria
- The discussion focuses on benefits and costs relative to the counterfactual – this is the Do Nothing option
- The Office for National Statistics (ONS) may classify RDS as a public body which would have the potential to limit how RDS operates.

Conclusion

The socio-economic case lays out the options available for establishing a central administration for accessing public sector data. The option of establishing a Joint Venture is the preferred approach with the joint venture having charitable status as a CLG.

Commercial Case

Introduction

The Commercial Case sets out the implications for procurement as developed from the initial work on the RDS OBC. It considers the requirements, proposed sourcing options, commercial arrangements and identified risks at this stage.

The Commercial Case also provides further details on the practical aspects of how RDS will be established to achieve its organisational objectives. As part of this, contractual and legal considerations are set out.

As mentioned above, a LWG was convened in 2019 comprising representation from service partner organisations, along with solicitors contracted by SG. The remit of the LWG is to provide information and advice to support the process of identifying options for legal models for establishing RDS as a legal entity, including any contractual and regulatory requirements. It will also reach agreement on the form of founding partners in RDS, to align with strategic objectives for RDS and for the participating organisations, including future partners.

Further legal advice was forthcoming from legal advisors and partners and has been included in the FBC. This work will continue through the development of RDS.

RDS Commercial Structure - Company Limited by Guarantee (CLG)

Based on the work conducted through the SOC, OBC and the FBC's Strategic Case and Socio-economic Case, the preferred approach is for RDS to be delivered is a Joint Venture company – to be a Company Limited by Guarantee (CLG) in order to seek charitable status. A CLG is a legal form of organisation, which is regularly established to conduct business for the benefit of the community.

As a CLG, RDS will be a "not for profit" entity on the basis that any profits arising will be reinvested in its public mission. The organisation may "trade" but only in accordance with its objects. A CLG may be charitable, in which case if approved by HMRC certain sources of income may be exempt from corporation tax.

Given these factors and the legal advice, RDS was established as a CLG on 8 October 2021, company number SC677016.

Governance Arrangements and Legal Status of founding RDS partners

The socio-economic case presented options for delivering RDS via alternative legal structures, which were compared to the status quo and identified a joint venture (JV) as the preferred vehicle for delivering RDS.

Potential founding partners in the JV have been confirmed as SG, PHS and the University of Edinburgh. Other academic institutions remain interested in joining and will be able to become partners in the future.

Figure 3: RDS Partners

In light of the founding principles of RDS and its public mission, initial partners are other public bodies. Users of the services provided by RDS may also choose to participate, and the network of Regional Safe Havens based in academic institutions will have the option of joining: some Scottish universities have already shown appetite to be involved in the governance of RDS. Public sector data controllers might also wish to hold a stake in RDS. The LWG has supported these considerations and has agreed a workable and effective set of articles with RDS being established as a JV.

Contracting Arrangements under the Existing Service Model

The existing commissioning arrangements comprise a set of bilateral agreements between the various partners, depending on their role and involvement.

The arrangements do not lend themselves to a ready appraisal of the effectiveness of the individual services, either within each of the contract terms, nor at a more strategic level across the system. Various funders contribute to different services and risks are not borne or aligned in a way that promotes efficiency, stability and sustainability.

Some of the key aspects of the current model are as follows and a diagrammatic representation is shown overleaf

- The National Safe Haven was commissioned by NHS NSS to be delivered by EPCC, University of Edinburgh and this remains the case; this contract has transferred now into PHS from NSS. A set of service agreements and legal contracts underpin this relationship

- Chief Scientist's Office hold an existing SLA with PHS/eDRIS for delivery of the National Safe Haven and it is envisaged that this funding be channeled via RDS. This will facilitate a single structure

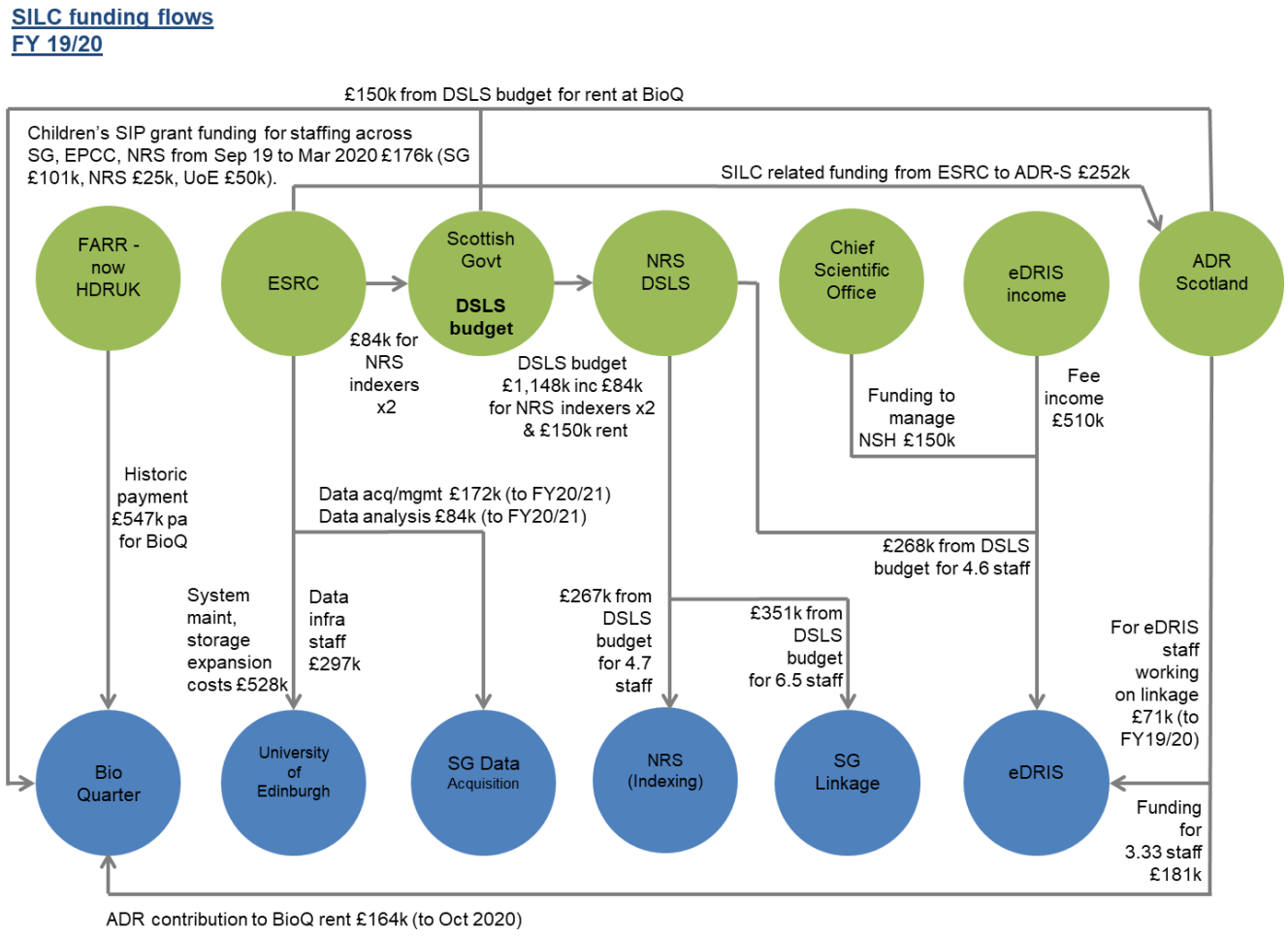
- SILC was defined through a Memorandum of Agreement (MoA), which outlined a governance structure for the collaboration

- A number of Service Level Agreements (SLAs) were developed between the groups operating within SILC, with each individual organisation reporting to the SILC-SMB

- A set of collaboration agreements, lease agreements and licenses to occupy the space at Nine BioQuarter were also developed for FARR, ADR-S

- FARR IT infrastructure – shared infrastructure resource.

Figure 4: SILC Funding Flows



An improved commissioning framework will be developed for RDS in collaboration with partners and with the support of the LWG.

Proposed RDS Operating/Commissioning Model – Required Services

This section describes briefly the legal structure and core components of RDS.

The structure of RDS is based on RDS having its own staff supported by a commissioning model with specialist services provided to RDS by other

organisations. Various assumptions on the future operating model have been made and will be tested with service partners and key stakeholders. It is assumed that:

- RDS will focus on a range of data sources and types – recognising its core purpose, it will have a strong focus on health and social care data, but will operate with other data sources
- It will act as a 'shop-front' for all types of data access request by researchers, with most data continuing to be held by relevant partners
- Data sharing agreements or data processing agreements as appropriate will be put in place with each of the organisations whose data RDS makes available to others will be put in place between relevant partners
- RDS will have its own governance structure with a Board of Directors established from RDS's partners as well as independent representatives
- It will commission all services and staff needed to operate, principally:
    - eDRIS (from PHS) – customer support
    - EPCC computing infrastructure and support (from University of Edinburgh
    - NRS – data indexing and matching required for data linkage projects
    - SG – data linkage and data acquisition.
- The exact details of commissioning arrangements, priorities and structures are yet to be agreed. It may be possible for RDS to function in the short term with commissioning arrangements based on the status quo with more detailed contractual agreements put in place later, once the RDS service development work has been progressed.

Discussions have started with the Regional Safe Havens (RSHs) in Scotland to explore their current offering and potential collaboration with RDS in the future. This work will also set out a short term plan for ensuring the RSHs are appropriately joined up with RDS in the short term when the RDS service is launched.

Contract Structures

The following key contractual arrangements will need to be put in place to implement the preferred commercial solution. They are not considered to be a complete list of considerations and are subject to full and thorough legal review by appointed legal advisors.

- **Stakeholders/Members' Agreement** – between Public Sector stakeholders who are RDS partner organisations. This agreement will set out their respective roles in the governance of RDS
- **Service Agreements** – with commissioned service partners
- **Lease** – if required, provided from an office provider to RDS to provide a space from which RDS staff will operate.

Indicative Terms & Conditions will require to be drafted, setting out the key contractual clauses between RDS and its service providers – it is anticipated that these will be developed in detail throughout the procurement phase of the Project.

SG is also obtaining specific legal advice to ensure compliance with relevant regulations, including:

- Vires (legal capacity)
- State aid
- Procurement regulations
- Employment Law
- Regulatory Law
- Financial treatment
- Office for National Statistics (ONS) treatment.

The proposed commercial structure should be subjected to a Legal Compliance Check to ensure compliance with relevant legal requirements.

Procurement Strategy

The procurement strategy for RDS has been developed on the basis of several assumptions:

- It has been assumed that the necessary inputs and functions required to be commissioned by RDS from SG, NRS, University of Edinburgh and PHS can be contracted for directly. Following legal advice, the basis for compliance with procurement requirements includes:
    - principally, reliance on Regulation 13 of the Public Contracts (Scotland) Regulations 2015 on the basis of a collaborative arrangement in furtherance of public duties and objectives.
    - that certain contracts will be capable of direct award in compliance with Regulation 33 of the Regulations for technical reasons
    - the existing arrangements under the SILC model.

- RDS will have in place appropriate service agreements with each of the bodies from which it obtains commissioned inputs

- It is considered that the proposed remit, scope and funding arrangements for RDS will be structured such that no state aid issues arise

- RDS will have its own staff with an initial complement of approximately 15 based on new permanent hires, secondment of some partner staff and some temporary staff

- Some partner staff resources and assets providing a service in the current operating model would not “transfer in” to RDS but remain in their current organisation with RDS, in effect, paying for their use

- RDS would lease particular premises. A Location Review has been undertaken and the preferred option is the Bayes Centre in Edinburgh

- RDS is to be put in place without requiring legislative measures.

A draft procurement strategy is included at Appendix Four: It sets out what components RDS requires and how it will go about procuring them. It is assumed that RDS will be a contracting authority and will have to adhere to the appropriate procurement legislation. This will mean there is likely to be a time lag between a requirement being identified and its procurement. This should be included in any planning assumptions.

A key part of the RDS operating model is that it will commission services such as indexing, safe havens, and computer infrastructure from partners. Given the importance of data security and public trust it is assumed that these services will only be able to be sourced from established and trusted public sector partners. These arrangements will require contractual terms to be put in place with partners. As further details of the RDS operating model become apparent, the procurement strategy will be updated and will remain a live RDS document.

Throughout the process, it is recommended that SG has externally appointed technical, financial and legal advisers in place to act in the best interest of the public sector and ensure that the procurement specifications are sufficiently detailed to achieve the desired outcomes. In order to maximise the recoverability of RDS expenditure, it is anticipated that RDS will be incorporated and VAT registered in advance of becoming operational.

Based on the assumed operating model, for RDS to function as a service for data controllers and users, the following components will require to be sourced:

Table 12: RDS components

RDS component	Remarks
Staff	Hiring new technical, operational and managerial staff.
Office space	Includes rent, rates, and related utility costs. This could be a shared office space with a suitable partner organisation or a stand-alone facility rented from private or public sector.
ICT equipment	Staff computers, telephones, printers, software and related infrastructure will have to be procured through the relevant procurement frameworks including shared services solutions.
Office equipment	Office fixtures and fittings, consumables and amenities will have to be procured through the relevant procurement including shared services solutions.
Professional services	RDS is likely to require legal, insurance, consulting, financial and tax advice during planning, transition and subsequent RDS business as usual. These can be procured through the relevant procurement frameworks including shared services solutions.
RDS operational	RDS specific activities such as indexing, parallel computing capability, website build/maintenance. Most likely to be commissioned from other public sector organisations

	through service level agreements (SLAs) and/or Memoranda of Understanding (MoU). It is expected that due to the specialist nature of these services, these activities will fall under specific exemption from procurement rules.

Key contractual terms and risk allocation

The commissioning model will require contractual terms to be agreed between RDS and the partners who are supplying it with services. RDS will require legal support to achieve signed contracts. The key contractual terms will set out the requirements of the service, availability, response rates, and payment terms. The relative risk allocation between the parties will be included in the contractual arrangements but, given the principles of partnership, the risk allocation should be equitable whilst agreeing who is better placed to manage/bear the risk.

There will also require to be contractual arrangements to be established between RDS and the data controllers to establish how RDS will be able to use delegated authority to provide access.

Procurement route and timescales

Procurement is likely to be through four main strands as follows:

- Procurement of private sector goods and services: this could take up to three months from development of the specification to the goods/services being delivered to RDS
- Staff recruitment: this may need to be supported by a private sector recruitment firm. Timescales from job specification to start could be as much as five months (including successful candidates' notice periods). RDS could consider transfer and/or secondment opportunities from partners to accelerate this process. Interim staff may be required int eh short term although this will be a more expensive option
- Office space: the choice of office space will depend on what is available on the market
- RDS operational capabilities: these will need to be commissioned from partner organisations and it would be sensible to identify which organisations could meet RDS's requirements. If there were several potential partners then some form of appraisal would have to be undertaken to determine who would be best placed to meet RDS's needs. RDS's legal advisors would have to agree some form of SLA and draft the necessary agreement. This whole process could take three to four months. Because of the specificity of these services and the importance of using public data correctly, it is assumed that these services will be exempt from competitive procurement competitions.

Efficiencies and Commercial Issues

The following commercial issues will need to be considered in arriving at a preferred commissioning model:

- The market in Scotland and supply of the required specialist skills is limited and requires investment.
- Requirements of specialist data holdings
- Statutory functions which mean there is a limited set of potential suppliers
- Tax treatment of alternative partnership and contracting options
- Regional versus National level demand and how to configure supply to meet both.

Conclusion

The Commercial Case lays out the initial procurement requirements and commissioning considerations for RDS. Discussions with the LWG and stakeholders will progress toward a preferred set of arrangements for participation in RDS and for optimal commissioning arrangements consistent with those preferences. Initially, it is assumed that the commissioning services will closely resemble the current services provided by partners. Refinements to the arrangements are likely to be necessary as the service development work is undertaken and the TOM implemented.

Financial Case

Introduction

The Financial Case focuses on the viability and financial sustainability of the preferred option given RDS's strategic objectives and mission. It presents the predicted income and expenditure totals for RDS by financial year, from FY 2021/22 to FY 2025/26. The Financial Case is based on a detailed financial model developed specifically for RDS with consultation taking place with partners and oversight provided by a Finance Working Group (FWG).

A brief summary of past and existing financial arrangements for the service model coming under RDS is also set out. This highlights some of the constraints and weaknesses of existing funding arrangements.

A scan of the wider landscape is conducted. This reveals how similar entities elsewhere in the UK have structured their financial activities. This helps identify risks and points of similarity/difference, which will need to be considered further in the context of RDS.

The chapter also addresses affordability of the preferred option and presents choices for consideration in order to ensure a sustainable financial approach to resource investment for RDS going forward.

As such, based on the preferred option, the Financial Case will:

- Provide a description of how the financial model was developed
- Estimate the total cost of the solution over a 5-year period
- Calculate how much the preferred option costs each year, with a split across key cost categories
- Identify funding sources
- Set out the key financial risks
- Undertake sensitivity analysis to identify how changes in key assumptions influence the overall financial position
- Set out a budget for RDS for FY21/22.

Financial Case Summary

In order to be acceptable to its partners, the financial case for RDS must be positive, sustainable and with financial risk carefully managed. Due to the ending of some grant funding, the current SILC financial model will increasingly show a deficit position: if the RDS financial model were to be based only on the SILC funding model it is likely that this too would show a deficit situation, making it more difficult to involve partners. Consequently, the SG Health portfolio has approved a funding request for £5m in each of the five financial years from FY 21/22.

This blend of SG core grant augmented by other funding streams is an essential condition of RDS's viability: it not only makes RDS financially sustainable, but also mitigates the financial risk to partners.

Financial Modelling Approach

A financial model was developed for the OBC and has been refined for the FBC: It sets out potential future income and expenditure for RDS. The model forecasts future demand and project volumes coming through RDS based on consultation with key service partners and research programme funders (ADR-S, HDR-UK, ESRC), as well as SG and PHS. Other activity associated with RDS's objectives is also identified.

The modelling takes account of the significant upsurge in research and analysis required to support the evidence base around the Covid 19 pandemic – including clinical research, treatments, drugs and vaccines trials, and wider research exploring variation in outcomes for those testing positive for the virus and other impacts on health and non-health outcomes resulting from the pandemic.

A set of services and activities are modelled to meet this demand and the costs of these resources are estimated. This exercise is presented for the current financial year and for each year to FY 2025/26. The financial modelling includes a transition period with associated start-up/transition costs. The figures are being developed in close consultation with service partners and all assumptions tested with the FWG.

In developing the Financial Case, the following components have been included:

- Baseline costs and income for the relevant activities undertaken in the current data linkage system based on the SILC (status quo) model
- Outline costs for the preferred option (a new body established as a joint venture). This has been based on an assumption that RDS will operate through a commissioning model, managed by its own staff of approximately 15
- Income from both revenue and grant funding streams, is based on forecast project volumes and demand
- A more detailed analysis of the costs used in the OBC, particularly for staffing, accommodation and transition
- Conversations with key stakeholders in relevant partner organisations such as eDRIS, EPCC and NRS
- Benchmark data on outline costs sourced from organisations offering a similar service such as NHS Digital, SAIL, and ONS, UK Data Service/Archive
- A core SG grant of £5m per annum for five years commencing FY 21/22
- Estimates of service development costs, necessary to improve the service.

Finance Working Group

A FWG was established to input to and support the development of the financial modelling underpinning the set-up of RDS, to inform the OBC, FBC and applications for further funding and financial support.

SILC (2014) and Historic and Existing Funding Sources

Figures detailing the costs and funding of the existing data linkage service model have been compiled as part of this Financial Case. These capture recent and

current year income and expenditure and provide a contemporary baseline account of activity which is expected to come through RDS.

The current data linkage model under SILC is intended to operate as a balanced budget based on an aggregate income from grants and revenue of approximately £4m pa and with costs relating to staff, data infrastructure, building costs and other costs totalling a similar amount. The actual figures for FY 19/20 and FY 20/21 can be seen in the following table:

Table 13: SILC Income & Expenditure

	FY 19/20	FY 20/21
Income	£	£
Grant funding from SG	1,147,768	1,172,362
Grant funding from ESRC	1,346,873	1,640,935
Grant funding from CSO	150,000	150,000
Grant funding from ADR S	251,817	190,000
Other grant funding	556,835	503,189
eDRIS income	510,000	620,000
Other income	-	-
Total	3,963,293	4,276,486
Expenditure		
Staff costs	2,556,621	3,359,078
Non staff costs	1,228,004	833,793
Transition & set up costs	-	-
Commissioning costs	-	-
Total	3,784,625	4,192,871
Surplus/(deficit)	**178,668**	**83,615**

The SILC service model relies upon various grant income and research council funding streams, along with revenue generated from charging for the service of the eDRIS team. SG and NHS NSS also contributed to some of the costs of setting up SILC in 2014. This mixed funding model remains in place, with some users (who grant fund SILC) accessing the service for free, at the point they undertake a research project, and others paying on a project-by-project basis.

As SILC was not constituted as a legal entity, the financial flows funding the data linkage service were supported by a set of bilateral MoAs, SLAs and other agreements between each of the funders and service partners. These arrangements, which exist still, do not lend themselves to ready appraisal of the cost effectiveness of the system as a whole in meeting its objectives, or of the individual parts therein. Due to the ending of some grants, it is likely that the SILC model will move to a worsening deficit position from FY 22/23. A predicted income and expenditure analysis is shown in the following table:

Table 14: Predicted SILC Income & Expenditure FY 21/22 to FY 25/26

	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26
Income	£	£	£	£	£
Grant funding – SG	1,100,000	1,111,000	1,122,110	1,133,331	1,144,664
Grant funding – ESRC	1,817,000	1,485,000	1,485,000	1,485,000	1,485,000
Grant funding – CSO	150,000	-	-	-	-
Grant funding - ADR S	190,000	190,000	190,000	190,000	190,000
Other grant funding	563,549	320,215	86,882	86,882	58,597
eDRIS income	521,383	700,763	763,459	839,059	927,410
Other income	-	-	-	-	-
Total	4,341,932	3,806,978	3,647,451	3,734,272	3,805,672
Expenditure					
Staff costs	3,606,499	3,711,784	3,815,647	3,937,551	4,051,955
Non staff costs	601,858	696,316	696,316	696,316	696,316
Transition & set up costs	-	-	-	-	-
Commissioning costs	-	-	-	-	-
Total	4,208,357	4,408,100	4,511,963	4,633,866	4,748,271
Surplus/deficit	**133,575**	**(601,122)**	**(864,512)**	**(899,594)**	**(942,599)**

Alignment of these various funding sources through RDS, with single contracts for activity, is expected to promote more efficient and effective service provision, to better align incentives and to realise non-cash releasing efficiencies. In addition, it will allow for surpluses to be carried over and reinvested in the service and support access to public sector data for research with public benefit.

To achieve these benefits through the establishment of RDS will require a different model: modelling for RDS has been predicated on similar levels of grant funding as per the status quo but costs are based on a commissioning model. RDS has additional costs over the SILC model in respect of service development, staffing and transition costs relating to its establishment.

RDS Income

The income of RDS over the next five years is shown in the following table:

Table 15: Predicted RDS income FY 21/22 to FY 25/26

	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26
Income	£	£	£	£	£
SG core grant	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
Grant funding from SG	1,100,000	1,111,000	1,122,110	1,133,331	1,144,664
Grant funding from SG (ADR UK/ADR-S)[12]	1,011,000	578,325	593,355	608,386	623,750
Grant funding from ESRC	1,747,743	1,416,590	1,417,446	1,418,311	1,419,184
Grant funding from CSO	150,000	0	0	0	0
Grant funding from ADR S	190,000	190,000	190,000	190,000	190,000
Grant funding from HDRUK	466,667	233,333	0	0	0
Other grant funding	96,882	86,882	86,882	86,882	58,597
eDRIS income	521,383	700,763	763,459	839,059	927,410
Total	**10,283,675**	**9,316,894**	**9,173,253**	**9,275,969**	**9,363,606**

Forecast demand and volumes of work

The RDS income figures include estimates of likely demand for eDRIS. The demand modelling uses actual figures from previous years to develop ratios that allow prudent predictions on future project numbers, revenue and staffing requirements in future years.

The eDRIS calculations represent a 'stock and flow' approach: the model starts with an opening balance of projects to which new enquiries are added and closed projects/enquiries subtracted to give a closing balance for each year, which becomes the opening balance for the following year. The model shows increasing demand with progressively higher number of projects/enquiries. The increased demand is based on Covid 19 work, RDS having a growing number of datasets available, and greater efficiency reducing the average duration of projects and so increasing throughput.

Table 16: Predicted project volumes (not including efficiency gains) FY 21/22 to FY 25/26

	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26
Live enquiries & projects brought forward	600	656	695	746	808
New enquiries pa	345	345	380	418	460
Assumed growth rate of enquiries	10%	0%	10%	10%	10%
Total enquiries/projects handled eDRIS pa	945	1002	1075	1164	1268
Project closure % pa	30.6%	30.6%	30.6%	30.6%	30.6%
Enquiries & projects closed pa	289	306	329	356	388
Projects carried forward pa	656	695	746	808	880
% of completing projects issued fees pa	20.8%	20.8%	20.8%	20.8%	20.8%
Number of projects issued fees	60	64	68	74	81
Average fee	£8.7k[13]	£11.0k	£11.2k	£11.3k	£11.5k
Revenue from projects	**£522k**	**£701k**	**£763k**	**£839k**	**£927k**

[12] A SG grant funding application to ADR UK/ADR-S was awarded in late Summer 2021: the funding goes to SG but it is assumed that SG has some discretion to pass elements of the funding to RDS where there is alignment of outcomes
[13] It is assumed that RDS will have to absorb VAT on its fees in FY21/22 so a reduced level of revenue is shown.

RDS Expenditure

For the Financial Case, RDS's costs have been developed based on:

1. **Ongoing operational costs** – including staff costs and non-staff costs (eg premises, utilities, technology, and other equipment).
2. **Transition and set up costs** – the cost of setting up the new RDS organisation including one off transition costs such as website creation, development of systems, transition staff costs, and legal costs.
3. **Commissioning costs** – the costs to RDS of 'buying' services from RDS's partners such as EPCC, eDRIS, and NRS
4. **Service development costs** – the costs of service improvements (mainly enhancements such as synthetic data, case tracking system, analytical workbench, interoperability, support for the RSHs, geospatial data access, digital access platform) relating to RDS's transition to its Target Operating Model (TOM)

Based on the above categories, the financial model has predicted RDS's expenditure for the first five years of operations as follows:

Table 17: Predicted RDS expenditure FY 21/22 to FY 25/26

	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26
Expenditure	£	£	£	£	£
Staff costs	1,394,181	1,360,138	1,383,887	1,571,409	1,597,304
Non staff costs	666,484	724,329	725,043	725,895	726,905
Transition & set up costs	475,000	215,000	90,000	90,000	90,000
Commissioning costs	4,512,935	4,636,714	4,759,257	4,900,027	5,033,486
Service develop costs	3,795,616	2,553,519	1,457,428	1,569,900	1,693,716
Total expenditure	**10,844,216**	**9,469,701**	**8,415,614**	**8,857,231**	**9,141,412**
Surplus/(deficit)	**(560,542)**	**(152,807)**	**757,639**	**418,737**	**222,194**

The financial modelling shows that RDS has a deficit of £561k in year one, a deficit of £153k in year two and has a surplus of £758k, £419k and £222k in years three, four and five respectively. In total, over the five years, the surplus is £685k with an average annual surplus of approximately £137k per year.

To test the robustness of this position, the financial model has included sensitivity analysis with various scenarios modelled to test their impact on the surplus position.

Sensitivity and Optimism Biases

The Financial Case offers a prudent and tested set of scenarios to draw out the nature and consequence of different financial risks:

- An end to the ESRC main grant in March 2022 (this is the biggest single grant) or an equivalent reduction in the SG core grant
- An end to all grant funding (except SG core grant/internal eDRIS grant funding)
- To mitigate optimism bias, an increase in costs (30% for staff costs, 20% for all other costs)
- A drop in eDRIS project volumes by 15%
- An increase in eDRIS project volumes by 15%

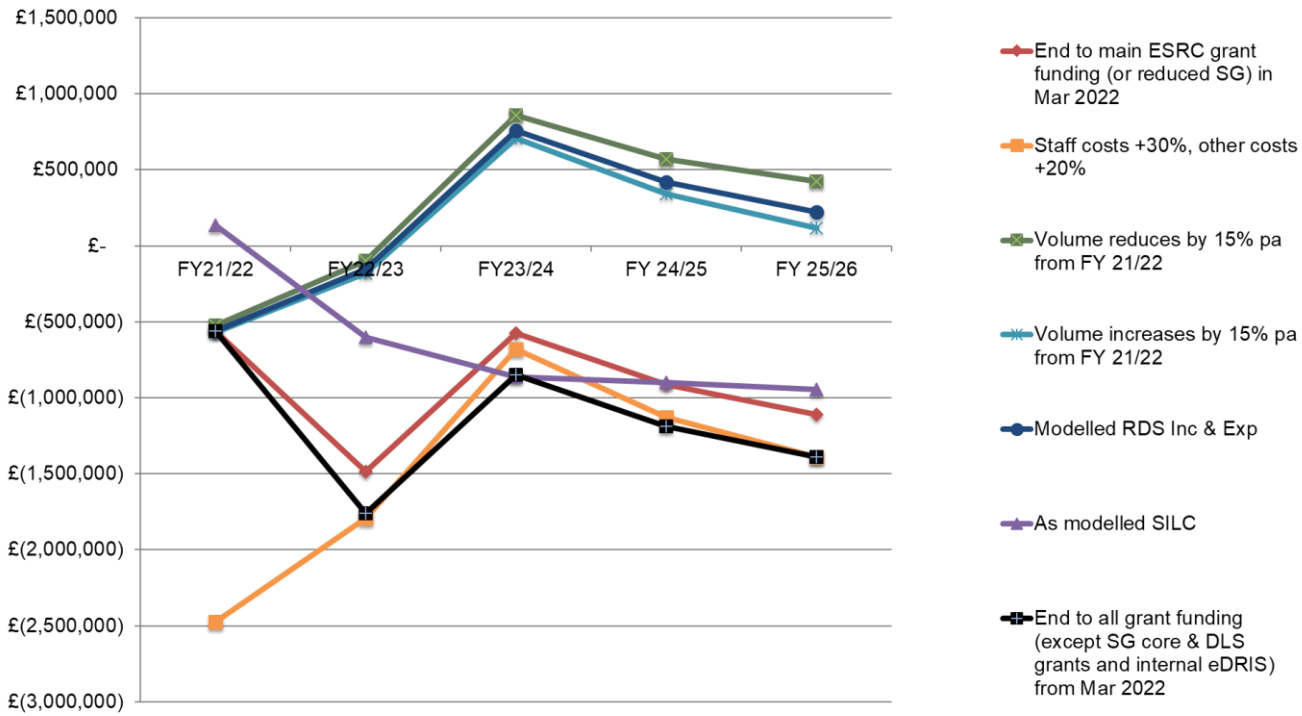
The different scenarios have been modelled and shown in the following table:

Table 18: RDS sensitivity analysis FY 21/22 to FY 25/26

Scenario	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26
	£	£	£	£	£
As modelled RDS I&E	(560,542)	(152,807)	757,639	418,737	222,194
As modelled SILC I&E	133,575	(601,122)	(864,512)	(899,594)	(942,599)
ESRC grant funding ends (or SG core grant reduces) Mar 2022	(560,542)	(1,483,807)	(573,361)	(912,263)	(1,108,806)
All grant funding ends Mar 2022	(560,542)	(1,759,397)	(849,808)	(1,189,574)	(1,386,990)
Staff costs +30%, other costs +20%	(2,475,181)	(1,793,068)	(677,900)	(1,129,335)	(1,389,944)
Volume -15% pa from FY 21/22	(524,847)	(96,277)	857,932	571,147	425,517
Volume +15% pa from FY 21/22	(567,681)	(179,194)	707,467	341,131	115,922

This can also be seen in the following graph:

Figure 5: RDS sensitivity analysis FY 21/22 to FY 25/26



Financial Sustainability and Risk

As shown above, whilst the base case is positive, some of the sensitivities are in a deficit position. This includes the scenario whereby the current ESRC budget is cut from March 2022 (average deficit of £0.9m pa), and the scenario whereby all grant funding (with the exception of the DSLS, which is in the control of SG) is cut (average deficit of £1.1m pa). In these scenarios, RDS could be returned to a surplus position by reducing/delaying the amount spent on service development.

The other sensitivity showing a deficit position assesses an increase in staff costs of 30% and an increase in other costs of 25%: this scenario has an average deficit of £1.5m pa. This scenario is included to counter optimism bias but again the deficit could be returned to a surplus position by reducing/delaying the amount spent on service development. Many of the costs in the financial model are based on actual costs, so optimism bias is not believed to be an issue for RDS's financial position; however, RDS has started to recruit staff and, based on the reality in the current jobs market, staff costs have been increased and this is reflected in these figures. This this risk should be monitored carefully.

The financial model has shown that, at present, based on the assumptions used, there is a surplus position and RDS would be financially sustainable. The sensitivity analysis highlights the reliance of RDS on SG core grant funding. Once established, the financial position will be improved through greater efficiency, cost reduction, increased revenue, and through securing further grant funding. Whilst these actions are aligned to the benefits of RDS, it is unlikely that RDS will be able to achieve them in the short term. Consequently, the core SG grant is vital to underwrite RDS.

Factors affecting RDS's costs:

Experience delivering data driven research highlights the significant costs associated with supporting researchers and provisioning high-quality linkage-ready datasets. Efforts to improve consistency in data quality and metadata standards across the Scottish public sector will work to drive down the costs of conducting research. In addition, making better information about existing data sources available publicly will also help manage the burden on the service (research co-ordinators and data controllers) and support a more informed user community.

Other efficiencies along the data pipeline are being tested both in Scotland and elsewhere and learnings from this can inform changes to RDS processes to improve efficiency and drive down costs.

Charges levied on users arguably do not reflect the full cost of provision and continue to be supported by grant funding. Preliminary analysis of management information from the existing service model suggests significant time is spent on pro-bono work that is not invoiced. A review of charging structures and fees will be undertaken in the first year of RDS's operations.

The financial figures have been further developed during the development of the FBC and have been presented to the Transition Board.

Other financial risks facing RDS and the Financial Case modelling include:

- Accuracy of the baseline costs, although most are based on historic actual costs
- Ability to forecast demand and revenue – historically this has been a problem for the whole service model (linkage and non-linkage) and has had direct implications for staff capacity and ability of the entire journey to be managed, free of bottle-necks while also ensuring staff are always fully utilised. This is particularly relevant as RDS increases the number of datasets that are available for research
- Complexity of projects to be undertaken and estimated time required from staff members
- Optimal staff resource – level of resourcing, skills, expertise, turnover and capacity
- Costs and resource estimates.

How could RDS be funded?

UK-wide Public Sector Data Access

An assessment of the wider UK landscape reveals considerable variation in how data access arrangements for public sector data are delivered via institutional and financial frameworks.

A number of the data access platforms/services are located within academic institutions and/or public sector bodies. In all cases, these rely on some level of ongoing public sector funding. This is the case for the SAIL databank (Swansea University), which is part-funded by Health and Care Wales and the Welsh Government. The Secure Research Service within Office of National Statistics (ONS), the UK Data Service and NHS Digital all receive support via research councils and central government departments to commission relevant services for making public sector data available for public benefit research. Some of these institutions are able to supplement service provision with income from commercial activity in other parts of their business model.

The analysis of fees charged for services in other parts of the UK suggests these are subsidised and not representative of the full economic cost of providing them. This mixed model of funding is typical and represents how the service model in Scotland has worked to date.

Further work in the coming year will explore an acceptable compromise on fees and charges – such that RDS remains an attractive offer to researchers and others wishing to access public sector data, while remaining on a healthy financial footing.

Income Generation

RDS will have opportunities to generate income from:

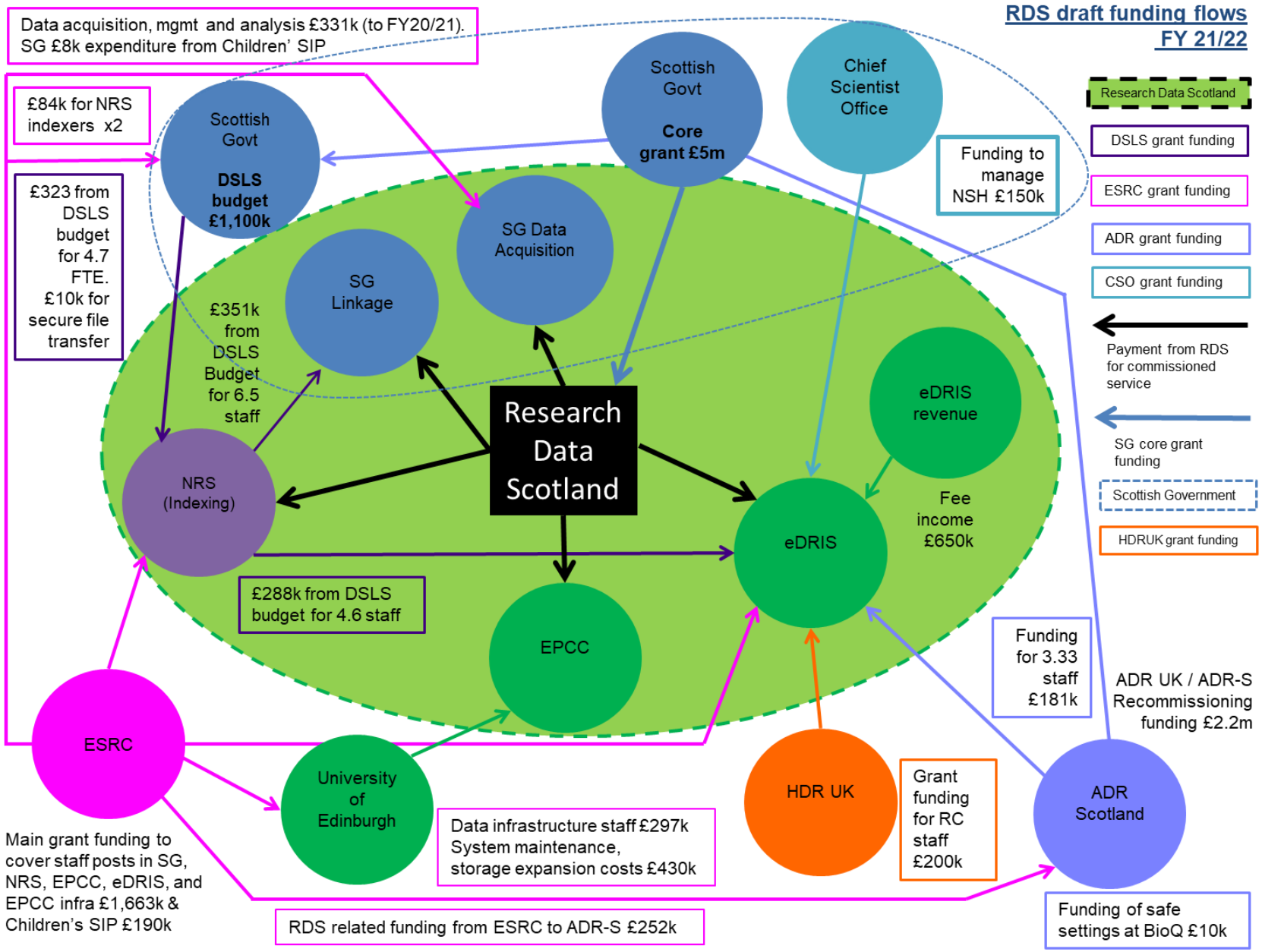
- Charging for its research co-ordinator service and for the costs associated

with accessing datasets
- Charging for analytical support
- Annual subscription fees to potential users
- Profit-sharing arrangements where proceeds from IPR over products derived from accessing the data could potentially be shared with RDS in order to reinvest in the services and data
- Developing synthetic data.

Future funding flows

The future funding flows are shown in the following diagram. Funding mechanisms will be updated once commissioning arrangements have been established. This includes the newly secured grant funding from ADR UK/ADR-S to SG.

Figure 6 Draft RDS funding flows



FY 21/22 Budget

Based on the financial model's income and expenditure, an initial budget has been developed for FY 21/22 and is shown in Appendix Five.

Conclusion

The Financial Case presents the income and expenditure estimates for RDS, based on past and recent business activity and estimates of forward demand, presenting a set of 5-year income and expenditure positions and net financial position. This analysis includes conversations with service providers and funders and with those involved in delivering the Covid 19 research data service.

The setup of RDS is based on the current data linkage service model, which will gradually transition into the new data linkage and access model based on the commissioning of services from existing partners.

The financial model has shown that, at present, based on the assumed future service model, which includes development of the service, and a core grant of £5m from SG, there is an average surplus position of approximately £137k per annum (compared to an average deficit for the status quo of £635k) and RDS would be sustainable. This financial position remains sensitive to increased costs and this will require to be monitored once RDS is operational.

Management Case

Introduction

This chapter details arrangements for the programme of work necessary to establish RDS, adopting a programme management approach. It sets out a delivery plan with clear milestones, documents project planning, governance structures, staffing, risk management, communications and stakeholder management, benefits realisation and assurance mechanisms. It demonstrates that robust arrangements are in place for the delivery, monitoring and evaluation of the scheme, including feedback into the organisation's strategic planning cycle.

Project Management, Governance, Roles and Responsibilities

Project management arrangements are led by SG's Data Sharing and Linkage Unit and oversee the activities of a project delivery team working on the implementation of RDS.

Programme governance is provided through the RDS Transition Board that meets regularly to review progress and provide advice and oversight for the overall direction of the project. The Board also oversees management of project timescales and risks.

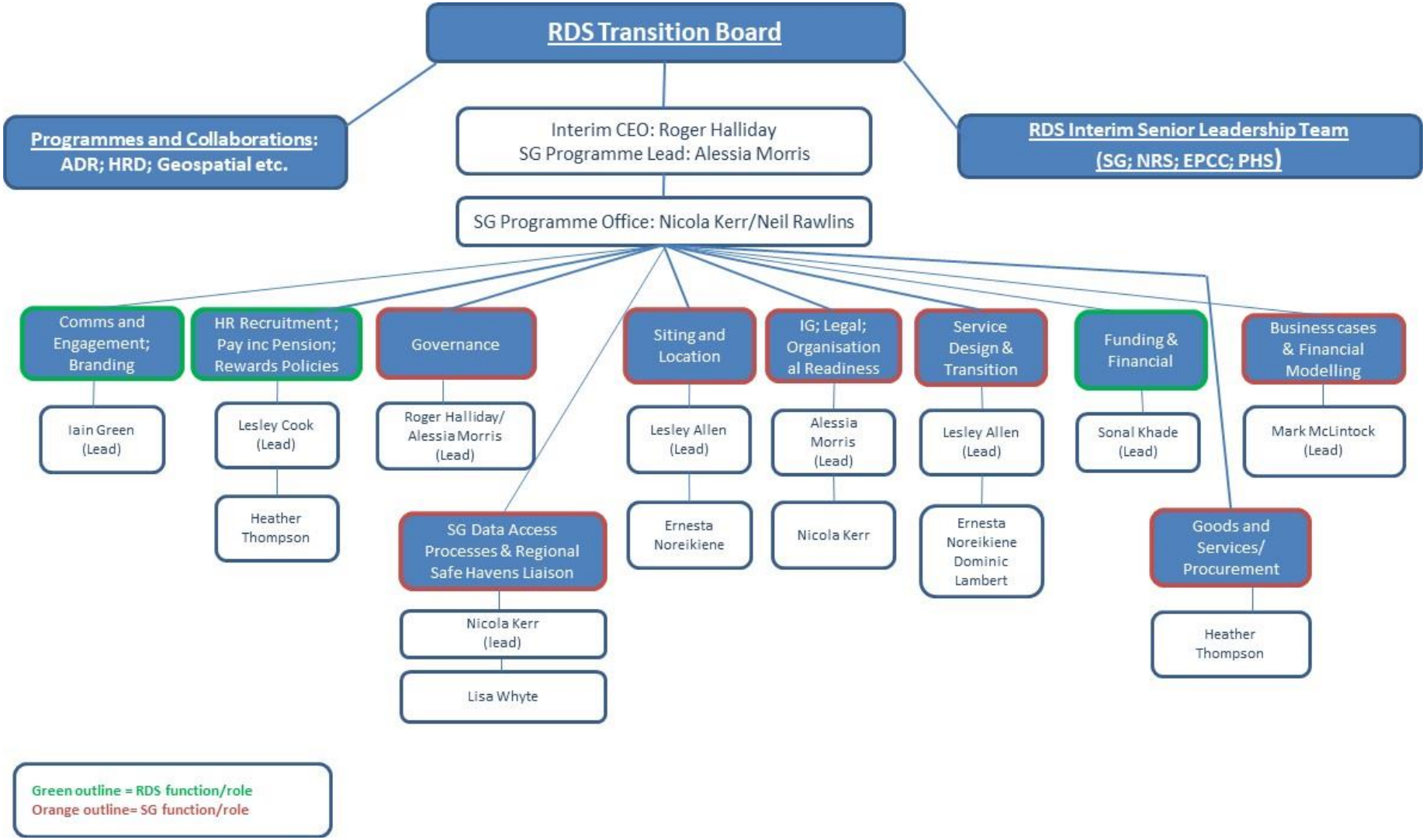
A number of themed working groups have been established to work on the more substantive considerations for the delivery of RDS:

- Legal Working Group
- Financial Working Group
- Regional Safe Havens short life Working Group
- Staffing Working Group.

Terms of Reference for each of the Groups have been agreed, documented and are include on the RDS website. Project roles and responsibilities are as follows and are shown in Figure 7.

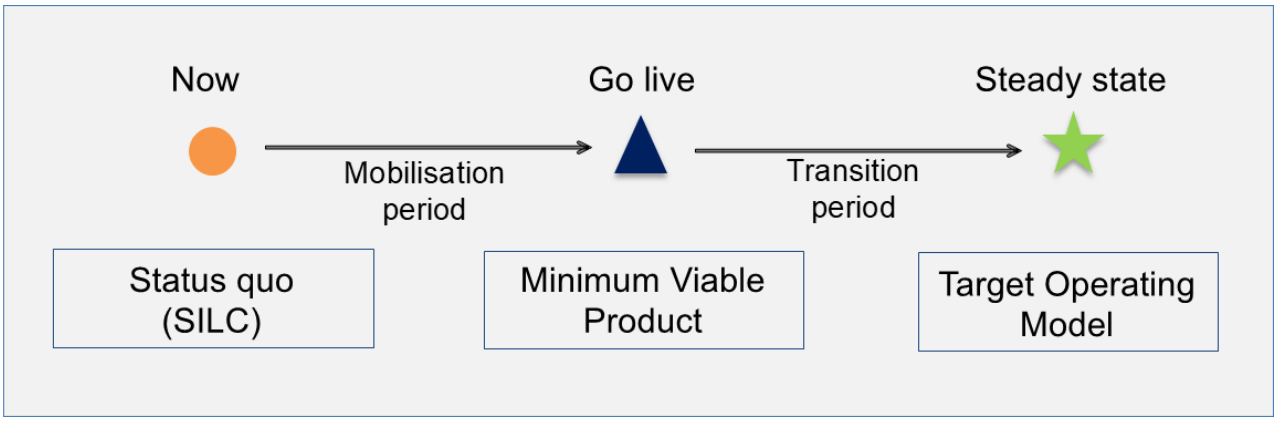
- Senior Responsible Officer
- Project Executive Manager
- Project Lead
- Project Manager
- Lead Business Case
- Lead Funding and Finance
- Lead Service Design/Transformation Manager
- Lead Communications and Stakeholder Engagement
- Business Analysts.

Figure 7: Project Reporting Structure



The project team will be responsible for managing the change from the status quo through a soft launch to a Minimum Viable Product (MVP) stage before RDS's board is established and responsibility transfers to RDS staff. Over time, the RDS service will develop and transition to a new Target Operating Model (TOM).

Figure 8: RDS progression



Minimum Viable Product (MVP)

Within the RDS project team, the term MVP is being used to describe the initial service offering upon launch. The first year of operations will be used as a transition moving the service from MVP to a steady state. The advantage of this approach is that some of the existing service will remain in place to form the basis of the MVP and will be enhanced by some additional capability. This means that after soft launch, the RDS service will include the following functions:

- A new RDS website with several important features:
  - searchable
  - open/public facing
  - data catalogue
  - links to websites of service providers and partners
  - digital services (including project tracker)
  - contact details
  - RDS branding
- Metadata and data catalogue with useful links to; SG and NHS open data platforms; geo-spatial data
- Well defined user/research journeys including IG and approval permissions
- RDS formally set up as a CLG with charitable status;
- Chair and Non-Executive Directors (partners and independent) in place; core staff and secondees in place.
- Articles of Association in place
- Commissioning arrangements (based on the status quo) agreed formally with service providers
- RDS governance arrangements in place: governance strategy; overall strategy; business plan; policies; delegated authority; board meeting schedule; reporting schedule; KPIs

- Stakeholder engagement and communication plan in place
- RDS data road map/data acquisition programme developed that shows what data sets will be available and when
- RDS office location agreed, offering national coverage
- RDS bank account set up
- RDS VAT registration.

It should be noted that during and after the RDS achieves MVP, the National Safe Haven infrastructure will continue to exist and will remain an important resource.

To move from the status quo to the MVP will require a project plan; a subsequent service development plan will be required to develop RDS from MVP to its fully functional operational state.

Project Plan

A project plan has been developed to capture tasks, deliverables and timescales across the working groups and project roles. This maps out the set of activities to move from current operations to MVP in September 2021 (and subsequently the Target Operating Model).

A summarised version of this is presented to the Transition Board at each meeting.

Table 19: Mobilisation plan

Action	Who	When
Website		
Website signposting including company articles, structures, leadership etc.	Comms Manager	TBC
Description of service, who we are and outlining the services RDS will provide and who delivers them	Comms Manager	TBC
Contact details for accessing RDS service	Comms Manager	TBC
Holding text / narrative next steps	Comms Manager	TBC
User IG and approvals guidance	Comms Manager/eDRIS	TBC
Researcher user journey: guide on how users interact with eDRIS, NRS, EPCC	Service Design Team / eDRIS	TBC
Details of fees	eDRIS	TBC
Information on RDS key staff, leadership team, accountability and reporting	Comms Manager	TBC
"User charter"/service user expectations	eDRIS	TBC
Information on how data controllers can engage with RDS	eDRIS and ADR-S	TBC
Key service features		
National Safe Haven Services Catalogue	eDRIS / EPCC / NRS / RDS	TBC
Data Hosting Services	EPCC	TBC
Indexing Services	eDRIS / EPCC / NRS /	TBC
Research Support Service	eDRIS	TBC
Trusted Research Environment	EPCC	TBC
Data catalogue / Data inventory for:	RDS Team	TBC
Data catalogue – Education	RDS Team	TBC
Metadata catalogue	RDS Team	TBC
Links to websites	Service Design Team / Comms Manager	TBC
link to eDRIS	Comms Manager	TBC
link to SPBPP	Comms Manager	TBC
link to PHS	Comms Manager	TBC
link to HDR-UK	Comms Manager	TBC
link to RSH	Comms Manager	TBC
link to NRS	Comms Manager	TBC

link to EPCC	Comms Manager	TBC
link to UK data archive	Comms Manager	TBC
link to SG open data platform	Comms Manager	TBC
link to PHS open data platform	Comms Manager	TBC
link HSC-PBPP	Comms Manager	TBC
link to open data platforms	Comms Manager	TBC
Geo spatial commission	Comms Manager	TBC
Private satellite data via Scottish Enterprise	Comms Manager	TBC
Comms & Marketing		
Agreed comms plan for launch	Comms Manager	TBC
Marketing collateral products, flyers etc	Comms Manager	TBC
Agreed format for launch	Comms Manager	TBC
Ministerial advice + launch press release	CEO/ RDS Team/ Comms Manager	TBC
Demonstrator project	CEO	TBC
Onboarding new web provider?	Service Design Team /Comms Manager	TBC
Organisational requirements		
Finalise Articles of association	RDS Team	TBC
Finalise Members' Agreement	RDS Team	TBC
Registration with OSCR	RDS Team	TBC
Company directors and trustees in place	CEO/ RDS Team	TBC
OBC and FBC signed off by Minister and published	RDS Team	TBC
Governance arrangements and processes in place, including user group, international advisory group (IAG) etc	CEO	TBC
Employ staff	RDS Team	TBC
Commissioning Agreements / SLAs with partners	RDS Team	TBC
RDS strategies and policies inc HR, Finance, Data etc	CEO/eDRIS/EPCC	TBC
Review of the Privacy Policy & Cookies Statements to reflect RDS separate legal entity	tbc	TBC
Case management system including performance matrix and external facing functionality	Service Design Team	TBC
Operational requirements		
Complaints procedures	CEO/Chief Inf Officer	TBC

Researcher / project progress view	Service Design Team	TBC
Initial inquiry form	Service Design Team	TBC
Policies and arrangements for National Safe Haven	eDRIS	TBC
Setting up Central contact route for queries to be routed to the appropriate team	eDRIS	TBC
Safe pod network access	NSH/eDRIS	TBC
Safe pod network access	SG/NRS	TBC
RDS bank account	RDS Fin Mgr	TBC
VAT registered	RDS Fin Mgr	TBC
Establishing monthly finance reporting	RDS Fin Mgr	TBC
Establishing monthly performance reporting	eDRIS	TBC
Payroll	RDS Fin Mgr	TBC
Initial location arrangement	RDS Team	TBC
Equipment	RDS Team	TBC
Pension	RDS HR Adviser	TBC
Public Liability Insurance and Directors' insurance	RDS Fin Mgr	TBC
IG pathway 1 defined inc associated documentation	RDS Team	TBC
Business continuity / disaster recovery plan	RDS Team	TBC

Communications & Stakeholder Engagement

There is high level of interest in RDS across several key stakeholder groups. Project communications and stakeholder engagement will be an important aspect of implementing RDS. The SRO, Chief Statistician Roger Halliday has already commenced engagements with key delivery partners and produced public-facing summaries highlighting the longer term benefits of RDS and the opportunity it presents. The key stakeholders are as follows:

Table 20: Key RDS stakeholders

Stakeholders	Role in RDS	Remarks
Scottish Government	• Funder • RDS governance role • Data Controller • User	Sets national outcomes, and Scottish Digital Strategy. Existing SILC partner.
Public Health Scotland	• RDS governance role • Oversight role for eDRIS • Data controller • User	New organisation set up in April 2020
National Service Scotland	• Data controller	Lead agency for SILC, previous home of eDRIS
National Records Scotland	• Indexing • Data controller	Existing SILC partner
eData Research and Innovation Service (eDRIS)	• Data Linkage provider	Existing SILC partner within PHS
University of Edinburgh	• RDS governance role • User	Provides EPCC to SILC. Existing SILC partner.
Edinburgh Parallel Computing Centre (EPCC)	• Computing infrastructure & capability	Part of the National Safe Haven delivery team. Existing SILC partner.
Health Data Research UK	• Funder • User	Successor to FARR Inst. which was formal SILC partner
ADR Scotland	• Funder • Service recipient • User	Existing SILC partner.
Chief Scientific Office	• Provides grant funding to NSH (until March 2022)	Funds five regional save havens as well as National Safe Haven
Regional Safe Haven service partners	• Regional indexing/linkage service and secure analytical platforms. • User • Data controller • Governance role?	
Academics, researchers, analysts	• Users	Existing users of SILC

Data controllers	• Providers of datasets • User	Existing providers of datasets to SILC
Data professionals: statisticians/data scientists	• Users	Existing users of SILC

Change Management Plan

Transition from the current data linkage and access service model to a MVP for RDS will enable changes occurring in response to Covid 19 to be built into the service at soft launch in 2021. This will require careful planning and change management to ensure continuity of service delivery. A more detailed future service model for RDS will be developed for implementation during the first year of RDS operations.

Benefits Realisation Plan

A benefits realisation plan is included in this FBC at Appendix Two. This includes a detailed plan of how each identified benefit will be measured so its realisation can then be monitored.

The benefits realisation plan will be aligned with the project delivery plan: it is currently profiled so that full values will not be realised until at least year 5 of the programme.

A standalone draft benefits management framework has also been developed and this will be passed to the RDS Board for review and approval.

Contract Management Plan

This will set out arrangements where contracts are required and specify the accompanying documentation, in line with the Commercial Case.

Risk Management and Risk Register

Risk Registers and an overarching Risk and Issues Log have been developed for the RDS Programme. These are updated regularly and used to capture and manage risks across the work-streams and are shared with the Transition Board.

A full risk management plan for the transition from the current data access model to RDS is included at Appendix Three.

A separate risk management framework has also been developed that sets out a draft methodology for consideration by the RDS Board once RDS is operational.

Assurance

Whilst there are governance structures in place to oversee the planning and delivery of RDS, it may be prudent to consider independent assurance and/or a gateway

review process. Existing SG guidance should be consulted and implemented as required.

Post project evaluation

In accordance with SG guidance, a post implementation review will be included in the overall project and undertaken approximately nine months after RDS is operational.

A more detailed specification for the type and nature of evaluation (economic, impact or process) to be conducted and the information requirements for this will need to be set out ahead of the post project evaluation.

Contingency plans

In the event that this project fails, the current operating model can be continued through the existing operational arrangements. It is planned to initially offer RDS on a MVP basis. This means that, if required, there would be the opportunity to operate on this basis for a longer period than anticipated if that was required to mitigate any emerging risks or issues.

Successful delivery

As an organisation, RDS will service two separate groups of stakeholders through its work and operations; those who are data controllers and those who wish to access data.

These groups of stakeholders will interact with RDS through a defined service model. This model must meet the needs of both groups and be fit for the future in terms of anticipating likely demand (of both data controllers and end-users) and building a service to support this. Innovation and performance improvement will be at the heart of how the service model matures.

RDS will need to keep pace with changes to standards and cyber security practice to continue to gain the support of data controllers. Similarly, data curation methods and systems must strive to innovate to keep pace with the requirements of increasingly sophisticated analytical techniques applied by end-users. RDS will need to devote resource to this horizon-scanning and relationship-building work.

RDS will lead an ongoing programme of public engagement and public-facing communications that explains what RDS is about, what it aims to achieve and how it takes views from the public on these issues. It will be transparent with users and the public concerning how and why data is processed and regularly provide examples of impactful work where projects have informed and evidenced Scottish policy and public services.

Data Controllers, Information Governance – privacy at the centre

It is recognised that different data have varying levels of classification - from those which can be made freely available (i.e. open data) through to those that must be

carefully controlled due to the sensitive nature of the data whilst protecting citizens' privacy.

It is also recognised that the public hold subtly different views regarding the acceptability of people from the public/private/voluntary sectors accessing data for various uses – from informing development and improvement of public services through the potential generation of private sector profit.

It is proposed that a mixed model of IG arrangements will be adopted under RDS across a broad spectrum of data. This approach will build in the flexibility to accommodate statutory requirements relating to some data holdings, while supporting a different approach for other types of less sensitive (protected) data.

RDS will benefit data controllers allowing them to see what type of enquiries are coming in for their data. This will enable them to plan and ensure they are meeting their ethical and legal requirements on data production.

IG under RDS will work towards ensuring robust, holistic and proportionate assessment of requests to access data and work with data controllers to explore how best this can be delivered within an environment where, in some instances, many different data sources are being combined for single analysis.

There will be the flexibility for data controllers to specify which data can be used, in which ways and by which types of users. In some cases this could involve data controllers depositing datasets into the secure computing environment, with the potential for permission for these to be used in specified ways. In other cases data controllers may wish to retain an approach wherein they retain source datasets within their local computing environments and only provision data after assessing each project.

RDS will offer all of these options, using standardised data sharing and data processing agreements. It will remain the responsibility of the data controllers to make the assessment concerning the risks and benefits of providing access to the data for specific requests.

RDS will develop a data prospectus that outlines public sector datasets and what they contain (their metadata). This will allow researchers to search the prospectus to determine whether the data they require is available and can be used for the purposes of their research. Clear permissions around the use of such data will be agreed between RDS and data controllers and made available to researchers.

In effect, RDS will adopt a hybrid model in which it will be a data controller for some datasets and not others. This will be dependent on the requirements of original data controllers.

RDS Service Users, Data Catalogues

RDS will seek to engage with professionals from the:

- Public sector

- Academia
- Private sector
- Voluntary sector.

This will ensure that the potential of Scottish public sector data are released for public benefit. In order to develop viable and worthwhile projects users will need to understand what data are available and the likely logistics involved in provisioning that data.

RDS will develop a data prospectus that outlines the datasets that are available for research including linkage and what variables they contain (their metadata). This will allow researchers to search the prospectus to determine whether using this data would be worthwhile, whether the data they require is available and can be used for the purposes and, if so, to start to plan their research. RDS will commission work to set up and maintain a web based resource.

RDS Service Providers – Research Co-ordinators, Customer Support

RDS will commission research co-ordinator services to:

- Liaise with experts in the required datasets
- Build knowledge of all datasets that are available (including meta data, coding structures etc.)
- Support study design and assessment of the logistics involved in creating the required dataset
- Implement agreed information governance and data access processes – ensuring that agreements with data controllers are followed
- Advise on the creation of study cohorts from single and multiple datasets
- Maintain and support appropriate project documentation (e.g. IG and researcher approvals)
- Regularly communicate across the technical parts of the data linkage service to drive progress (customer support, indexing and secure computing environment)
- Data provisioning and ad hoc/bespoke linkages.

Within the current data linkage system some of these functions are currently provided by the eDRIS service (part of PHS) for health data.

Current experience has demonstrated that not all users of RDS will be technically able to undertake their own data analysis and may wish to commission support from another organisation – this is something which would be available (or sourced) through the RDS user service. RDS will therefore commission, and audit, this service currently provided by eDRIS within PHS.

RDS Service Providers – Indexing Service

Identifiable personal information is not always required for the vast majority of research and innovation purposes. The current experience is that worthwhile projects often require large volumes of data and/or the joining of multiple datasets;

however, this does not commonly require a concomitant need to provide personal identifiable information to researchers.
The linkage model will continue to be based upon a technical approach which is known as the 'separation of function' model. Within this approach the linkage of individuals takes place separately, in a different organisation, from the joining of the information required for a research projects.

RDS will therefore commission, and audit, the services of the well-established de-identification and linkage service already in existence at NRS acting as the trusted third party.

This service replaces direct individual personal information with de-identified index numbers and allows datasets to be joined and provisioned without data custodians needing to exchange personal identifiable information between themselves. This approach will be central to the development of RDS and form the key underpinning for the pseudo-anonymised data that is provisioned for data linkage projects.

RDS Service Providers – Secure Storage

In order to ensure public trust is realised a secure high performance computing environment is required which will have two key functions:

a) Accredited secure storage of data for research and innovation
b) Provision analytic environments.

For this reason RDS will enforce contractual controls upon those accessing data in combination with state of the art computing security. To ensure public trust the secure computing environment will be subject to external, independent, scrutiny and be expected to achieve relevant kite marks relating to industry best practice.

The design of the IT architecture will be developed collaboratively between the IT service provider and RDS. This will ensure that the design takes account of multiple data controllers' requirements.

RDS will ensure the design and its operating processes are subject to external scrutiny and regular compliance testing.

RDS Service Improvements – Building on the Discovery Work

To achieve the successful outcomes highlighted above, there needs to be a significant service development initiative undertaken in the first few years of RDS's existence.

The RDS project team carried out a discovery initiative concurrent with the business case development. This work highlighted several key areas for service improvement, which RDS should seek to implement as a priority.

Table 21: Areas for improvement

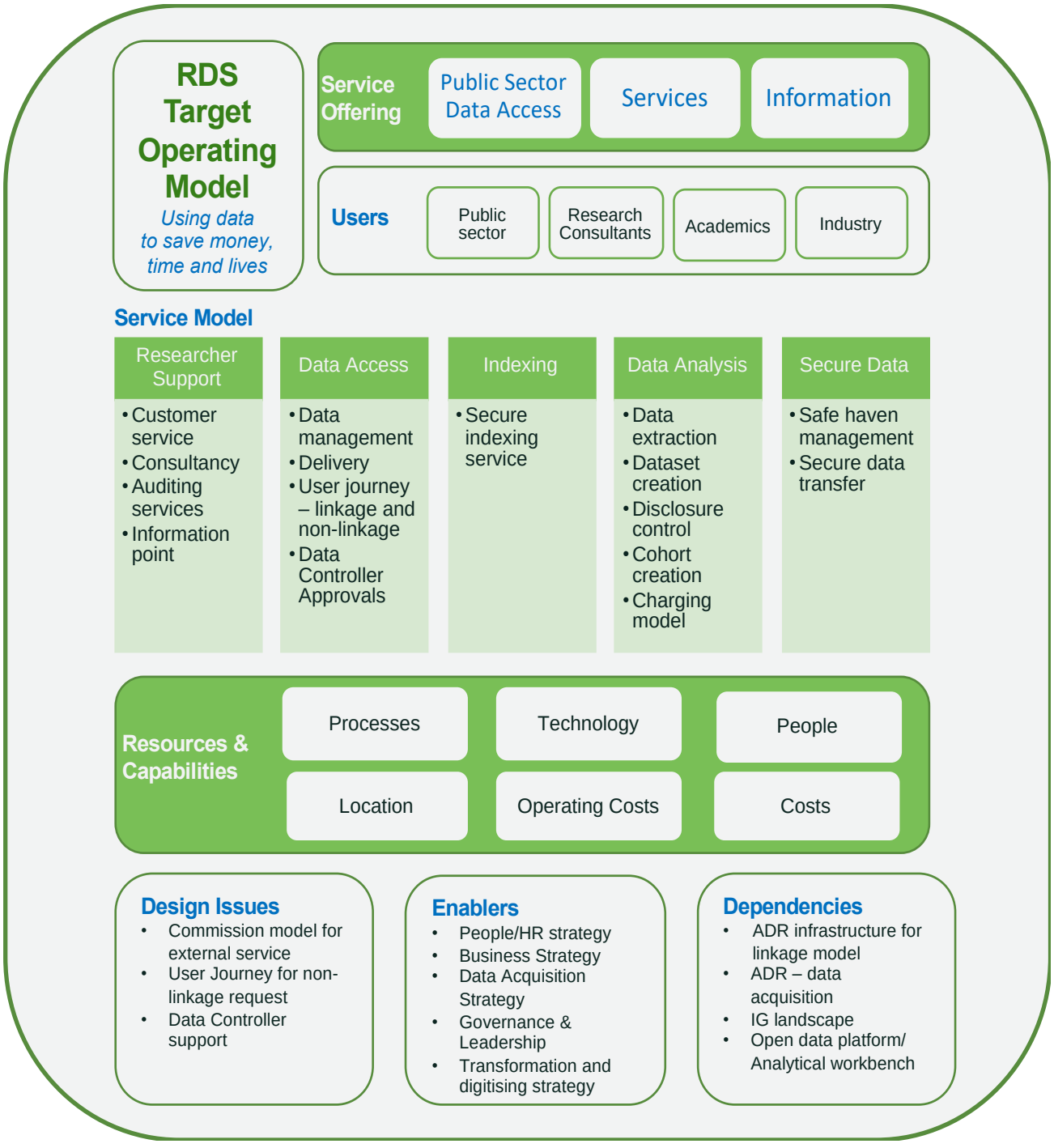
Process stage	Improvement
Data discovery	• Improve guidance documents • Develop researcher briefing to improve familiarity with process • Identify how IG can be streamlined • Improve meta data/data catalogues and information on what datasets are available • Provide a streamlined digital application process. • Signposting to services.
Project feasibility	• Provide details on data suitability for type of project • Provide clearer information on timelines • Develop a tracker system to show project status • Streamline process so data can be accessed quicker • Review charging mechanism for commercially focussed organisations.
Apply	• Provide a streamlined digital application process with a 'tell us once' approach • Improve guidance documents for approval processes.
Assess public benefits & ethics	• Provide better guidance • Remove duplication from IG documentation such as approvals panels access – develop intelligent digital application • Identify best way of offering support to applicants • Provide better guidance on data ownership and data protection requirements • Prompt researchers to inform legal departments of data sharing agreements (develop pre agreed templates for data sharing agreements with digital signature capability) • Create a standardised data access process across organisations • Multiple data controllers.
De-identified/ data linked	• Improve and develop definitions of data and standardisation • Improve metadata and data catalogues definitions • Improve visibility of data, including whether they are linkage ready or have pre-approvals for certain types of research • Consider a more efficient solution to create and destroy • Improve efficiency and transparency of data linkage process • Review processes for data management, data quality and data acquisition to improve consistency, clarity and efficiency
Data access	• Enhance safe haven access • Federation with other safe haven settings in Scotland • Federation with safe havens elsewhere in the UK • RDS, as part of its brokerage role, could build a wider set of secure access points
Project closure	• Enhance IG requirements to allow datasets to be reused rather than destroyed.

End to end process	• Review research co-ordinator/ customer service capacity • Identify how research co-ordinators can communicate more proactively • Review the process for dealing with the volume of enquiries • Improve the efficiency of the workflow process: need to identify how best to cover for sickness/holidays, reduce hand-offs/delays, and make less siloed • Ensure data controllers have oversight into the research communities needs

By making improvements in these areas and implementing other service development, RDS will be able to move from MVP to its Target Operating Model.

At this stage, a high level TOM has been developed and this can be seen in the following diagram:

Figure 10: RDS Target Operating Model (TOM)



Based on the areas identified for improvement and underpinning the TOM are some key service development requirements as follows:

TOM Processes

1. IG: data access service

- Well-defined research user journey, including IG and data access permissions for RDS initial/trial data offering (i.e. Education and MoD data available under ADR)
- Well-defined research user journey, including IG and data access permissions for any other data sets following the “old/current” user journey and not included in the RDS initial service – i.e. not part of the RDS integrated data holding
- A clear and identified research user journey which makes a distinction between availability of and data access to personal and non-personal data under data protection legislation – i.e. anonymisation classification of the data sets and need for a clear distinction between proposed IG Pathway 1 and 2
- Support streamlined data access for data sets deemed to be legally anonymised under data protection legislation and setting up of an advisory board of all donating data controllers reviewing changes to and use of the RDS data holding but not approving individual projects
- Service linkage and non-linkage data access requests and transition from the “create & destroy” model to “reuse.

2. Front end customer service: researcher support and consultancy service

- Design and build a front end “data access request” online application for all types of data access requests including linkage, non-linkage, re-engineered from the many different forms currently in use
- User/customer centre guidance, including relevant legislative framework, UK GDPR, Data Protection Act, turn – around timings, set clear customer expectations about the service etc.
- Library of forms, and templates including DSAs, DPAs, DPIA
- FAQs – self-help /self-directed resources
- Stepped/graduated approach to customer service support for data access application with options:
    - a) submit application on the basis of resources and self-help on the RDS portal or
    - b) request discussion with research analyst or coordinator about a potential project
- Metadata catalogue/data inventory, a data route map for 2021-25, link to e-DRIS/NHS data catalogue, Geo-spatial commission for space-derived data, private satellite data, survey data
- Communities of practice – platform for information, exchange, best practice and support those working with or interested in research data
- Data controllers’ network and guidance on how to engage and deposit data.

3. Researcher Access

- Policies and arrangements for interaction with national and regional safe havens
- Access through safe pods network
- Researcher accreditation
- RDS “own” research user service accreditation/registration or any additional accreditation or training requirements RDS may wish to impose for access to all or some of its data.

TOM Technology

1 . Secure Data Access Service

- Use of resources, expertise, capabilities from trusted data infrastructure partners
- Highest level of UK accreditation standards (DEA) secured
- Privacy is always maintained
- Data is held in Scotland
- Use of tried and tested, safe and secure arrangements for holding and sharing data in Scotland
- Data linkage follows the Guiding Principles for Data Linkage (or its successor guidance) designed to support the safe and appropriate use of data for research. They ensure data linkage takes place within a controlled environment and that research is carried out in a legal, ethical, secure and efficient way
- Sufficient digital data storage within the NSH/ computational resource?
- Hardware and other supporting technologies.

2 . Data Analysis Service

- Analytical Workbench
- Scotland’s National Safe Haven is the environment that all the linkage ready datasets will be stored, managed and processed, ready for the researcher.
- Other environments/infrastructure RDS will use/rely on, including non-linkage
- Tools and resources available within the safe settings
- Technology to support federated data
- Other toolsets and applications to be made available to research users

3 . De-identification service

- De-commissioning of legacy and end of life technologies for data linkage
- Investment in new technologies
- Development and enhancement of the NRS indexing service, including automation.

TOM people

Departments/Teams

- CEO, Board and Chair
- Corporate Support - Secretariat/Business Manager
- Operations and Corporate Engagement inc Government and Public Sector, coordination of data acquisition, delivery activities, system improvements and policies, IG and legal – Operations Director
- Comms and Marketing – Comms & Marketing Manager
- HR – Services Manager
- Accounting and Finance including Payroll – Finance Manager.
- Research and Development inc innovation of services and products and analytical services – Research and Development Director
- Chief Information Officer
- IT/Technology Management inc Information Management and Secure Data Access
- Customer/User Service(s) Delivery- Services Director
- Engagement and Knowledge Brokering

TOM location

1 . Location dependent or independent organisation?

- Location/siting appraisal still ongoing as currently halted by Covid and resources being diverted elsewhere
- Preferred option is the Bayes Centre with eDRIS remaining at the BioQuarter
- Organisational location may no longer be a fundamental issue in light of Covid and increased move towards flexible and remote working as long as we build innovative capacity with the right and effective functions for RDS, regardless of location
- Move towards a hub and spoke approach where an established and identified location for CEO and some services is complemented by a dispersed organisational model and flexible working from a number of hubs across Scotland.

TOM operating costs

1 . Funding and Financing

- Achieve a balanced budget where revenue is made up of a mix of SG/public sector grants and income generation from services
- The amalgamation and/or effective coordination of some of the functions from the linkage service providers enables efficiency savings on the costs of the legacy arrangements
- FY 2020/21 year will be a transitional period financially for RDS. During this year, it will continue to be funded by a range of Scottish and UK funders
- From FY 2025/26 onwards, RDS will need a wider portfolio of funding
- Programmes of investment and co-investment with partners, investment to grow the business.

TOM People and roles

1. Data acquisition team role
    - Working with data controllers to secure data for use in the linkage infrastructure
    - Managing and improving the data ingestion process, including oversight of the indexing service
    - Developing an approach to enabling researchers to discover what data is included in RDS service
    - Creating approaches to create useful analytical groups households,
    - 2021 priorities
        - Team recruitment and organisation
        - Delivery of commitments to HDR UK core studies programme
        - Delivery of commitments to ADR Scotland programme – justice, children, DWP/LEO, HMRC
        - Develop data offering on places focussed on user priorities
        - Develop a data catalogue and an approach to metadata
        - Establish a data controller network and steering group.

2. Researcher Services team role
    - Provide advice and support service to researchers
    - Project manage data access to researchers
    - Provision of analytical and technical support to researchers (where required)

    2021 priorities

    - Deliver data for linkage and non-linkage projects
    - Deliver data for high profile demonstrator projects
    - Develop expertise across different public sector domains
    - Adoption of new IG processes and user interface.

3. Technical Infrastructure team role
    - Provision and development of secure computing infrastructure
    - Provision and development of analytical tools for researchers
    - Linkage [where appropriate] and provision of datasets for research and onward management
    - Ingestion and management of new datasets.

    2021 priorities
    - Delivery of commitments to HDR UK core studies programme
    - Delivery of commitments to ADR Scotland programme
    - Develop data offering on places focussed on user priorities
    - Develop a data catalogue and an approach to metadata
    - Establish a data controller network and steering group.

4. Strategy & Transformation team role

- Run business transformation programmes
- Manage RDS communications
- Public engagement
- Regular horizon scanning and maintaining strategy
- External affairs – securing further investment in RDS.

2021 priorities

- Project teams recruitment/procurement
- Redesign user interface for researcher service
- Roll out and iterate Information Governance approaches
- Indexing transformation programme
- Regional Data Safe Haven alignment
- Agree commercial models.

5. Corporate & Policy team role

- Develop and maintain a set of corporate policies
- Human Resourcing and training
- Estates
- Finance and procurement
- Governance, reporting and measuring success.

2021 priorities

- Team recruitment and organisation
- Establish RDS as a charity
- Support the organisation to recruit and get up to speed
- Establish corporate functions – finance, governance, reporting etc.
- Establish a set of corporate policies.

RDS is a complex project and to achieve a successful soft launch in September 2021 remains challenging. The necessary actions have been identified and the project team has built momentum so it is achievable. In the short term, actions should focus on soft launch and planning the necessary service development activities to enable the subsequent transition to the TOM.

Following the commitment to establish RDS in the 2019 Programme for Government, this FBC builds on the OBC approved by Ministers in early 2021 and shows that RDS will be financially sustainable. It makes a compelling argument for RDS by showing the improvements it can make to data access, and so add economic value and support Scotland's recovery from the Covid 19 pandemic. The FBC recommends that RDS is established as soon as practicable.

Appendix One – Glossary

Term / Abbreviation	Meaning
ADR UK	Administrative Data Research, United Kingdom
BAU	Business as usual
CIC	Community Interest Company
CLG	Company Limited by Guarantee
CLS	Company Limited by Shares
CSF	Critical success factor
CRB	Cash releasing benefits
DEA	Digital Economy Act 2017 (UK act)
DPA	Data Protection Act 2018
DWP	Department of Work and Pensions
eDRIS	eData Research and Innovation Service
EPB	Existing public body
EPCC	Edinburgh Parallel Computing Centre
ESRC	Economic and Social Research Council
EU ENISA	European Network and Information Security Agency
EU NIS	European Union Directive on Security of Network and Information Systems
FBC	Full Business Case
FWG	Finance Working Group
UK GDPR	UK General Data Protection Regulations
HDR UK	Health Data Research UK
HMRC	Her Majesty's Revenue & Customs
HMT	Her Majesty's Treasury
ICT	Information & Communication Technology
IG	Information Governance
ISD	Information Services Division
JV	Joint venture
LWG	Legal Working Group?

MOA	Memorandum of Agreement
MVP	Minimum Viable Product
NHS	National Health Service
NPB	New public body
NRS	National Records for Scotland
NSH	National Safe Haven
NSS	NHS National Services Scotland
OBC	Outline Business Case
ONS	Office of National Statistics
PHS	Public Health Scotland
QB	Quantifiable benefits
RDS	Research Data Scotland
RSH	Regional Safe Haven
SCADR	Scottish Centre for Administrative Data Research,
SCIO	Scottish Charitable Incorporated Organisation
SFT	Scottish Futures Trust
SILC	Scottish Informatics Linkage Collaboration
SILC SMB	Scottish Informatics Linkage Collaboration Senior Management Board
SLA	Service Level Agreement
SOC	Strategic Outline Case
SQ	Status quo
SRO	Senior Responsible Officer
UK	United Kingdom
VFM	Value for money

Appendix Two – Benefits Realisation Plan

A draft benefits management framework has been developed as a stand-alone document that can be handed to the incoming RDS staff and Board. Part of this framework is a risks management plan, which sets out the benefits of RDS.

The benefits from RDS are not centred on financial returns and, instead, are more focussed on enhancing the current situation, and developing the RDS service so that Scotland no longer has a competitive disadvantage and, consequently, incurs an opportunity cost.

The current draft benefits plan is as follows:

Benefits Realisation Plan

Financial benefits

Benefit Information			Benefit Delivery			Predicted Benefits Profile				
Ref	Benefit Description	Owner	Measure	Start	End	Baseline £	2022/23 £	2023/24 £	2024/25 £	2025/26 £
RDS B01	Quicker and clearer processes for researchers and investment in linkage ready data meaning linkage projects can be processed more efficiently.	RDS CEO	The FBC assumed a single 20% efficiency saving in FY22/23 that was then sustained. This is likely to be a prudent assumption with further efficiency savings in future years. It is assumed that the quicker throughput would allow a higher number of projects to be completed pa, with an increase in fee levels.	Apr-22	Mar-26	*652,258*	**809,793**	**860,541**	**931,149**	**1,019,468**
						£ 652,258	£ 809,793	£ 860,541	£ 931,149	£1,019,468

Non financial benefits

Ref	Benefit Description	Owner	Measure	Start	End	Baseline £	2022/23 £	2023/24 £	2024/25 £	2025/26 £
RDS B02	Scotland is missing out on research opportunities: investment that could be secured in Scotland is currently going elsewhere. A benefit of RDS will be to to secure a higher propotion of research opportunities.	RDS CEO	Measured through an increasing share of UK research programmes, by value.	Apr-22	Mar-26	TBC	TBC	TBC	TBC	TBC
RDS B03	Quicker and clearer processes for researchers and investment in linkage ready data meaning linkage projects can be processed more efficiently. This leads to greater economic value to Scotland.	RDS CEO	The FBC assumed a single 20% efficiency saving in FY22/23 that was then sustained. This is likely to be a prudent assumption with further efficiency savings in future years. It is assumed that the quicker throughput would allow a higher number of projects to be completed pa, with an increase in the derived economic value to Scotland.	Apr-22	Mar-26	*23,263,703*	**28,455,585**	**29,791,966**	**31,760,014**	**34,258,545**

Appendix Three – Transition Risk Management Plan

To date, RDS risk management has been managed by the RDS project team. As RDS approaches live operations, the management of risk will be handed over to the RDS staff and board. To this end, a stand-alone risk management framework has been developed that sets out the methodology used by the RDS project team. The risk management framework and risk register will be annexed to the FBC and handed over to RDS staff. The RDS board will then be able to review and change the risk management framework to meet its risk appetite.

The RDS transition risk register is shown overleaf and highlights the risks and issues that the project team will be managing up to RDS becoming operational.

Risk ID	Risk Description	Owner	Current Likelihood	Current Impact	Current Risk Score	Risk Control	Planned actions to mitigate the risk	Target Likelihood	Target Impact	Targeted Risk Score
M1	Minimum level of key RDS staff and roles remain identified but not all staff appointed at full RDS launch (see also M13).	Alessia	4	5	**20**	Treat	1. Business plan should identify key staff requirement. 2. Consideration as to whether RDS staff are new to the organisation or transferring/seconded from partner organisations.	2	5	**10**
M2	RDS technical offering not functioning on day one.	eDRIS/ EPCC/NRS	3	4	**12**	Tolerate	The technical offering on day one will not be hugely different to the current technical offering so this risk can be mitigated by checking that the existing tehnical offering will be available and ensuring new	2	4	**8**
M3	Service providers not clear on their roles on day one for all datasets and types of request.	eDRIS/ EPCC/NRS /Alessia	4	5	**20**	Treat	Commissioning and contractual arrangements are being established by the lawyers. From these, SLAs will be put in place between the parties with KPIs used to monitor adherence. Pre 'go live' briefings will be used to share expectations between RDS and service providers. Gap analysis and	3	5	**15**
M4	Researchers with legacy projects not sure of procedures.	eDRIS/ EPCC/NRS	4	4	**16**	Treat	Communication plan and effective stakeholder management will inform researchers of new operating procedures and mitigate this risk. Communication required with stakeholders who have legacy	2	4	**8**
M5	Researchers unclear on procedures for new projects.	eDRIS/ EPCC/NRS	4	3	**12**	Treat	Communication plan and effective stakeholder management will inform researchers of new operating procedures and mitigate this risk.	3	3	**9**
M6	Lack of research project prioritisation.	eDRIS/ EPCC/NRS	3	4	**12**	Tolerate	RDS will have standard operating procedures developed before the 'go live' date that will set out how projects will be prioritised in a way that is fair for all partners, grant funders and researchers. Establising priority procedure to be developed with service provders.	2	4	**8**
M7	MVP not offering value proposition.	Alessia	3	4	**12**	Treat	The MVP fee levels will be set in such a way that a value proposition is maintained. RDS will move from MVP to TOM, and the value proposition will be reassessed	2	4	**8**
M8	Service providers have not received adequate level of training - data will be fundamental to the role of RDS, sensitivity and transparency are required, and concern from data controllers regarding privacy, security, data storage and sharing needs to be managed.	Nicola / eDRIS/ EPCC/NRS	3	4	**12**	Tolerate	Sufficient time and warning needs to be given to the service providers (NRS, eDRIS, EPCC, SG (data linkage and acquisition)) to enable them to provide any necessary training on the service they are providing RDS. Data controllers need to be included in the stakeholder engagement plan as a key set of stakeholders and actively managed.	1	4	**4**
M9	Researchers are unaware of the expectations on them.	Alessia	3	4	**12**	Treat	The new RDS website will include researcher training so that they will be able to access data on day one. Researcher criteria will be clearly displayed to allow them to access the services.	2	4	**8**
M10	Project tracker not available for legacy projects.	Nicola / eDRIS/ EPCC/NRS	5	3	**15**	Treat	Investigate with tracker provider whether legacy projects can be added retrospectivey to the system. If not, then twin track system will have to be managed until legacy projects have been closed out.	3	3	**9**

Risk ID	Risk Description	Owner	Current Likelihood	Current Impact	Current Risk Score	Risk Control	Planned actions to mitigate the risk	Target Likelihood	Target Impact	Targeted Risk Score
M11	Limited/poor service offering.	Alessia	4	5	**20**	Treat	MVP has been developed and trailed with key stakeholders. Implementing this will ensure that the day one service is, at minimum, as good as the current service	2	5	**10**
M12	RDS not able to access adequate IT services.	Nicola/ Alessia	3	5	**15**	Treat	A contingency plan is required so that if server space cannot be secured, then temporary solutions	2	5	**10**
M13	Employment and staff transition arrangements not available on day one (see also M1).	Alessia	3	2	**6**	Tolerate	If secondment contracts are not in place, then agreements need to be put in place that staff can work for RDS on an ad hoc basis until contracts completed.	1	2	**2**
M14	Service providers' audit and compliance procedures are not suitable for use under RDS.	Nicola	3	5	**15**	Treat	Review service providers' audit and compliance procedures.	2	5	**10**
M15	Service complexity of the 'as is' model and a lack of widespread understanding as to how it works.	Alessia	4	3	**12**	Treat	1. Work has been underaken to understand the current access journey and service redesign will be central to the operations of RDS. 2. Stakeholder engagement will be an important means of ensuring consistency with the level and quality of service and confidence with the new process whilst	2	3	**6**
M16	Public concern that data held by RDS will be used for punitive purposes, which would result in poor publicity and lack of trust in the RDS brand.	Comms Manager	3	4	**12**	Treat	1. Public consultationsand messaging promoted to provide assurance that public data is being used safely, transparently, and for the public good.	1	4	**4**
M17	Cost effectiveness of the new service model fails to provide adequate value for money.	Alessia	4	4	**16**	Treat	1. Review of service resources to ensure value for money is taken into account suring decisionmaking, allocation of roles, resposnibility and resource capacity.	3	4	**12**
M18	Commerical and procurement model is not sustainable operationally or financially.	Alessia	3	2	**6**	Treat	The commercial model for RDS has been based on the status quo. The model will be updated as costs are refined with partners. Procurement will be in accordance with the appropriate legislation.	2	2	**4**
M19	Financial - developing, implementing and supporting RDS requires agreement on longer-term funding models. At present, the financial sustainability of RDS is reliant on SG grant funding.	Alessia	4	5	**20**	Treat	Assuming the £5m annual grant from SG continues, RDS will be financially sustainable. This will give time for RDS to secure additional grant funding , achieve productivity efficiencies and increase fee levels from a growing number of projects. Continue engaging with various funding partners (ie SNIB, CIG, Scottish enterprise) and maintain ongoing	2	5	**10**
M20	RDS governacne and management framework not availble.	Alessia	3	5	**15**	Treat	1. The RDS board will include independent and partner representatives. 2. RDS will also be held to account through external scrutiny and audit, adopting a strategic, proportionate and risk	2	5	**10**

Appendix Four – Procurement Plan

See separate latest procurement plan

Appendix Five – RDS Draft budget

Budget costs category	Cost code	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26
Cost category		£	£	£	£	£
Staff costs – RDS	100	1,389,636	1,355,548	1,379,250	1,566,727	1,592,575
Staff costs – Board	101	4,545	4,590	4,636	4,683	4,730
Staff costs - HR system	102	1,500	1,500	1,500	1,500	1,500
Staff costs - payroll system	103	1,000	1,000	1,000	1,000	1,000
Staff costs - travel and subsistence	104	7,800	7,800	7,800	7,800	7,800
Staff costs – training	105	6,631	6,832	7,109	7,472	7,931
Commissioning costs – NRS	200	410,590	414,696	418,843	423,032	427,262
Commissioning costs – eDRIS	201	2,256,121	2,357,332	2,457,082	2,574,830	2,685,037
Commissioning costs – UoE	202	392,000	395,920	399,879	403,878	407,917
Commissioning costs - SG (data acq)	203	461,394	466,008	470,668	475,375	480,129
Commissioning costs - SG (DSLS)	204	342,894	346,323	349,786	353,284	356,817
Commissioning costs - IT systems (DSLS budget)	205	10,000	10,000	10,000	10,000	10,000
Commissioning costs – additional staffing (geospatial & health)	206	649,935	656,434	662,999	669,629	676,325
Accommodation – rent 9BQ	300	94,458	188,916	188,916	188,916	188,916
Accommodation - utilities (elec, gas, water, fixed telecoms)	301	28,624	28,910	29,199	29,491	29,786
Accommodation – rates	302	30,380	30,380	30,380	30,380	30,380
Accommodation - office fit out costs	303	40,000	-	-	-	-
Accommodation - fixtures & fittings	304	-	-	-	-	-
Accommodation - office equipment (inc consumables)	305	2,600	2,652	2,733	2,844	2,989
Accommodation - insurance (offices)	306	-	-	-	-	-
Accommodation - supplies and services	307	1,591	1,640	1,706	1,793	1,903
Accommodation – rent Bayes Centre	308	57,600	86,400	86,400	86,400	86,400
Service costs - penetration testing (eDRIS)	400	7,500	7,500	7,500	7,500	7,500
Service costs – workbench	401	280,000	280,000	280,000	280,000	280,000
Service costs - case tracker/case management system maintenance	402	20,000	20,000	20,000	20,000	20,000
Service costs - safe settings support costs	403	10,000	10,000	10,000	10,000	10,000
Service costs - external support	404	10,000	10,000	10,000	10,000	10,000
Service costs - IT systems/website dev & online application process dev	405	10,000	10,000	10,000	10,000	10,000

Service costs - research & development	406	-	-	-	-	-
Service development costs - Transformation (inc staff costs 2xFTE)	500	1,300,000	-	-	-	-
Service development costs - NRS indexing technology upgrades	501	280,000	28,000	28,000	28,000	28,000
Service development costs - IG transformation	502	50,000	50,000	50,000	50,000	50,000
Service development costs - IG solutions (legal support)	503	50,000	75,000	100,000	125,000	150,000
Service development costs - Data ethics approach	504	50,000	-	-	-	-
Service development costs - Data acquisition for non ADR data	505	-	-	-	-	-
Service development costs - Data acquisition model transformation	506	40,000	1,000,000	-	-	-
Service development costs - Legal costs for data acquisition (50% external legal and in-house IG practitioners)	507	100,000	50,000	50,000	50,000	50,000
Service development costs - RDSH/NDSH alignment & interoperability	508	600,000	300,000	-	-	-
Service development costs - NDSH transformation (systems to allow access to datasets so don't have to access NDSH - tiered access)	509	250,000	250,000	250,000	250,000	250,000
Service development costs - Synthetic data	510	100,000	110,319	309,228	396,700	495,516
Service development costs - Geospatial data hosting platform	511	200,000	200,000	200,000	200,000	200,000
Service development costs - SG data innovation challenge fund	512	400,000	400,000	400,000	400,000	400,000
Service development costs – additional GIS service development	513	187,808	35,100	35,100	35,100	35,100
Service development costs – enhancements to safe pod infrastructure	514	187,808	35,100	35,100	35,100	35,100
ICT - computer equipment	601	26,000	-	-	-	-
ICT - staff mobile phone	602	7,800	7,800	7,800	7,800	7,800
ICT - IT Support costs	603	13,000	13,000	13,000	13,000	13,000
Transition - legal support	700	50,000	-	-	-	-
Transition - accountancy/tax support	701	-	-	-	-	-
Transition - consulting support	702	-	-	-	-	-
Transition - project management support	703	50,000	25,000	-	-	-

Transition - registration fees – charitable	704	-	-	-	-	-
Transition - registration fees - IG related?	705	-	-	-	-	-
Transition - backfill costs (temporary staff)	706	200,000	100,000	-	-	-
Transition - communications & marketing	707	50,000	20,000	20,000	20,000	20,000
Transition - public engagement	708	40,000	40,000	40,000	40,000	40,000
Transition - HR	709	-	-	-	-	-
Transition - recruitment costs	710	75,000	20,000	20,000	20,000	20,000
Transition - finance	711	10,000	10,000	10,000	10,000	10,000
Totals		**10,844,216**	**9,469,701**	**8,415,614**	**8,857,614**	**9,141,412**

£