National Records of Scotland

Data Protection Impact Assessment (DPIA)
Administrative Data Based Population and Household Estimates Project

Version 3.0

Ref: NRS-DPIA-2021-23

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Document Control

Title	**DPIA – NRS Administrative Data Project**
Prepared by	**NRS: Head of Admin Data**
Approved by	**NRS: Head of Census, Statistics & Registration**
Date of approval	***8 Aug 2019***
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Status Control

Version	**Date**	**Status**	**Reason for Amendment**
0.1	16/05/2019	Draft	First Version – unable to edit
0.2	27/06/2019	Draft	Second Version – Modified template, changes information flows, UK GDPR considerations
1.0	07/8/2019	For IAO approval	Security and Privacy review and amendments
1.1	22/08/2019	Published	Proofed for publishing
1.2	08/09/2020	Draft Update	Annual review. Also to reflect: On 17 July 2020 Scottish Government announced the decision to move Scotland's Census to 2022 following the impact of the COVID-19 pandemic.
1.3	30/10/2020	DPO and IAO approval	Security and Privacy review and amendments due to change in census date
1.4	01/11/2020	Final	Replace titles and PDF
2.1	16/10/2021	Draft	Annual Review
2.2	25/07/2023	Draft	Annual Review
2.3	02/08/2023	For IAO approval	Reviewed for ongoing data protection compliance
3.0	29/08/2023	Published	Proofed for publishing

Part 1: Data protection impact assessment screening questions

These questions are intended to help you decide whether a DPIA is necessary. Answering ‘yes’ to any of these questions is an indication that a DPIA would be a useful exercise. You can expand on your answers as the project develops if you need to. You can adapt these questions to align more closely to project you are assessing.

1. Will the project involve the collection of new information about individuals?

No. The project re-uses administrative data collected by NRS and other public bodies for research and statistical purposes only.

2. Will the project compel individuals to provide information about themselves?

No. The project re-uses administrative data collected by NRS and other public bodies for research and statistical purposes only.

3. Will information about individuals be disclosed to organisations or people who have not previously had routine access to the information?

No. The information will be retained for use by authorised NRS staff only. A de-identified version of the data will be sent to the National Safe Haven where only authorised NRS staff named on PBPP Applications (eDRIS 1617-0195) will have access to the data.

4. Are you using information about individuals for a purpose it is not currently used for, or in a way it is not currently used?

No. The data is used by NRS for statistics and research purposes only. The statistics and research exemption applies under Article 89 of UK GDPR and s19 and Schedule 2, Part 6 of DPA18.

5. Does the project involve matching data or combing datasets from different sources?

Yes.

6. Does the project involve you using new technology that might be perceived as being privacy intrusive?

No. We are using standard statistical software packages such as SAS and R to analyse the data. The data is analysed on a secure server.

7. Will the project result in you making decisions or taking action against individuals in ways that can have a significant impact on them? Will you profile individuals on a large scale?

NRS will not use the data collected to make decisions about or take action that will impact on individuals. No individuals or households will be profiled.

8. Will you profile children or target marketing or online services at them?

No. No contact will be made with individuals.

9. Is the information about individuals of a kind particularly likely to raise privacy concerns or expectations? For example, special category data such as health records or criminal records, or other information that people would consider to be private.

Yes. – Although no special category data is explicitly processed, a marital status of “in a civil partnership” in Scotland currently indicates that the individual could be in a same-sex relationship. Some of the data sets do contain ethnicity, disability and religion but there is not enough coverage for the whole of the Scottish population. It is not our current intention to make outputs from these variables until there is better coverage.

10. Will the project require you to contact individuals in ways that they may find intrusive?

No. No contact will be made with individuals

11. Is the project collecting personal data from a source other than the individual without providing them with a privacy notice ('invisible processing')

Yes. The data is used by NRS for statistics and research purposes only. The statistics and research exemption applies under Article 89 of UK GDPR and s19 and Schedule 2, Part 6 of DPA18.

12. Is the project tracking individuals' location or behaviour?

No aspect of administrative data based population estimates operations involves tracking of individual's location or behaviour. Any outputs will be at aggregate levels at certain geographies, as such disclosure control methodologies will be used if the output may disclose a small number of individuals.

NRS maintains a record of answers to the screening questions in order to document that the decision on whether to carry out a DPIA was properly considered. If after completing the screening questions you decided a DPIA is not necessary you must send a record your answers to the NRS Data Protection mailbox. The NRS Information Governance Team will review answers, and where appropriate ask the NRS Privacy Group for their opinion.

Decision of Information Governance Team

DPIA Required: Yes	
Reason for decision: The need for DPIA was originally identified because the project involved the processing of personal data which could infer special category personal data, data linkage, and invisible processing. The DPIA also forms part of the documentation supporting the applications submitted to the Public Benefit and Privacy Panel for Health and Social Care (HSC-PBPP) and now also the Statistics Public Benefit and Privacy Panel (SPBPP).	
Name: Head of Information Governance	Date: 2 November 2021

Part 2: Data protection impact assessment report

Use this report template to record the DPIA process and results. You can start to fill in details from the beginning of the project, after the screening questions have identified the need for a DPIA. The template follows the process that is used in the ICO code of practice. You can adapt the template to allow you to record additional information relevant to the DPIA you are conducting.

For further guidance please refer to the NRS DPIA Policy and Guidance

Step 1: Describe the project and identify the need for a DPIA
Explain what the project aims to achieve, what the benefits will be to NRS, to individuals and to other parties. You may find it helpful to link to other relevant documents related to the project, for example a project proposal or business case. It is important to include information about the benefits to be gained from the project in order to help balance any risk identified in the DPIA. This can help inform decisions on the level of risk to privacy that is acceptable, when balanced against the benefits or other justification for the project. Is there a benefit to the public? If a statutory duty exists provide details of this. Also summarise why the need for a DPIA was identified (this can draw on your answers to the screening questions) and identify the legal basis for processing.
Population and household estimates are key to the delivery of many public services. The size, age, gender and geographic distribution of the population are important statistics. This information also drives statistics about changes in the population and the factors driving these changes. These statistics have a wide range of uses. Central government, local government and the health sector use them for planning, resource allocation and managing the economy. They are also used by people such as actuaries for pricing pensions, market researchers and academics. Population estimates are fundamental to the distribution of billions of pounds across the United Kingdom, for example via the Barnett Formula[1]. Indeed around £98 billion in total was managed by the public sector in Scotland in 2021/22[2], including around £8.6 billion of Grant Aided Expenditure[3].

[1] Barnett formula | The Institute for Government

[2] Government Expenditure and Revenue Scotland 2021-22 - gov.scot (www.gov.scot) Table 5

[3] Green+Book+2021-22.pdf (www.gov.scot)

The Admin Data projects main objectives are:

- To produce administrative data population and households estimates at a range of non-disclosive geographies and compare these to the mid-year estimates currently produced by NRS.
- To enable quality assurance and to improve the accuracy of the 2022 Census estimates
- To make recommendations on the use of administrative data for future censuses.

The Admin Data project benefits would be:

- To research whether population and migration statistics can be produced to a higher level of quality or in a more timely fashion using individual record data from a range of sources. Improved population estimates between census periods will benefit the public through improved allocation of resources.
- To explore the benefits and limitations of administrative data as an alternative to a traditional census.
- To explore the costs of producing population estimates in this way. Current estimates are that the 2022 Census is expected to cost around £140m. Taking into account the limitations of administrative data, this will benefit the public by ensuring that the Census programme provides value for money by comparing alternative approaches.
- To research the viability of conducting future censuses using a combination of administrative data and surveys. This would have the benefit of reducing respondent burden.

The administrative data based population and household estimates will be compared with NRS's published estimates, so we will be seeking to produce administrative estimates at the following, non-disclosive geographies as the project progresses:

- Local Authority
- Locality
- Settlement
- Scottish Government Urban Rural classification
- Nomenclature of Units for Territorial Statistics (NUTS) - the statistical geography of the European Union,
- Scottish Index of Multiple Deprivation (SIMD) deciles,
- Scottish Parliamentary Constituencies (SPC)
- United Kingdom Parliamentary Constituencies (UKPC).
- National Parks

- Health and Social Care Partnerships (previously , pre April 2015, Community Health Partnerships)

The Admin Data Project in the UK context

Both the Office for National Statistics (ONS)[4] and the Northern Ireland Statistics and Research Agency (NISRA)[5] have made considerable progress in acquiring administrative data and developing new methods. ONS have now published research outputs, estimating the size of population in England and Wales for 2016 and 2017.[6]

Additional information

Any requests for changes to the data collection and methodology of this administrative project (eDRIS 1617-0195) is submitted to the Public Benefit and Privacy Panel for Health and Social Care (HSC-PBPP) and Scottish Government and NRS Statistics Public Benefit and Privacy Panel (SPBPP) for approval.

The HSC-PBPP operates to fulfil three main aims:

- To provide a single, consistent, open and transparent scrutiny process allowing health and social care data to be used for a range of purposes including research
- To ensure the right balance is struck between safeguarding the privacy of all people in Scotland and the fiduciary duty of Scottish public bodies to make the best possible use of the health and social care data collected – it is important to note that each is in the public interest
- To provide leadership across a range of complex privacy and information governance issues, so that the people of Scotland are able to gain the benefits – ultimately better health and social care – from research and wider use of data, while ensuring compliance with legal privacy obligations, managing emerging information risks, addressing public concern around privacy, and promoting the protection of privacy as in the public interest.[7]

[4] https://www.ons.gov.uk/census/censustransformationprogramme/administrativedatacensusproject

[5] https://www.nisra.gov.uk/statistics/2021-census/planning/reports-and-publications

[6] https://www.ons.gov.uk/census/censustransformationprogramme/administrativedatacensusproject/administrativedatacensusresearchoutputs/sizeofthepopulation

[7] https://www.informationgovernance.scot.nhs.uk/pbpphsc/

The SPBPP operates to fulfil three main aims:

- Provide a single, consistent, open and transparent scrutiny process allowing Scottish Government data and National Records of Scotland census data to be used for a range of purposes including research and statistics,
- Ensure balance is struck between safeguarding the privacy of all people in Scotland and the fiduciary duty of Scottish public bodies to make the best possible use of the data collected
- Provide leadership across a range of complex privacy and information governance issues, so that the people of Scotland are able to gain the benefits from research and wider use of data, while managing emerging information risks, addressing public concern around privacy, and promoting the protection of privacy as in the public interest[8]

[8] Terms+of+Reference.pdf (www.gov.scot)

Step 2: Describe the processing

Describe the nature of the processing: how will you collect, use, store and delete data? What is the source of the data? Will you be sharing data with anyone? You might find it useful to refer to a flow diagram or other way of describing data flows. What types of processing identified as likely high risk are involved?

In order to produce population estimates based on individuals, it’s necessary to know the age and sex of each person and where they live, **but without knowing the identity of any particular individual or their exact location**. For household estimates it’s necessary to know the number of people who live in a property, thus requiring a unique property reference number, rather than just the postcode. However, whilst personal information is required initially, on the advice of GCHQ (now the National Cyber Security Centre) this information will all be de-identified to preserve individual privacy.

The potential for administrative data to replace information collected in the census will also be explored. Where available, ethnicity, disability and religion may also be collected to see whether the administrative data differs from that collected via the census. Where available, the date of last interaction with the service will also be collected.

Input data

To begin with, the project proposes to just use the data held by National Records of Scotland in order to develop methods. These are as follows:

- 2011 Census and 2011 Census Coverage Survey (reduced version with key variables only)
- National Health Service Central Register
- Vital Events – Births, Deaths, Marriages and Civil Partnerships
- Scottish Address Database
- Scottish Postcode Lookup

Permissions have been granted and data sharing agreements are in place, for the following datasets:

- Public Health Scotland – Health Activity Dataset (this contains no health information, just the date of the last health interaction)

- School Pupil Census
- Higher Education Statistics Agency data on Scottish Students
- Data on Scottish Further Education Students
- Electoral Register
- Census 2022 (including Census Coverage Survey)
- Registers of Scotland (RoS) Residential Sales information.

The list of variables requested from each dataset has been reviewed and approved within the PBPP Applications eDRIS 1617-0195.

How will the information be collected?

The project involves using data gathered by the administrative systems of each data provider. No new data will be collected as part of the project. However, the project will use administrative data and data collected primarily as part of Scotland's Census 2022 – this includes 2019 Census Rehearsal Data, the 2022 Census and the 2022 Census Coverage Survey. The statistics and research exemption (Article 89[9] of the UK General Data Protection Regulation and section 19 and Schedule 2, Part 6 of The Data Protection Act 2018) allows for the re-use of administrative data for statistical purposes, provided the relevant conditions are met.

For each dataset, data will separate personal information — names, dates of birth, sex, addresses and postcodes — from the other information (known as the payload data). For the purposes of this study, payload data include variables such as ethnicity, disability, religion and date of last interaction with service.

One member of the Admin Data team will access and separate the personal data from the payload data in a secure IT environment, once this process has been completed. Only the personal data with be transferred to another secure area and de-identification will occur here by a different member of the team. Only movement and deletion of data will have an audit trail that has been signed off by two members of senior staff.   Table 1 explains how the various variables will be de-identified.

[9] https://www.legislation.gov.uk/ukpga/2018/12/schedule/2/part/6/enacted?view=plain

Table 1: How the data will be de-identified.

Variable	De-Identified Derived Variable
First Name, Last Name, Date of Birth, Postcode	Used to produce a number of hashed[10] matchkeys which de-identify each individual.
Address and Unique Property Reference Number	Hashed Unique Property Reference Number. Maps each property to a de-identified one-way hash.
Postcode	Hashed Postcode, Hashed Postcode Sector Hashed Postcode District[11] Non-Disclosive Geographies
Date of Birth	Mapped to age in years on 30 June 2016 through to 2022, and 27 March 2022.
GP Practice Postcode	Using Eastings and Northings and Pythagoras's Theorem[12], the straight line distance between the GP Practice Postcode and the Patient's Postcode can be calculated. (For NHSCR and Health Activity Data only).

Who will have access to the data that is collected

[10] Hashing is a one-way process which de-identifies the original data but retains its uniqueness. Hashing maps strings of different lengths to a sting of the same length.

[11] As geographies are likely to change over time the ability to future proof the geo-referencing will be needed. Indeed we'll need to include the 2022 Census geographies for the final evaluation of the work – This will be done by using hashed UPRNs and hashed postcodes to correctly assign properties to the appropriate geography, but maintaining the anonymity of each address.

[12] https://support.groundspeak.com/index.php?pg=kb.page&id=211

Access to the data will be by named individuals on PBPP applications (eDRIS 1617-0195). Limited members of Admin Data staff will have access to the personal identifiable information for the purposes of de-identification.

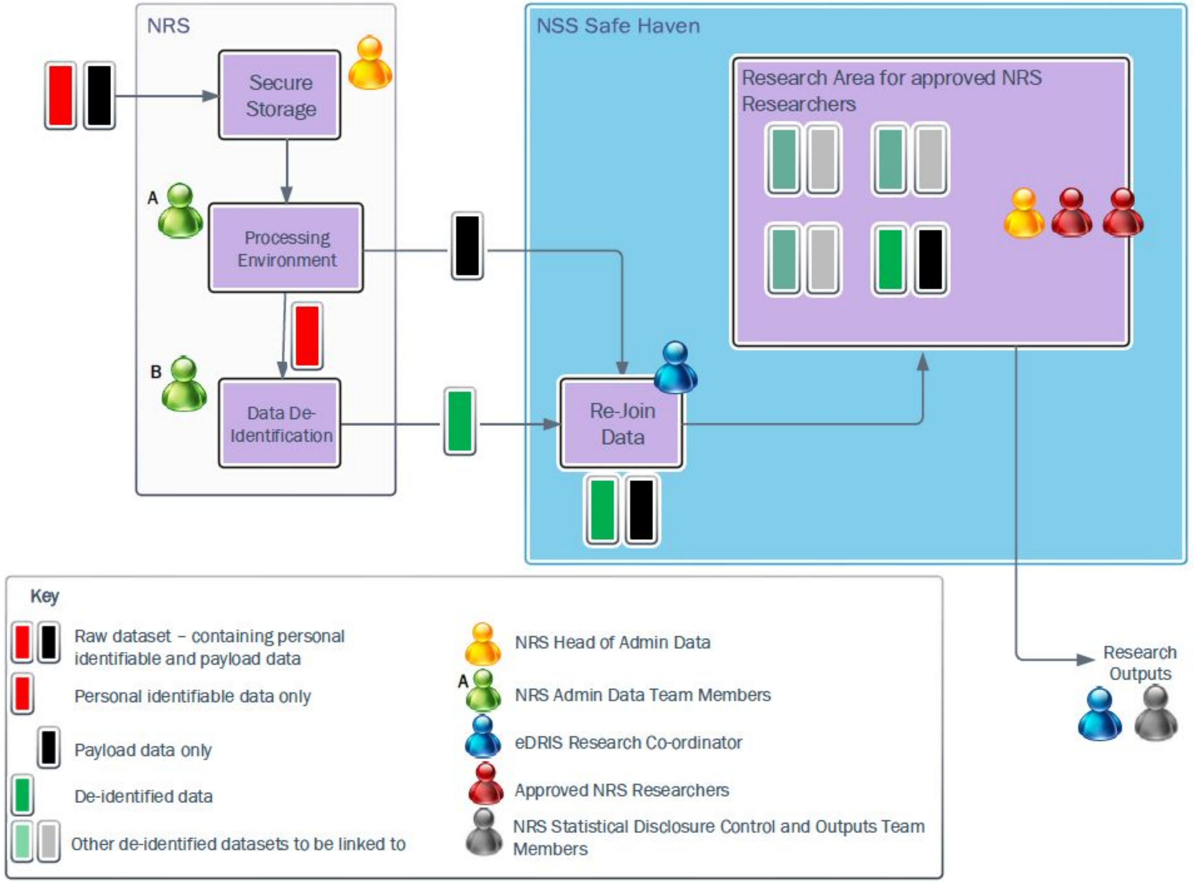
How will the data be collected and transmitted

The Admin Data Project is using the Trusted Third Party model where there is a separation of functions across the projects. Separation comes from different team members within the team having distinct roles. One member of the Admin Data Team will be responsible separating the personal and payload data and another for de-identification (the data de-identifier). These team member and the Head of Admin Data only will have access to the raw dataset.

1. Data providers send either just their personal identifiable data, or all of their data to the NRS Head of Admin Data team.
2. Head of Admin Data team stores each dataset on separate encrypted USB drives, stored in a fireproof box in a safe with an auditable lock.
3. The Head of Admin Data team transfers the dataset into a secure location (request is approved by senior manager).
4. Member of Admin Data team (person A) data splits each dataset into its personal identifiable data and payload data (the remaining variables), geographical data may be added at this time and added to the payload data. The payload data is encrypted.
5. Head of Admin Data team sends the Payload data separately to eDRIS co-ordinator at the National Safe Haven[13]
6. Head of Admin Data team requests personal data to be transferred to separate IT area for de-identification and deletion of personal data from person A security area (request is approved by senior manager).
7. Head of Admin Data transfers personal identifiable data to the data de-identifier (person B) who replaces the personal identifiable data with hashed matchkeys. This is done in isolation – one data source at a time. The resulting file is encrypted.
8. Head of Admin Data team sends de-identified data separately to eDRIS co-ordinator at the National Safe Haven. (Request is approved by senior manager).
9. Head of Admin oversees deletion of personal data from person B security area (request is approved by senior manager)
10. In the National Safe Haven, the eDRIS co-ordinator decrypts the hashed matchkey file and payload data.
11. The file is then passed to the named NRS researchers (not person A or B), who combine all of the de-identified datasets to produce the statistical research outputs required for the project.

[13] http://www.isdscotland.org/Products-and-Services/EDRIS/Use-of-the-National-Safe-Haven/

The eDRIS research co-ordinator performs statistical disclosure control on the outputs before they are released from the National Safe Haven. Where outputs contain 2011 Census data, 2011 Census Coverage Survey, 2019 Census Rehearsal data, 2022 Census data or 2022 Census Coverage Survey, these will also be checked by a member of Scotland’s Census 2022 Statistical Disclosure Control team.


NRS
Secure Storage
A
Processing Environment
B
Data De-Identification
NSS Safe Haven
Research Area for approved NRS Researchers
Re-Join Data
Research Outputs
Key
Raw dataset – containing personal identifiable and payload data
Personal identifiable data only
Payload data only
De-identified data
Other de-identified datasets to be linked to
NRS Head of Admin Data
A
NRS Admin Data Team Members
eDRIS Research Co-ordinator
Approved NRS Researchers
NRS Statistical Disclosure Control and Outputs Team Members

How will personal information collected be stored, and disposed of when no longer needed

Data will be stored within NRS secure IT systems or in fireproof boxes in separate encrypted USB drives, in a safe with an auditable lock. Data will be encrypted in transfer and at rest. Access is restricted to a limited number of personnel.
Only limited personnel have access to the safe.. At the end of the project, the data will be deleted from the drives in accordance with CPNI destruction standards and National Cyber Security Centre (NCSC) guidance and in accordance with the requirements of the National Safe Haven.

Who will own and manage the data

The data controller of the information supplied will be the Registrar General for Scotland. Day-to-day responsibility will rest with the Head of Admin Data team.

How will the data be checked for accuracy and kept up to date

Once in the National Safe Haven[14], none of the data sources will contain names, dates of births or addresses. All the information in the Safe Haven will be de-identified. Named researchers will only have access to ages on specific dates and sex for each person in Scotland. Information on disabilities, ethnicity, religion and date of last interaction may also be known.

The various administrative data sources are likely to vary in quality. Through matching the de-identified data, we aim to work out the most likely de-identified address for each de-identified person in Scotland. This might be where two administrative data sources agree or, where there is a conflict across sources, we may use the person's most recent de-identified address as suggested by their most recent interaction.

Methodologies will be developed to improve the accuracy and quality of the statistics produced using the data that is collected. The result of the work will be compared with mid-year population and household estimates produced by NRS.

As the data is for statistical purposes, none of the work will have a direct impact on any individual

[14] Managed by eDRIS (part of Public Health Scotland) and operated by University of Edinburgh's EPCC.

Describe the scope of the processing: what is the nature of the data, and does it include special category or criminal offence data? How much data will you be collecting and using? How often? How long will you keep it? How many individuals are affected? What geographical area does it cover?

Nature of the data

For each dataset, data providers will provide personal information – names, dates of birth, sex, addresses and postcodes. Some of the datasets will include variables such as ethnicity, disability, religion and date of last interaction with service. How we process this data has been explained in the previous section.

Although no special category data is explicitly processed, a marital status of “in a civil partnership” in Scotland currently indicates that the individual could be in a same-sex relationship. Some of the data sets do contain ethnicity, disability and religion but there is not enough coverage for the whole of the Scottish population. It is not our current intention to make outputs from these variables until there is better coverage.

Data collection

The data collected from the above datasets will cover 2010/11 data to allow methodology checking to Census 2011. The other datasets to be received annually from 2016 to 2022. It is this aim the project to create administrative data based population estimates from 2016 to 2022. The project will hopefully be able to represent every person living in Scotland in order to create administrative based population estimates. The aggregated output from this de-identified dataset will cover the following non-disclosive geographies: Local Authority, Locality, Settlement, Scottish Government Urban Rural classification, Nomenclature of Units for Territorial Statistics (NUTS) - the statistical geography of the European Union, Scottish Index of Multiple Deprivation (SIMD) deciles, Scottish Parliamentary Constituencies (SPC), United Kingdom Parliamentary Constituencies (UKPC), National Parks and Health and Social Care Partnerships(formerly Community Health Partnerships).

Retention of data

The de-identified data transferred to the National Safe Haven may be retained for a period of five years after the end of the project in line with standard National Safe Haven procedures. The data held at NRS will be retained as per each individual data sharing agreement and shall be destroyed securely thereafter.

Describe the context of the processing: what is the nature of your relationship with the individuals? How much control will they have? Would they expect you to use their data in this way? Do they include children or other vulnerable groups? Are there prior concerns over this type of processing or security flaws? Is it novel in any way? What is the current state of technology in this area? Are there any current issues of public concern that you should factor in? Are you signed up to any approved code of conduct or certification scheme (once any have been approved)?

NRS will not be contacting individuals, the datasets are being used by NRS for statistics and research purposes only. Data protection legislation allows personal data to be processed for statistical and research purposes provided the processing is subject to appropriate safeguards.

NRS are using a trusted third party i.e. the National Safe Haven to create non-disclosive aggregate outputs. Every effort has been had to reduce persons having accessing to the unprocessed datasets. All processing of the personal data at NRS is auditable and held within a secure environment.

All staff with the data Admin team have completed internal courses on Data Protection and Information Governance. The team have further completed the Medical Research Council online course on Information Governance, UK GDPR and confidentiality in order to use the National Safe Haven. All members of the team are part of the Government Statistical Service and as such are bound by the Code of Practise For Statistics[15].

[15] https://www.statisticsauthority.gov.uk/code-of-practice/

Describe the purposes of the processing: what do you want to achieve? What is the intended effect on individuals? What are the benefits of the processing – for NRS, and more broadly?

Population and household estimates are key to the delivery of many public services. The size, age, sex and geographic distribution of the population are important statistics. This information also drives statistics about changes in the population and the factors driving these changes. These statistics have a wide range of uses. Central government, local government and the health sector use them for planning, resource allocation and managing the economy. They are also used by people such as actuaries for pricing pensions, market researchers and academics.

The benefits of this project:

- To research whether population and migration statistics can be produced to a higher level of quality or in a more timely fashion using individual record data from a range of sources. Improved population estimates between census periods will benefit the public through improved allocation of resources.
- To explore the benefits and limitations of administrative data as an alternative to a traditional census.
- To explore the costs of producing population estimates in this way. Taking into account the limitations of administrative data, this will benefit the public by ensuring that the Census programme provides value for money by comparing alternative approaches.
- To research the viability of conducting future censuses using a combination of administrative data and surveys. This would have the benefit of reducing respondent burden.

Step 3: Consultation process
Consider how to consult with relevant stakeholders: describe when and how you will seek individuals' views – or justify why it's not appropriate to do so. Who else do you need to involve within your organisation? Do you need to ask your processors to assist? Do you plan to consult information security experts, or any other experts? Describe the groups you will be consulting with and their interest in the project. Who should be consulted internally and externally? Explain the method you will use for consultation with any stakeholder groups and how you will communicate the outcomes of the DPIA back to them. How will you carry out the consultation? Explain what you learned from the consultation process and how they shaped your approach to the management of privacy risks. Explain what practical steps you will take to ensure that you identify and address privacy risks. You should link this to the relevant stages of your project management process. You can use consultation at any stage of the DPIA process.
NRS and the Admin Data Project is keenly aware of the wide diversity of interests represented by various groups and organisations who have a particular focus on what the census is and what it does. Engagement with our stakeholders will be key to helping us identify privacy risks and develop our plans to manage those risks. The Beyond 2011 project conducted a series of thirteen stakeholder events across Scotland during January and March 2013, and one public event in November 2012. The purpose of these events was to promote the Beyond 2011 Programme (data linkage of administrative datasets) and to seek feedback from a wide range of stakeholders. The Beyond 2011 team was superseded by the Scotland's Census 2022 Admin Data team in 2015. During 2017/18, the Admin Data team built on the previous stakeholder engagement and completed a lighter touch round of public and stakeholder engagement. This included meeting the Administrative Data Research Centre - Scotland Publics Panel, the ICO, privacy groups and local authorities. The key points and suggestions from our stakeholders included: • Users require small area outputs, preferably down to datazone level. • User require a description of the mechanics of how the individual datasets are combined to produce population estimates. • There is the potential for alternative estimates of net migration. • The inclusion of enhanced outputs, particularly on income would be welcome. • Additional sources of information covering Council Tax, TV Licensing and Private Renting may be helpful to this project.

- We received positive feedback on how we have addressed privacy and security concerns.
- We were encouraged to hold public meetings – this was a comment from Open Rights Group during the consultation process in September 2017.
- The Data Privacy Impact Assessment (DPIA) should be published on our website and updated regularly.

The Health and Social Care Public Benefit and Privacy Panel gave final approval for the project on 5 February 2018, assessing all conditions applied to the approval had been met. These conditions were that data sharing agreements were in place with all providers and to submit feedback from stakeholder and public engagement.

In 2018 and 2019 we continued to deliver presentations and updates to our peers and stakeholders, though not as concentrated as in 2017. The first statistic research outputs were published in November 2020. The Administrative Data Based Population Estimates (ABPE), Scotland 2016[16] was sent to our main demographic users through ScotStats[17]. As this was a Statistical Research paper NRS applied to the Office of Statistical regulation (OSR) to be voluntary adopters of the Code of Practice for Statistics[18].
The Admin Data team have been engaged in stakeholders' events from December 2020 and throughout 2021 discussing the ABPE 2016 and requesting feedback from users. NRS will be reviewing all this feedback to help with direction of this project.

Census Security and Privacy have reviewed this DPIA and have recommended its approval by the Information Asset Owner, the Director of Statistical Services. This is to be published as part of our stakeholder engagement.

[16] Administrative Data Based Population Estimates, Scotland 2016 - Statistical Research | National Records of Scotland (nrscotland.gov.uk)
[17] ScotStat Register: guidance - gov.scot (www.gov.scot)
[18] Organisations voluntarily applying the Code – Code of Practice for Statistics (statisticsauthority.gov.uk)

Step 4: Assess necessity and proportionality

Describe compliance and proportionality measures, in particular: what is your lawful basis for processing? Does the processing actually achieve your purpose? Is there another way to achieve the same outcome? How will you prevent function creep? How will you ensure data quality and data minimisation? What information will you give individuals? How will you help to support their rights? What measures do you take to ensure processors comply? How do you safeguard any international transfers?

Legal Gateway

NRS's legal gateway for processing Data comes from the Census Act 1920:

Section 4 "**Preparation of reports and statistics**

(1) The Statistics Board and the Registrar General for Scotland respectively shall, as soon as may be after the taking of a census, prepare reports on the census returns, and every such report shall be printed and laid before both Houses of Parliament."

and section 5 "**Preparation of statistics in respect of periods between one census and another**

(1) It shall be the duty of the Statistics Board in relation to England and Wales and the Registrar General for Scotland in relation to Scotland from time to time to collect and publish any available statistical information with respect to the number and condition of the population in the interval between one census and another, and otherwise to further the supply and provide for the better co-ordination of such information, and the Board or Registrar General for Scotland may make arrangements with any Government Department or local authority for the purpose of acquiring any materials or information necessary for the purpose aforesaid."

Lawful basis for processing

NRS's lawful bases for processing personal data are provided by Article 6(1)(c) and (e) of the UK General Data Protection Regulation (UK GDPR):
"(c) processing is necessary for compliance with a legal obligation to which the controller is subject;""(e) processing is necessary for the performance of a task carried out in the public interest or in the exercise of official authority vested in the controller;"

For processing special category personal data condition 2(j) of Article 9 of the UK GDPR are met:
"(j) processing is necessary for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes in accordance with Article 89(1) based on domestic law which shall be proportionate to the aim pursued, respect the essence of the right to data protection and provide for suitable and specific measures to safeguard the fundamental rights and the interests of the data subject."

The requirement for a basis in domestic law is provided by the Data Protection Act 2018 Schedule 1 Part 1 Paragraph 4: This condition is met if the processing:
(a) is necessary for archiving purposes, scientific or historical research purposes or statistical purposes,
(b) is carried out in accordance with Article 89(1) of the GDPR (as supplemented by section 19), and
(c) is in the public interest.

The project has also using a third party Safe Haven model and this proposal have been approved by PBPP. The request to data providers has been limited to set a number of variables that would allow this project to proceed as per application proposal.
All the data requested so far are held by Scottish organisations and all data processing will occur in the UK.

All output from this project will be published as Statistical Research on the NRS website. Statistical Research publications are developed under the guidance of the Head of Profession for Statistics and are published in order to involve users and stakeholders in the assessment of their suitability and quality at an early stage. Due to the use of new methodologies that will continue to be modified throughout this project, the output **should not use** as an alternative to the Mid-Year Population and Household Estimates Statistics that are published by NRS.

Step 5: Identify and assess risks

Describe source of risk and nature of potential impact on individuals. Include associated compliance and corporate risks as necessary. Larger-scale DPIAs might record this information on a more formal risk register.

NRS has implemented a comprehensive Information Risk Management framework for Scotland's Census 2022. Through this independently approved process it is managing a broad range of risks that have been identified as potentially affecting either the confidentiality, integrity or availability of the processes, systems or data collected via the census. Descriptions of the keys risk can be found in the Scotland's Census 2022 DPIA. Specific risks relating to the Admin Data Population and Household Estimates Project are identified and assessed below.

No.	**Risk and potential impact**	**Likelihood of harm** (Remote, possible or probable)	**Severity of harm** (minimal, significant or severe)	**Overall risk** (low, medium or high)
1	**Risks to individuals** • harm or distress to an individual or group of individuals a) **Unauthorised disclosure of information – IT -** There is a risk that data processed at the National Safe Haven and on NRS systems could be compromised. This could result in personal data provided in administrative datasets or census questionnaires being compromised or lost or subject to misuse or identity fraud.)	**Possible**	**Significant**	**High**
	b) **Unauthorised disclosure of information - Personnel -**There is a risk of unauthorised access to identifiable data within the data processing environment to unauthorised staff. This could result in a possible breach of confidentiality causing distress and frustration to individual	**Possible**	**Significant**	**Low**
	c) **Invasion of privacy** - There is a risk that robust profiles of individuals could be built up from combined with administrative	**Possible**	**Minimal**	**Medium**

	data sets provided by other public bodies. This could result in a greater invasion of privacy for individuals where more information is exposed than they would like . The risk here is that the individuals may not be aware of the extent of the data linkage from other provided sources which is increasing the breadth of width of the information held by NRS. This could result in frustration and distress to individuals			
	d) **Function Creep** - There is a risk of function creep where the project is potentially used for unexpected or unintended future purposes. This could result in a breach of the law and distress and frustration to individuals who may not be aware of future data processing activities	**Possible**	**Minimal**	**Low**
	e) **Storage/Transfer Loss** – There is a risk that personal data are lost due to poor storage and transfer processes. This could result in potential harm, compromised data and identity fraud to those whose personal data is involved in the breach. This risk includes manual transfer of data.	**Possible**	**Severe**	**High**
	f) **Personal Risk (Insider Threat)** – There is a risk that employees, who are authorised to access data, may exploit their access to misuse or steal personal data. This could result in harm, identity fraud, financial loss and distress and upset to the relevant data subject or household. There is a risk of staff not having appropriate qualifications or training to manage the data in the appropriate way.	**Rare**	**Severe**	**Medium**
	g) **Personal Risk (Re-identification)** - There is a risk that individuals are identified or perceived to be identifiable through published tables. This could results in the disclosure of personal or sensitive data about a specific individual or household which could cause distress since this information would constitute personal information.	**Possible**	**Significant**	**Medium**

2	**Risk to NRS** • reputational damage to NRS and/or the data providers; • possible enforcement action against NRS; • loss of confidence in NRS and/or the data providers; and, • loss of public finances to NRS and/or data providers. a) **Unauthorised disclosure of information by NRS.** Examples include inadvertent compromise by a statistical process such as disclosure control, deliberate compromise by a member of staff or a targeted attack by cyber criminals	**Possible**	**Significant (input data)** **Minimal (de-identified output data)**	**Medium** **Low**
	b) **Vulnerability in or malfunction of security controls -** Data subjects may have privacy concerns relating to the security of information technology used to process their data and about the extent of organisational measures in place to protect their data.	**Possible**	**Significant**	**High**
	c) **Information sharing of data -**There is a risk that data is inappropriately shared due to the failure to apply statistical disclosure controls or follow robust information governance processes	**Remote**	**Significant**	**Medium**
	d) **Processing is unlawful and unnecessary** – There is a risk that the processing of the administrative datasets will not be considered fair and lawful if the lawfulness and necessity of processing cannot be established, leading to: loss of confidence in NRS as trusted custodian off personal data; reputation damage to NRS and/or the data provider; possible enforcement action against NRS; and, loss of public or non-public finances. Public may have privacy concerns if the outcomes can be delivered by other means	**Remote**	**Significant**	**Medium**

Step 6: Identify measures to reduce risk				
Identify additional measures you could take to reduce or eliminate risks identified as medium or high risk in step 5.				
No.	**Options to reduce or eliminate risk**	**Effect of risk** (eliminated, reduced or accepted)	**Residual risk** (low, medium or high)	**Measure approved** (yes, no)
1a	**Unauthorised disclosure of information – IT** • National Safe Haven provides a secure analytic environment providing secure file transfer on IT infrastructure provided by EPCC at University of Edinburgh • A comprehensive security programme of policies and procedures which will be implemented by NRS. These are aligned to current regulatory legislation and industry standards e.g. UK and EU GDPR, Data Protection Legislation, NCSC etc. • Strong, auditable security controls between the NRScotland secure processing environment and the SCOTS network have been put into place. • Frequent audits, penetration tests, vulnerability scanning and monitoring is of NRS IT infrastructure will be implemented whilst assurance of Scottish Government network will be requested and validated frequently. • While not in use the data will be encrypted, and stores in the secure Admin Data area, with access restricted to authorized personnel.	**Reduced**	**Medium**	
1b.	**Unauthorised disclosure of information – personnel** • Robust security controls are in place at the National Safe Haven to ensure that only approved researchers can access research data • Access controls policies will be put in place at NRS to ensure only relevant key staff have access to NRS: Admin Area.	**Reduced**	**Low**	

	• Staff are required to take mandatory data protection training and are appropriately qualified for their roles. • Only named individuals from the administrative data team are allowed to work on the project. These individuals are approved by the PBPP, and are required meet the training requirements of the PBPPs. • NRS staff have passed as a minimum the Baseline Personnel Security Standard (BPSS) and follow the code of official statistics. • Regular IT audit access reviews will be implemented to monitor access privileges and joiner, movers and leavers.			
1c.	**Invasion of Privacy** • NRS will be transparent in informing users that census data will be linked and merged with public admin data sets to improve the quality of the statistical processing requirements. This will be highlighted in all census privacy notices and online census guidance.	**Reduced**	**Negligible**	
1d.	**Function Creep** • Any changes to use of data for this project will need to be approved by Health and Social Care and Statistics PBPP panels. It will also need to be approved by data providers and information asset owners. • Approvals, evaluations and policy reviews for increased use of census data will be required. • Any future uses will be advised in the census privacy notices so all respondents are fully informed of how their data will used.	**Reduced**	**Negligible**	**Yes**
1e	**Storage/Transfer Loss** • Appropriate storage policies/procedures that outline specific physical security controls are in place within NRS to manage admin data received.	**Reduced**	**Medium**	**Yes**

	- Frequent physical security assessments will be conducted by NRS to ensure NRS sites processing data are safe and secure. Security Improvement Plans will be formed to track mitigation actions. - Appropriate security and Information Governance training is in place and has been provided to NRS staff. - All personal data will only be stored in the UK - Access to personal data will be based on job role requirements only. All staff will have up to date security checks in place for security clearance purposes. - All security controls for the storage, transfer and destruction of data will be aligned to UK and EU GDPR, the ISO 27001 Security standard, the ISO 15489 Records Management Standard and guidance from the National Cyber Security Centre (NCSC). - Backups of data stored in NRScotland processing environment are encrypted at rest and in transit. Backup copies are synced between NRS sites for redundancy and a tertiary copy is synced to a layered, virtually air-gapped, immutable solution which integrates secure and restrictive account access and data isolation.			
1f	**Insider Threat** - All employees have a minimum level of security clearance to Baseline Personnel Security Standards (BPSS). - Employees will only have access to data required to perform their role. - Security incident and event monitoring tools will be implemented.	**Reduced**	**Medium**	**Yes**
1g	**Re-identification** - eDRIS Research Coordinator and Census 2022 Statistical Disclosure Control team to check research outputs to ensure no-one can be identified from them.	**Reduced**	**Low**	**Yes**

	- Statistical disclosure control will be applied to de-identified data outputs.			
2a	**Unauthorised disclosure of information** - Only named individuals from the Admin Data team will access the data, to perform transfers, conduct linkage and perform clerical review. These individuals will need to be approved by PBPPs. - Data Provider and NRS will complete and sign Data Sharing Agreement which will explain and agree to the minimum data requested, purpose, and roles and responsibilities of both parties. - The transfer of data will be one way through secure transfer agreed from providers to NRS - Datasets de-identified in isolation using hashed matchkeys. - Using Trusted Third Party Model, person doing de-identification is separate from researchers analysing the data. - eDRIS Research Coordinator and Census 2022 Statistical Disclosure Control team to check research outputs to ensure no-one can be identified from them. - All persons who may come into contact with census information will be required to sign the Census Confidentiality Undertaking which is underpinned by the Census Act 1920, prohibiting the sharing or unauthorised use of census data. This Act makes it a criminal offence, punishable by imprisonment, a fine or both, for any person to disclose any personal census information to another person without lawful authority. - NRS is committed to ensuring that privacy of every individual whose data will collected and processed as part of this programme will be protected. All statistical outputs produced by NRS fully comply with the Code of Practice for Official Statistics: Under section T6 on Data governance: Organisations should	**Reduced**	**Low**	**Yes**

	look after people's information securely and manage data in ways that are consistent with relevant legislation and serve the public good • A member of Admin Data team will de-identify personal identifiable data used in the study to minimise the amount of personal identifiable data used in the study. • National Safe Haven - The transfer of data into the Safe Haven is controlled by the eDRIS research coordinator. Outputs are checked prior to release from the Safe Haven to prevent the disclosure of individual's privacy • NRS has a Security Breach process in place in the event that a personal data breach should occur • All staff receive mandatory Data Protection Training. • NRS has Data Protection Policy and Information Security Policy			
2b	**Vulnerability in or malfunction of security controls** • Datasets are stored on encrypted USB drives in fireproof box in a safe with an auditable lock. There is a separate drive for each data source. • Appropriate security controls are on NRS servers, all data will be processed in secure IT area with access limited to named staff. • Datasets will be encrypted at rest, and only decrypted when it is needed for data processing. The unencrypted file will be deleted when processing is complete. • De-identified datasets are processed on the managed and secure National Safe Haven. • NRS has a Security Breach process in place in the event that a personal data breach should occur. • All staff receive mandatory security training.	**Reduced**	**Medium**	**Yes**

2c	**Inappropriate sharing of data.** • Datasets received from providers will not be shared outwith the names individuals from the NRS Admin Data team. • Statistical disclosure control will be applied to de-identified data outputs. • NRS will continue to treat de-identified data as personal data and subject it to appropriate controls. • Robust, transparent, consistent, and proportionate information governance will be applied to all external data requests. • De-identified data will only be shared where there is clear public value and it is safe and lawful to do so.	**Reduced**	**Low**	**Yes**
2d	**Processing is unlawful and unnecessary** • The legal gateway and lawful basis under the UK GDPR for processing the administrative datasets have been established and are as described above. • Proportionality and necessity of processing has been established in Step 4 above	**Reduced**	**Low**	

Step 7: Sign off and record outcomes		
Item	**Name/date**	**Notes**
Measures approved by:	Director of Statistical Services	Integrate actions back into project plan, with date and responsibility for completion
Residual risks approved by:	Director of Statistical Services	If accepting any residual high risk, consult the ICO before going ahead
DPO advice provided:	Head of Information Governance, 05/11/2021	DPO should advise on compliance, step 6 measures and whether processing can proceed
Summary of DPO advice: The lawful basis for processing and the necessity of processing have been established. The project has identified public benefits it expects will be delivered from this research. Appropriate consultation and engagement has taken place. The security controls and other measures that have been identified to reduce the risks associated with the processing are proportionate.		
DPO advice accepted or overruled by:	Director of Statistical Services	If overruled, you must explain your reasons
Comments: I have accepted the DPO advice		
Consultation responses reviewed by:		If your decision departs from individuals’ views, you must explain your reasons
Comments:		
This DPIA will kept under review by:	NRS Head of Admin Data	The DPO should also review ongoing compliance with DPIA

1. Part 3: Linking the DPIA to the UK GDPR data protection principles

Answering these questions during the DPIA process will help you to identify where there is a risk that the project will fail to comply with the UK GDPR or other relevant privacy legislation, including the Human Rights Act.

UK GDPR Principle (a) (Article 5(1) (a))

Personal data shall be processed fairly and lawfully and, in particular, shall not be processed unless:

a) at least one of the conditions in Article 6 is met, and

b) in the case of special category personal data, at least one of the conditions in Article 9 is also met.

Have you identified the purpose of the project?

To provide create aggregate administrative data population and household estimates statistics, to create an evidence base to make recommendations for future censuses in Scotland, with regards to:

- Whether administrative data can be used instead of a census to produce population and household estimates,
- The extent to which gaps in coverage and over-coverage in administrative data can be compensated for, and;
- The extent to which questions asked by a Census can be answered by administrative data

How will you tell individuals about the use of their personal data?

This will be done by the NRS Privacy Notice and publication of this DPIA.

Do you need to amend your privacy notices?

NRS continuously reviews its Privacy Notices to ensure that they reflect the current position. NRS has published a privacy notice about the use of Administrative Data Sources for Census 2022 which explains why and how NRS is using data received from other public bodies for statistical purposes.

Have you established which conditions for processing apply?

The parties are satisfied that conditions 1(c) and 1(e) of Article 6 of the UK General Data Protection Regulations (UK GDPR) are met:
(c) processing is necessary for compliance with a legal obligation to which the controller is subject;
(e) processing is necessary for the performance of a task carried out in the public interest or in the exercise of official authority vested in the controller;

The parties are satisfied that condition 2(j) of Article 9 of the UK GDPR are met:
(j) processing is necessary for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes in accordance with Article 89(1) based on domestic law which shall be proportionate to the aim pursued, respect the essence of the right to data protection and provide for suitable and specific measures to safeguard the fundamental rights and the interests of the data subject.

If you are relying on consent to process personal data, how will this be collected and what will you do if it is withheld or withdrawn?

Consent is not being sought or relied as a lawful basis for processing.

If your organisation is subject to the Human Rights Act, you also need to consider:
Will your actions interfere with the right to privacy under Article 8?

The data is already collected by the Scottish Government and Scottish departments and agencies. Processing of personal data by professional statisticians to produce aggregate statistics is not envisaged to present any additional interference with the privacy rights of individuals.

Have you identified the social need and aims of the project?

The use of accurate population statistics guides significant Government expenditure and provides material benefit to society.

Are your actions a proportionate response to the social need?

Yes. The approach identified enables the use of administrative data to meet the social needs and aims of the project, whilst balancing the need for individual privacy

UK GDPR Principle (b) (Article 5(1) (b))

Personal data shall be obtained only for one or more specified and lawful purposes, and shall not be further processed in any manner incompatible with that purpose or those purposes.

Does your project plan cover all of the purposes for processing personal data?

Safeguards are in place to ensure that the data collected are only used for lawful purposes.

Have you identified potential new purposes as the scope of the project expands?

This will be considered as the project progresses. Any potential new purposes will need the approval of the two Public Benefit and Privacy Panel

UK GDPR Principle (c) (Article 5(1) (c))

Personal data shall be adequate, relevant and not excessive in relation to the purpose or purposes for which they are processed.

Is the quality of the information good enough for the purposes it is used?

Extensive statistical methodologies and quality assurance processes will be put in place to ensure that the statistics produced using the information collected are fit for purpose and best meet the needs of data users. By definition, the Admin Data Project is of a research nature. It will look into whether administrative data can provide information of sufficient quality to produce population and household estimates.

Which personal data could you not use, without compromising the needs of the project?

The nature of the project dictates that we need to know basic demographic information about people – their age and gender- and where they live. Household estimates require that we know the address of individuals. We have taken reasonable measures to ensure that personal identifiable information is only gathered for the purpose of creating matchkeys.

UK GDPR Principle (d) (Article 5(1) (d))– accurate, kept up to date, deletion

Personal data shall be accurate and, where necessary, kept up to date.

If you are procuring new software does it allow you to amend data when necessary?

No. This is a statistical project. We will be using SAS in the National Safe Haven. We will develop methodologies to deal with situations where administrative data sources contain conflicting information

How are you ensuring that personal data obtained from individuals or other organisations is accurate?

Using a variety of administrative data sources, we will be able to quality assure the information supplied by data providers to check for conflicts and ensure accuracy of our final estimates. We are in the process of creating Quality Assurance of Administrative Data (QAADs) reports for each source, which will be published along side our estimates.

UK GDPR Principle (e) (Article 5(1)(e))

Personal data processed for any purpose or purposes shall not be kept for longer than necessary for that purpose or those purposes.

What retention periods are suitable for the personal data you will be processing?

Data will be retained for a period of five years after the end of the project in line with standard National Safe Haven procedures, unless data providers have stated a particular retention period in their data sharing agreement.

Are you procuring software that will allow you to delete information in line with your retention periods?

No specialist software is being procured as part of the Admin Data project.

UK GDPR Articles 12-22

Personal data shall be processed in accordance with the rights of data subjects under this Act.

Will the systems you are putting in place allow you to respond to subject access requests more easily?

No. The data is used by NRS for statistics and research purposes only. The statistics and research exemption applies under Article 89 of UK GDPR and s19 and Schedule 2, Part 6 of DPA18.

If the project involves marketing, have you got a procedure for individuals to opt out of their information being used for that purpose?

Not applicable

UK GDPR Principle (f) (Article 5 (1) (f))

Appropriate technical and organisational measures shall be taken against unauthorised or unlawful processing of personal data and against accidental loss or destruction of, or damage to, personal data.

Do any new systems provide protection against the security risks you have identified?

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No new systems are being procured for this project.

What training and instructions are necessary to ensure that staff know how to operate a new system securely?

No new systems are being procured for this project.

UK GDPR Article 24

Personal data shall not be transferred to a country or territory outside the European Economic Area unless that country of territory ensures an adequate level of protection for the rights and freedoms of data subjects in relation to the processing of personal data.

Will the project require you to transfer data outside of the European Economic Area (EEA)?

No. All data will remain within the UK.

If you will be making transfers, how will you ensure that the data is adequately protected?

Data transfers between data providers and NRS, all be via approved secure file transfer methods determined by the data provider. The National Safe Haven use a secure file transfer that NRS upload de-identified data to. All files will be encrypted prior to file transit to ensure files are secure during all stages of the transfer process.