



DIRECT Consortium

Data Access Policy

Version 4, July 2017

DIRECT Project

Policy for sharing materials and accessing Data

In order to conduct the research planned within DIRECT, researchers will need access to Data and samples generated or contributed by DIRECT Participants. Given the size of the consortium and the variety of different work packages and studies it involves, there needs to be a clear set of policies for how these samples and Data are collected and stored within DIRECT and how they are transferred between researchers to ensure:

- all members of the DIRECT consortium are able to access the Data and materials they need,
- the research fits with the consent that has been given by patients/research subjects,
- Research can progress without unnecessary delay.

This paper sets out the policies and processes for sharing materials and accessing Data within the DIRECT consortium.

It covers:

- 1 Description of the DIRECT Database and the DIRECT Analysis Server
- 2 The roles of the Sample and Data Committee, the Data Access Committee and the Data Extraction Team
- 3 Submitting Data to the database
- 4 Accessing your own Data, other groups' Data, or a mixture of both
- 5 Accessing DIRECT Data for research outside the scope of DIRECT
- 6 Downloading Data from the DIRECT Database
- 7 Database security and access principles
- 8 Transferring materials

1.0 Description of the DIRECT Database and the DIRECT Analysis Server

All Data generated in the DIRECT Project as well as key Background Data will be stored in a database (the DIRECT Database). The DIRECT Database was custom built for the DIRECT consortium by [REDACTED] at [REDACTED]. The DIRECT Database is a relational database that runs on MySQL and has a tailored interface that is mainly used for data entry and limited data query and download.

The database server is stored in a room with restricted access and added protection against physical intrusion. The access for Data entry is possible only through a secure, encrypted protocol between the server and the Data Entry Clients (https). Only users cleared for Data entry can access this functionality by username and password. The DIRECT Database Manager at [REDACTED] will be responsible for the administration of DIRECT Authorised Personnel for DIRECT Database access and for their protected login data. The DIRECT Database User Interface is mainly used for Data entry and can be accessed at the following URL: [REDACTED]

Data Analysis in the DIRECT project will be carried out on a separate, secure server (the DIRECT Analysis Server) or the Computerome, its cloud equivalent. The DIRECT Analysis Server was also built by [REDACTED] at [REDACTED]. The DIRECT Analysis Server is a unix server (OpenSuSE 12.2) with a standard set of unix tools. Statistical software and other necessary software will be installed by [REDACTED] as needed.

The DIRECT Analysis server is located in the same room as the DIRECT Database server, and, thus, has the same physical security measures. Access to the Analysis Server will be limited to named individuals approved by the Direct Access Committee (DAC). Access to the Analysis Server goes through a two-factor CITRIX installation with SMS passcode (authentication is done through a password and a one-time passcode sent through an SMS). All communication between the user and the CITRIX system is through an SSL connection with 128-bit encryption. No Data can be exported from the Analysis Server through the CITRIX installation.

The DIRECT Analysis Server can be accessed at the following URL: [REDACTED]
[REDACTED]

The Data Access Policy allows limited downloads from the DIRECT Analysis Server. Data cannot be downloaded directly from the DIRECT Analysis Server. Thus, users need to submit Data that is to be downloaded, to a secure repository, and download it from there.

2.0 The Sample and Data Committee (SDC), the Data Access Committee (DAC) and the Data Extraction Team (DET)

The Sample and Data Committee (SDC) is responsible for the development of policy, the Data Access Committee (DAC) (which is a sub-committee within the Management Board) is responsible for approval and oversight of access to Data, and the Data Extraction Team (DET) is responsible for helping analysis teams to extract the required data from the analysis server. These committees have delegated responsibilities from the DIRECT Management Board and are directly responsible and accountable to the Board for their activities.

2.1 Sample and Data Committee (SDC)

2.1.1 Composition

[REDACTED]

2.1.2 Responsibilities

The two key functions of the SDC are to develop policy and to provide guidance on policy.

Developing Policy

The SDC will develop policy relating to samples and Data within the DIRECT project, including updating and reviewing the policies described within this paper. Policy will be

developed alongside assessment of the ethical, legal and regulatory requirements of the project and will draw upon current best practice.

As part of the process for developing policy, some issues will be discussed with patient groups, who will assess their significance and acceptability. Patient engagement will provide a useful opportunity to get broader input into policy development. This will be particularly relevant when discussing issues relating to translational research and personalised medicine.

Providing Guidance on Policy

The SDC will provide the forum for queries that do not appear to be covered under current policies, and will advise DIRECT Consortium members on any grey areas. Where this concerns the interpretation and application of policy, any conclusions will be fed back into policy development

Meeting and Reporting

The SDC committee will hold periodic teleconferences to discuss issues arising. Outcomes of these meetings will be reported to the Management Board. DIRECT Consortium members should contact [REDACTED] if they have queries or issues that they would like the SDC to discuss.

2.2 Data Access Committee (DAC)

2.2.1 Composition

The DAC has a 3-tiered process for the review of applications and different people are involved at each stage of review.

Tier 1: DAC Executive Group

[REDACTED]

Tier 2: Wider DAC

The DAC consists of the leads or deputies of WPs 1-6 and 9.

Tier 3: Management Board

Issues that cannot be resolved within the committee will be referred to the Management Board.

2.2.2 Responsibilities

The three-tiered process of the DAC will enable requests from DIRECT Participants for access to Data held within the DIRECT database (usually via the DIRECT Analysis Server) to be assessed and processed quickly and efficiently.

Tier 1: The Executive Group is responsible for collecting Data Access Forms (DAF) and triaging initial requests for access to DIRECT Data.

The Executive Group will approve straight-forward applications that are clearly within the scope of DIRECT (see annex IX), it will refer more complicated requests to the wider DAC.

The Executive Group must decide whether the request is approved, referred to the wider DAC or referred back to the Data Provider(s) and sample Custodian(s) by a majority agreement of 2/3, which must be reached within a stated deadline, but should take no more than 5 working days. This will be carried out by doodle poll and email.

In instances where access has been approved, the Executive Group will assign a reference number to the DAF, and return it to the researcher to notify them of the decision. The DAC will forward the approved request to the DET who will assist in the extraction of data, and [REDACTED] who will be responsible for setting up accounts and the required folders on the analysis server.

Tier 2: The wider DAC will be responsible for reviewing the DAFs that have been referred from the Executive Group and deciding whether access will be granted to the DIRECT Database via the DIRECT Analysis Server, including confirming whether a request falls outside the scope of the DIRECT project. A decision will require 5/7ths of the committee to respond and must be reached within a stated deadline, but should take no more than 10 working days. The DAC will meet at Management Board meetings and decisions will also be made via a combination of doodle polls, emails, teleconferences and, if necessary, face to face meetings.

Tier 3: If there is a difference of opinion between the requesting researcher and Work Package (WP) leads, or between WP leads, as to the appropriateness of the request, the matter will be referred to the full Management Board for adjudication. If there are still areas of dispute, the funders may be requested to provide a final opinion.

The DAC will complete the relevant section of the DAF, including assigning a reference number, and return it to researchers to notify them of the outcome of the request. In instances where access has been approved, the DAC will forward the approved request to [REDACTED] will provide access to the required Data.

2.2.3 Meeting and Reporting

A record of all Data requests, including the outcome of the request, will be sent to the Management Board every 6 months. A list of approved requests will be available on the database and on MangoApps (the DIRECT consortium's "intranet" site).

2.3 Data Extraction Team (DET)

The Data Extraction Team has been set up to help analysis teams determine which data are required to fulfil their Analysis Plans, and to extract the required data from the database.

Composition



Once the Analysis Plan has been reviewed by the Management Board, and the access request has been approved by the DAC, the analysis team lead will consult with the DET to determine which data are required.

3.0 Submitting Data to the DIRECT Database

Each researcher uploading Background Data to the DIRECT Database must complete a Data Submission Form (DSF) (following the SOP, see annex II) outlining the dataset to be uploaded. This form is sent directly to [REDACTED] and provides the opportunity for the researcher to stipulate any restrictions (eg relating to consent or legislation) on the future use of Data by DIRECT Participants.

Researchers wishing to import prospective Data from another database, either as a specific Data file or in another format other than as individual level Data submitted by eCRF, must also submit a DSF to [REDACTED]. This will ensure that the consortium has a detailed record of the Data that is available.

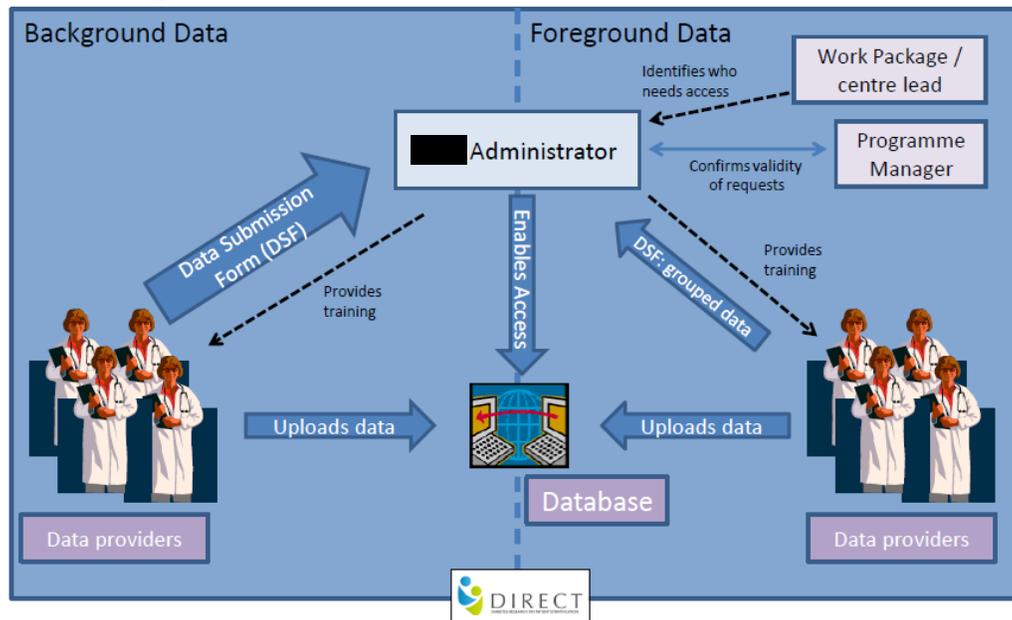
To submit individual-level foreground Data to the database, the Data Providers – usually the WP lead or centre lead, should contact the DIRECT Database administrator [REDACTED] to notify that access is required, including a list of personnel who will be uploading Data. The administrator will confirm these requests with the programme manager [REDACTED]. The DIRECT Participants must provide written updates to the list of DIRECT authorised personnel to reflect any changes or departures in researchers who are involved in Data management or usage.

For both Foreground and Background Data, the DIRECT Database administrator will organise appropriate training for use of the database, and will enable access for validated users.

Where possible, for prospective studies, data entry via the DIRECT Database is preferred because the web based (eCRF) system contains in-built Data clarification checks which will reduce the need for Data cleaning of both composite datasets.

The DIRECT Database User Interface provides limited access for all users to view the Data that they have entered, for example eCRF Data, as well as certain summary statistics. This is to allow users to check the integrity of the Data they have entered. Results from laboratory analyses can be viewed only by the laboratory personnel. Any data exports from the DIRECT Database via the User Interface need to be approved by the DAC. Full audit trails of all database transactions are generated and stored so all actions performed on the database via the User Interface are tracked.

Figure 1: Submitting Data to the DIRECT database



4.0 Accessing your own Data, other groups' Data, or a mixture of both

All researchers wishing to access DIRECT Data will need to sign a copy of the Data Access Standard Operating Procedure (annex IV) VERSION 2 to confirm that they have read and understood the Data Access Policy and terms and conditions for the use of Data within DIRECT. A copy of this form must be sent to the DAC the first time a researcher requires access to DIRECT Data.

4.1 Data and sample Access Forms (DAF)

All researchers wanting to access Data stored on the DIRECT database will need to complete a Data and sample Access Form (DAF) (or, with the knowledge of the original submitter of an existing DAF, have their name added to that DAF). This form enables researchers to stipulate exactly which Data they require access to, and will help the DET to provide a streamlined process for Data provision, which will make it quicker and easier for researchers to access the Data they need. These transparent and accountable management structures also ensure that the project conforms to legal requirements and good information governance standards.

Depending on the Data required, researchers will need to include slightly different information on the DAF, as described below:

4.2 Researchers accessing their own Data

All researchers will be able to access Data that they have entered onto the DIRECT Database, for example eCRF Data, via the Analysis Server or as a download from the DIRECT Database. Researchers wishing to access their centre (described as own data for the purposes of access, with the understanding that consortium data is co-owned) Data will complete a DAF to specify which Data are required (including the work package and study, and types of Data).

If all the Data requested on the Data access form belongs to the requesting researcher/group, the researcher should tick the 'own Data' box, and send the DAF to the DAC Executive Group who will arrange with the DET for the required Data to be uploaded onto the DIRECT Analysis Server, or downloaded as required. It is not necessary for researchers to submit an Analysis Plan to access their own Data.

4.3 Access to composite Data

For researchers wanting to access a composite dataset, which includes for example Data they have uploaded (centre 'own Data'), sample analysis by other research groups, and/or other centres' individual-level Data, a DAF must be completed (following the relevant SOP, refer to annex IV) stipulating the research question and outlining the Data requested. The DAF should be accompanied by an Analysis Plan that has been agreed upon by the working group that will be conducting the research, and approved by the Management Board.

4.4 Process for Analysis Plan approval

Analysis Plans can be proposed by any individual or partner in the consortium but generally are designed as part of working groups or work packages within the consortium. An analyst posing a research question should first consult the MangoApps website to see which Analysis Plans have already been approved, and to determine whether there is an existing working group that might be relevant for the new research question. Following discussion with the working group lead, or having formed a new working group if required, the Analysis Plan should be developed within the working group. It is recommended that the Analysis Plan is presented during a Virtual Lab Call (VLC) or similar and discussed with the wider group, before being sent to the Management Board for approval.

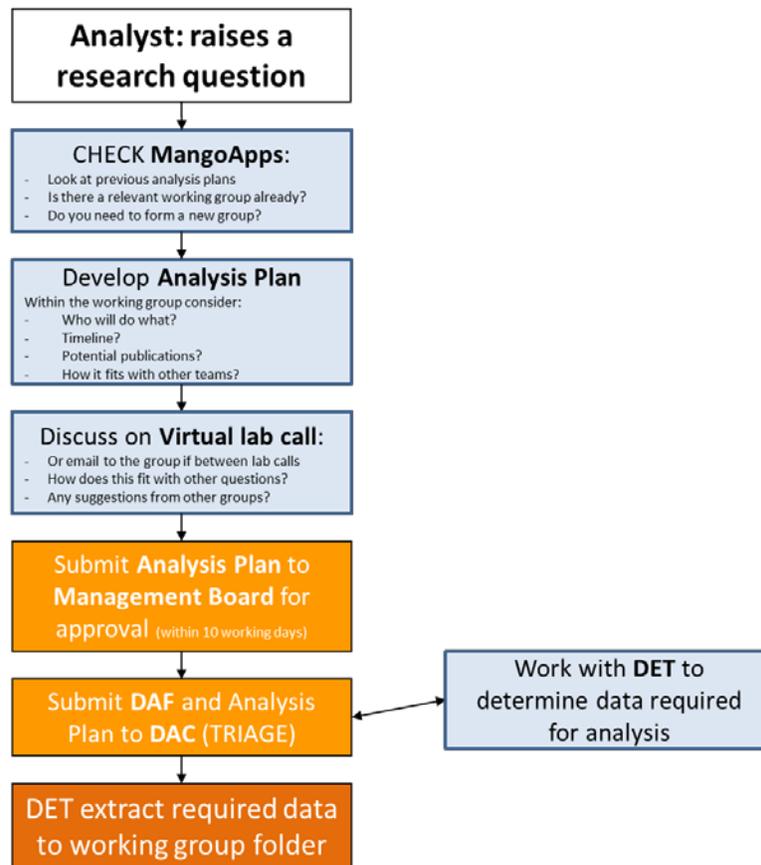
The basis for this approvals process is to ensure that the priority research questions for the consortium are being covered first, and to have good overview and coordination of who is involved in what. Discussing the Plan during the Virtual Lab Call first will help position the research in the context of other analyses being conducted, and raise any relevant questions before consideration by the Management Board.

This applies to requests for access to both Background and Foreground Data.

The Management Board will consider Analysis Plans within 10 working days.

Once the Analysis Plan has been approved, the DAF is submitted to the DAC Executive Group, who will consider the request, and either approve it or refer it to the wider DAC (the triage process, see Figure 3 below: The DAC triage process for Data access requests). The DAC is not responsible for evaluating and approving the Analysis Plan but for ensuring the DAF is adequately detailed and in line with the approved Analysis Plan.

Figure 2: Process for analysis plan development



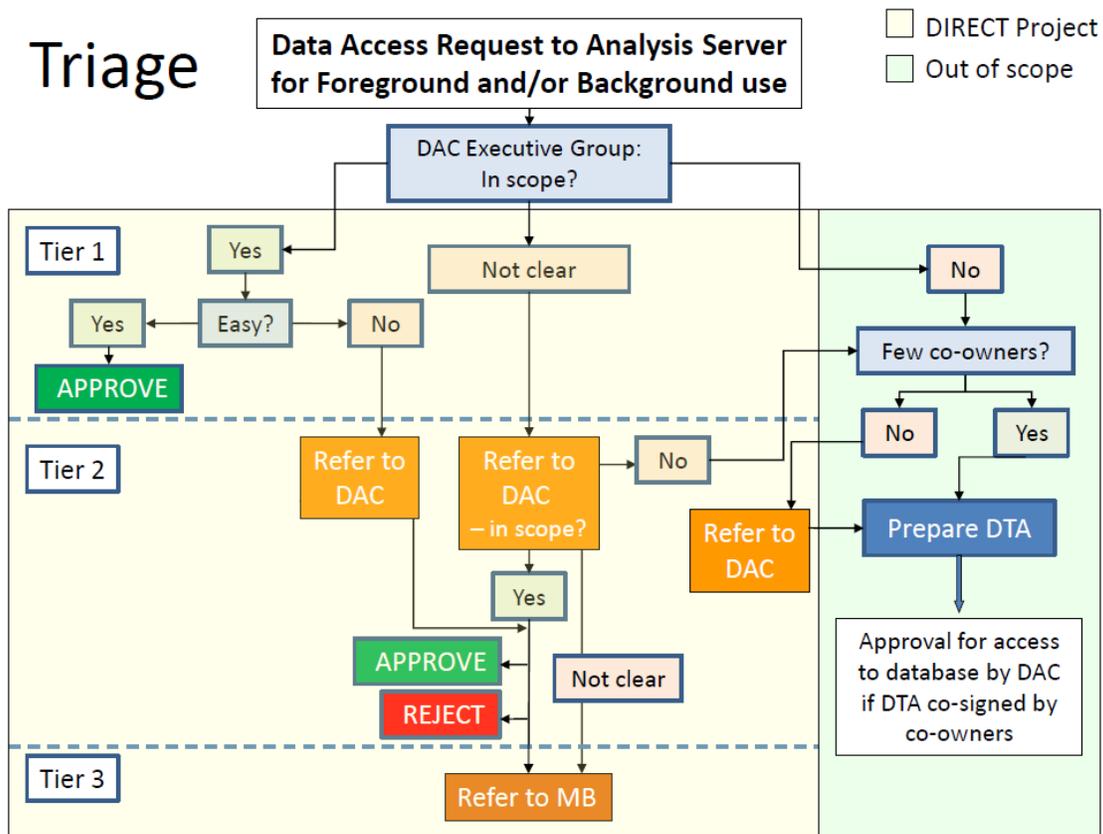
4.5 Data and sample Request approval

The DAC must assess whether the research is within the scope of the DIRECT Description of Work (refer to annex IX for research questions). For requests that are obviously within the scope of the DIRECT project, approval will be granted if the following conditions are clearly met:

- Timely
- Enabling collaboration
- Indicates scientist(s) who will do the analysis
- Indicates specific Data requested for analysis
- Outlines a robust research question and an Analysis Plan
- Outlines a robust method for analysis
- Is not in breach of any ethical, legal or regulatory requirements
- Fits clearly within a specific work package

For requests where there is any doubt as to whether the above criteria have been met, or any other concerns, the Executive Group will refer the request to the DAC.

Figure 3: The DAC triage process for Data access requests



Definitions

DAC: Data Access Committee

DTA: Data Transfer Agreement

In scope? Is the request clearly within the remit of DIRECT?

Easy? Is the request straightforward, clearly linked to a specific dataset and work package, timely, with a robust research question and Analysis Plan, and in accordance with ELR requirements?

Few Co-owners? Does the request correspond to a single owner or small group of owners, or does it affect a large group (e.g. whole consortium)? In instances where a large group needs to be consulted the DAC may need to consider who to refer the request to.

Once a request has been approved, the lead researcher will work with the DET to determine exactly which data are required for the analysis. The DET will then extract the data from the DIRECT database and save it in the appropriate working group folder on the analysis server. This will allow all members of the analysis team to access the required data and to upload relevant analyses to that working group folder. Researchers are not allowed to copy and share data from the working group folder, or transfer data between folders. This area will not be accessible to other researchers/work packages. Once completed an 'Extraction Report' will be generated by DET to act as a record of what was actually extracted. This report can be held with the Data Access Request.

Researchers should note that on receiving access to the requested data, they may be granted access to a wider dataset than they specifically requested. Researchers are trusted to select and

access only the data they have requested, in line with the research outlined in the Analysis Plan. Without exception, researchers must submit a new request to the DAC for each new research question or Analysis Plan, or for any extension or development of an existing Analysis Plan, whether or not they coincidentally have access to the required data as a result of a previous request.

Access to data in line with submitted Analysis Plans will be monitored to keep oversight of the research that is taking place throughout the consortium, to ensure that all parties are supported in conducting high quality research to contribute to DIRECT, and that all partners have an opportunity to conduct research within the consortium in a fair and reasonable manner. Any instances where it is felt that this trust has been abused could limit future access to data and may lead to the introduction of a more stringent access procedure.

5.0 Accessing Data for QC

If data is required for QC purposes, it is possible to submit an access request without an accompanied Analysis Plan. This should be clearly marked on the access request form. In these cases, data can only be accessed and used for QC, and must be deleted as soon as the QC process has been completed. If, as part of a QC process, access is required to the analysis server, without needing to access specific data, a DAF should still be completed to enable the database team to set up an appropriate account on the analysis server.

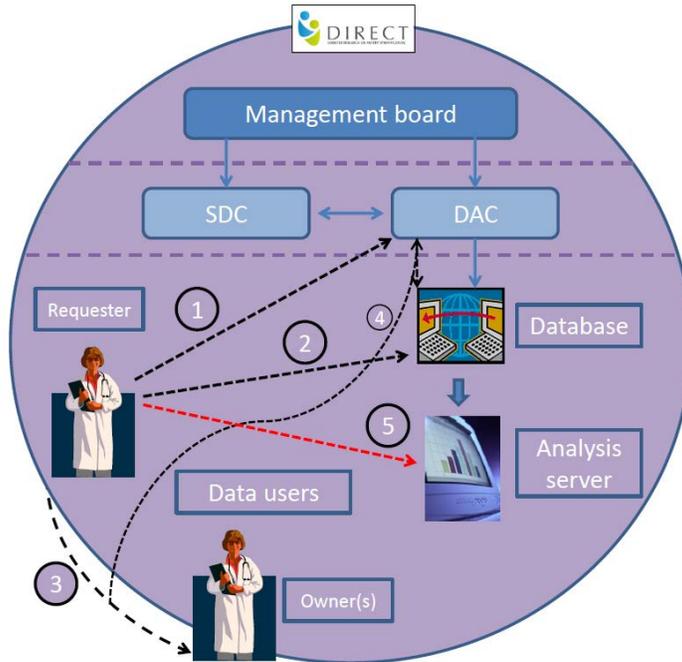
6.0 Accessing DIRECT Data for research outside the scope of DIRECT

Where it is not clear whether the Data request is within the scope of the DIRECT project, the Executive Group will refer the request to the DAC, for consideration by the Work Package leads. The Management Board will have approved the Analysis Plan before the data request is submitted to the DAC, and thus the DAC's role is to check that the data requested fits with the Analysis Plan, and to assist in the administration of data access.

If, however, the DAC considers a research question to be out of the scope of DIRECT, the DAF will be returned to the Data requester. All prospective data collected on behalf of the DIRECT consortium is considered to be co-owned by members of the consortium, on the recognition that data that different members of the consortium contribute to different aspects of the research pathway. Once data are uploaded onto the database, a data cleaning process is performed by the Data Quality Inspection Team (DQIT), to ensure that the dataset is as complete and high quality as possible. If members of the consortium wish to use DIRECT data for purposes outside the scope of DIRECT, this will need to be considered on a case by case basis, depending on the nature of the request. It may be necessary to draw up a Data Transfer Agreement (DTA) as a formal agreement between the consortium and the requestor to enable research outside the scope of DIRECT. This is similar to the process for requests to access DIRECT data by researchers outside the consortium.

The agreement would need to identify which Data were to be shared, and the conditions for transfer, including how data would be accessed (i.e. via the DIRECT analysis server or via other means).

Figure 4: Data Access within DIRECT



- 1: **Data Access Form (DAF)** – to be completed and submitted to the DAC to request access to Data from the database.
- 2: **Data Access Form (DAF)** – to be completed and submitted to [redacted] to access own Data.
- 3: **Data Transfer Agreement (DTA)** – to be completed by the requesting researcher and the Data owners to transfer Data for research outside the scope of DIRECT.
- 4: All DTAs must be sent to the DAC to notify of Data sharing outside the database, and will be forwarded to [redacted] if access to the database is required.
- 5: If the DAC approves access to Data, the Data is made available to the requester(s) on the analysis server.

7.0 Download of Data from the DIRECT Database

All Data analyses will take place on the DIRECT Analysis Server and Data will rarely be downloaded from the DIRECT Analysis Server.

In extenuating circumstances researchers may be able to download Data from the database, or from the DIRECT Analysis Server. This will be possible when:

- Accessing own centre Data.
- Downloading results from the DIRECT Analysis Server, for example for publication.
- Downloading Data for analysis in certain specific circumstances (see below), for example if the analysis server cannot support the software required. In these instances, researchers are required to provide a clear explanation for their requirements as part of the initial request for access, and the request will require approval from the MB.
- Downloading code written on the analysis server

Data that can be downloaded includes:

- scripts, analysis, results, tables, plots, images, presentations and pdf files

As indicated above whenever possible analysis should be undertaken on the DIRECT analysis server /computerome. However, in exceptional circumstances Centres can apply to download (or receive) a copy of specific DIRECT raw data sets for analysis, for example when data analysis on the DIRECT host server is impractical for whatever reason. A clear justification for the request must be provided. Each application to download data locally must be reviewed and approved by the Management Board and must fulfil the following conditions:

- The data must pertain only to prospectively collected DIRECT cohorts WP2.1, WP2.2 and WP3.3
- A formal application should be made stating why the download is necessary, what the data will be used for, what analyses will be performed and who (the specific personnel) will perform them.
- A separate application should be made by each institution wishing to download data
- The applicant (normally the lead DIRECT consortium member for that institution) should sign a hard copy of the application to say that they will adhere to all international, local and DIRECT data governance rules required for personal sensitive data and to accepted good practice in terms of data hosting and security.
- The data must not be shared with third parties or combined with other external data.
- The approval will be time limited (maximum of 6 months) but renewable by application.
- The version of the data provided will be the latest 'data freeze'. An additional request will be required to receive any subsequent data freeze.
- Data must be destroyed at the end of the approval period and written and signed confirmation provided that this has been done.

All downloads are recorded and are traceable to ensure this facility is not abused. Failure to comply with this policy may result in sanctions against the individual and their institution.

If it is necessary for Data to be downloaded from the DIRECT Database, including Data extractions needed to provide updates to Donors, a DAF must be completed with the appropriate box ticked to specify that the request refers to data to be downloaded, and which Data is required.

Requests to download results or to download a researcher's own Data should be sent directly to [REDACTED]. All other requests for Data downloads must be sent to the DAC Executive Group, to refer to the wider DAC for approval.

Once permission to download Data has been obtained, the user prepares an archive (e.g. a zip file) that contains the data they need to download. The user then submits the archive to a download folder on the Analysis Server. The user can then download the Data by logging into a secure repository. The repository keeps full copies of all downloaded Data and maintains a log of all downloads. Downloads are audited and results of the audits are reported back to the DAC and the Managing Board. This download procedure works for moderate sized Data downloads. Large Data downloads (e.g. genomic Data) will require separate arrangements.

Responsibility for maintaining security of the Individual Level Data stored on the DIRECT Database rests with the DIRECT Database Manager at [REDACTED].

A record of Data uploaded onto the DIRECT Database, requests for access to the DIRECT Analysis Server, and release of Data onto the Analysis Server will be collected and maintained by [REDACTED]. An updated table summarising all access requests by DIRECT Participants and the purpose for the request will be sent every 6 months to the SDC, DAC and the Management Board by the Database Manager.

All participants wishing to access and use data from the DIRECT Database must read the Data Access Policy, adhere to the following terms and conditions and provide a signed copy of the last page of the SOP to the DAC before access is granted for the first time.

8.0 Data access principles

8.1 Basic Requirements

In all instances where Data is accessed, the DIRECT consortium members agree to the principles below:

- This policy applies to Data transferred, used or generated by any DIRECT consortium members and/or affiliated entities;
- The person who transfers or receives Data is responsible for ensuring that his or her research team and/or affiliated entities comply with these principles;
- All Data can only be made available according to the terms and conditions outlined in the Data Submission Form, Data Transfer Agreement or the Data Access Form;
- Should any conflict between the terms of the Project Agreement and a DAF arise, the terms of the Project Agreement will take precedent.

The Data can only be accessed by DIRECT consortium members if the following have been complied with:

- Professional conduct and Data protection requirements have been fulfilled for all Data accessed and shared.
- The intended use complies with the informed consent given by the relevant Donors.
- The intended use is in conformity with the Description of Work, Annex 1 of the Grant Agreement, and the provisions of the DIRECT Project Agreement.
- A Data Access Form, including an Analysis Plan which has been approved by the Management Board, has been completed and approved by the DAC.
- Each researcher/analyst requiring access to Data on the analysis server has sent a signed copy of the Data Access SOP to the DAC confirming that they have read the Data Access Policy.
- To transfer Data not stored on the database, a DTA has been agreed between the Data Provider and the requester, and a copy of the DTA has been sent to the DAC.
- The Data will not be transferred or made available to any individual other than those under the supervision and control of the DIRECT project partners, their Affiliated Entities or Sub-contractors.
- The type of use outlined in the associated Analysis Plan / DAF has been approved by the DIRECT Management Board through the DAC.

- Researchers using Data obtained from the DIRECT Database will not retain Data in whole or in part beyond the use outlined in the associated Analysis Plan / DAF, unless this can be justified;
- **Researchers will not transfer data from the shared analysis team folder on the analysis server to any other folder.**

8.2 Responsibilities

DIRECT consortium members shall agree to ensure that they and any employees that process the Data shall:

- Comply with all applicable Laws and take reasonable steps to ensure the reliability of those of its employees and that such persons have sufficient skills and training in the handling of the Data and comply with the Laws;
- Process the Data to the extent, and in such manner as is necessary to deliver the objectives disclosed in the DAF.
- Have, maintain, and comply with the Data Security Obligations. These measures shall be appropriate to the harm which might result from any unauthorised or unlawful use.
- Shall deposit results, and code used to generate the results, to a specified location on the Analysis Server.
- Analysis should only be performed on data that has been requested using a data DAF, in accordance with the Analysis Plan provided. In the unlikely event that a researcher is given access to data that they did not request, they must notify [REDACTED] immediately.

Access to the DIRECT Database via the DIRECT Analysis Server is limited to authorised DIRECT scientists who must:

- Maintain security of the DIRECT Database by not sharing their user name and password with anyone and must take all reasonable precautions to ensure their user name and password remain confidential.
- Promptly report any breaches of DIRECT Database security to [REDACTED] and the DIRECT Management Board.
- Have signed an obligation of confidentiality in relation to the Data (this is usually signed as part of an employment contract) if appropriate in their country.
- Take precaution in preventing intrusion software from being present on the equipment used to access the DIRECT Data.

8.3 Downloading data from the analysis server

- Data downloaded from the analysis server includes any data (except individual level data), such as graphs, tables or code that may be needed for research or publication. This includes results from analysis, code, or aggregate level data.
- Individual level data must not be downloaded from the analysis server (except in exceptional, pre-approved circumstances – see section 6.0 above).
- The basic requirements (7.1.1) and responsibilities (7.1.2) outlined above apply to all data downloaded from the analysis server. Analysts must follow these requirements when handling data downloaded from the DIRECT analysis server.
- Data downloaded from the server must only be used in accordance with the permissions granted through the data access process

- Analysts already registered for database access do not need to fill in a new DAF and seek approval by the DAC for data download
- Data downloaded from the analysis server should not be shared with other members of the DIRECT consortium outside of the analysis server.
- Analysts should be aware that details of all downloads will be tracked, recorded and be traceable.
- Appropriate measures must be taken to ensure that data are stored and used securely, and not transferred insecurely to other members of the consortium. The analysis server is the primary secure channel through which data should be shared.
- Appropriate care and attention must be taken to ensure that data are not copied or shared beyond the consortium, unless included in approved publications, presentations or posters.

9.0 Transferring material

Materials include any human tissue or other biological samples required for use in the Project.

Materials that could be shared as part of the DIRECT project include samples that have been brought to the project by DIRECT Participants (Retrospective Samples), or samples that are collected through the DIRECT project itself (Prospective Samples).

Transfer of materials therefore includes the sharing of Retrospective Samples between project partners, or relocation of prospective samples to and from the central laboratory (UNEXE/UEFK).

9.1 Transfer of Retrospective Samples

In order to transfer Retrospective samples, a Materials Transfer Agreement (MTA) must be completed and co-signed by the sample custodian and the sample requestor. A copy of the counter-signed MTA is sent to [REDACTED] and WP9. The MTA includes information about how samples should be shipped, and states whether the sample can be shipped onward to another DIRECT consortium member following the initial transfer.

9.2 Onward shipment

In order for a sample to be shipped onward from the new custodian to another research group, the requester must check that the original MTA allows for this, and then fill in the relevant sections of the DAF, outlining the intended Analysis Plan for the samples. This form, along with the third page of the original MTA, is submitted to the DAC who will consider all requests for onward shipment, to keep oversight of the amount of each sample that is available, prioritising analysis if necessary. The DAC will encourage collaboration where appropriate.

9.3 Prospective Samples

An MTA is not required to deposit Prospective Samples in the central laboratories based at the [REDACTED]. The centres collecting samples will register these samples on the DIRECT Database, and the DIRECT Database will automatically keep track of which samples have been

collected, and where they are stored. The database enables researchers to ship samples to the central laboratory, and automatically informs the central laboratory that a shipment has been dispatched. Once the shipment arrives at the Central Laboratory it will be checked in, and the database will automatically inform the provider of this via the bar codes system, keeping a record of the exact location of each sample at all times. The project plan identifies certain centres that will conduct specific analyses, for example DNA samples will be sent from the central laboratory to [REDACTED] for sequencing, with the transfer enabled via the database. All other samples will be stored in the biobank at the central laboratory. If researchers wanted to access these samples outside the original plans for the project, they would need to apply directly to the Management Board for permission.

In addition to adhering to the relevant data access principles as specified in section 7, materials can only be accessed by DIRECT Participants if the following have been complied with:

- Access to retrospective samples can only be made available according to the terms and conditions outlined in the Material Transfer Agreement that has been signed by the individuals involved in the transfer;
- Should any conflict between the terms of the Project Agreement and an MTA, the terms of the Project Agreement will take precedent.
- All the required authorisations, to perform the experimental work, under all applicable laws and regulations, at the place of investigation, have been obtained.
- The intended use complies with the informed consent given by the relevant Donors.
- The intended use is in conformity with the Description of Work, Annex 1 of the Grant Agreement, and the provisions of the DIRECT Project Agreement.
- To share samples, an MTA has been completed by the relevant parties, and a copy sent to WP9 as a record of the transfer;
- The materials collected for the DIRECT Project will only be used for the Project, as outlined in the Project Agreement, and will not be analysed or modified except as necessary for the purpose of the Project.
- The materials will not be transferred or made available to any individual other than those under the supervision and control of the Receiving Participant, its Affiliated Entities or Sub-contractors.
- The materials are to be used with caution and prudence in any experimental work, since not all of the characteristics are necessarily known. The Receiving Participant using the material shall bear all risks to it and/or any others resulting, directly or indirectly, from its use, application, storage or disposal/destruction of the materials;
- Upon completion of the Project, or the expiry or termination of the Project Agreement, any unused materials will be either returned to the Providing Participant which made them available or disposed of/destroyed in accordance with all applicable laws and regulations.

10.0 Summary of Revisions - Changes from previous version of this Policy

- Include provision for download of raw data to local secure server in exceptional circumstances.
- Update DAC / DET membership
- Revise numbering and other minor edits

11.0 Abbreviations

DAC: Data Access Committee

DAF: Data Access Form

DET: Data Extraction Team

DIRECT: Diabetes REsearch on patient strATification

DNA: Deoxyribonucleic Acid

DSF: Data Submission Form

DTA: Data Transfer Agreement

[REDACTED]

eCRF: electronic case report form

MTA: Material Transfer Agreement

SDC: Sample and Data Committee

SMS: Short Message Service

SSL: Secure Sockets Layer

SOP: Standard Operating Procedure

12.0 DEFINITIONS:

Affiliated Entities: means any legal entity listed in Appendix 8 to the Project Agreement that is under the direct or indirect control of a Participant, under the same direct or indirect control as a Participant, or is directly or indirectly controlling a Participant, control taking any of the following forms: (a) the direct or indirect holding of more than 50% of the nominal value of the issued share capital in the legal entity concerned, or of a majority of the voting rights of the shareholders or associates of that entity; (b) the direct or indirect holding, in fact or in law, of decision-making powers in the legal entity concerned;

Background: means information, including data and know-how which is held by a Participant prior to, on or after the accession to the Grant Agreement, as well as copyrights or other intellectual and industrial property rights pertaining to such information, and which is Necessary for carrying out the Project and which is defined in Appendix 3 to this Project Agreement;

Central Laboratory: ██████████

Consortium Member: means a party to the Project Agreement and “Consortium members” shall be interpreted accordingly;

Custodian: the person responsible for a sample being used in the DIRECT project.

Data: Summary Level Data and Individual Level Data together. Data may constitute the Background, or Foreground of a Participant.

Data Access: access to Foreground and Background Data.

Data Entry Clients: Computer used for Data entry.

Data Extraction Team: Individuals who have expertise in handling data and who help analysis teams determine which data are required to fulfil their Analysis Plans, and then to extract the required data from the database.

Data Provider: The participant or group which submits the Data to the database, or provides the Data in transfers that are considered outside the scope of DIRECT and are determined by the associated Data Transfer Agreement.

Data Receiver: The participant or group which accesses Data on the DIRECT analysis server, or receives Data as a database download or through the transfer of Data for research outside the scope of DIRECT as determined by the associated Data Transfer Agreement.

Data Security Obligations: technical and organisational processes and procedures that will protect the Data against unauthorised or unlawful processing and accidental loss, theft, use, disclosure, destruction and/or damage which include:

- (a) technical security measures;
- (b) treating and safeguarding the Data as strictly private and confidential;
- (c) minimising the disclosure of Data to third parties to the fullest extent possible;
- (d) allowing access to the Individual Level Data strictly on a “need to know” basis employing appropriate access controls at all times;
- (e) copying, reproducing and/or distributing the Data only to the extent necessary to perform the research as outlined in the Grant Agreement
- (f) maintaining adequate back-ups for the Data to enable the Data to be recovered in the event of damage or loss.

Data Transfer: up- and/or down-loading of Data to and/or from the Database.

Data Transfer Agreement: an agreement generated by Data owner(s) and receiver for the transfer of Data for research outside the scope of DIRECT.

DIRECT Analysis Server: A secure server hosted by [REDACTED] that will be used for Data analysis in the DIRECT project.

DIRECT Authorised Personnel: People working in the DIRECT project who have been authorised to have access to the DIRECT database.

DIRECT Database: central DIRECT Database hosted and administrated by [REDACTED].

DIRECT Management Board: means a body comprised of the Coordinator, the Managing entity of the IMI JU funding, and the Work Package Leaders and shall be responsible for the day-to-day management of the Project.

DIRECT Participants: a legal entity being a party of the *consortium*, contributing to the *project* and having rights and obligations with regard to the *IMI JU* under the terms of the *grant agreement*.

Donor: each patient or other donor of samples and/or Data.

Foreground: means the results, including data, know-how and information, whether or not they can be protected, which are generated under the Project and within the Project Objectives, and excluding Sideground. Such results include rights related to copyright; design rights; patent rights; or similar forms of protection.

Individual Level Data: Data attached to a single Donor that is directly identified as belonging to a single individual.

Laws: all applicable laws (including but not limited to Data protection laws and privacy laws) in any of the territories in the European Economic Area and Switzerland for the time being.

Material Transfer Agreement: the agreement co-signed by the providing participant and the receiving participant which allows the transfer of material for use in DIRECT.

Project: means the research activities carried out by the Participants as defined in Annex I of the Grant Agreement.

Project Agreement: means the Agreement for DIRECT and all of its appendices, together with amendments validly agreed in writing amongst the Participants.

Prospective Samples: samples that are collected through the DIRECT project itself.

Retrospective Samples: samples that have been brought to the project by DIRECT Participants.

Sideground: means the results, including data, know-how and information, whether or not they can be protected, which are generated by a Participant under the Project but outside of the Project Objectives and which are not needed for undertaking and completing the Project or the research use of Foreground. Sideground specifically excludes Foreground.

Sub-contractor: means a Third Party which has entered into an agreement on business conditions with one or more Participants, in order to carry out part of the work of the Project without the direct supervision of the Participant and without a relationship of subordination.

Summary Level Data: Data generated for a group of individuals with no means of inferring specific Data for any one individual.

User Interface: The means by which the user and a computer system interact, in particular the use of input devices and software.

13.0 Annexes

- I. Data Submission Form
- II. Data Submission SOP
- III. Data Access Form
- IV. Data Access SOP
- V. MTA
- VI. MTA SOP
- VII. DIRECT Publication Policy
- VIII. DIRECT Principles for Analysis
- IX. Research Questions