C.10. What will be the address of the research registry (i.e. where will the data/biospecimen be kept) or the location of the biorepository?

UBC FoM DS OS software is hosted in the University Data Centre (UDC) located in the Pharmaceutical Sciences Building, 2405 Westbrook Mall, Vancouver, BC V6T 1Z3.

Note: it is the responsibility of the research team to list the location of their physical biorepository.

C.11. What steps will be taken to ensure the security of the data and/or biospecimens?

OpenSpecimen (OS) is hosted on a web server that employs Secure Socket Layer (SSL) technology for the secure transfer of data between a client computer and the server. The application and the database are housed on separate virtual networks providing enhanced security. The IT network is protected and governed by security mechanisms defined in the UBC Research IT security policies. The application is protected with web application firewall (WAF) through UBC Cybersecurity.

The FoM OpenSpecimen servers are located at the UBC University Data Centre (UDC) and use SSD (Solid state drives) for storage. UDC is monitored 24/7 from the IT Operations Centre and IT staff & Researchers will have 24 hour access to their equipment. Access to the network/storage rooms will be limited to UBC IT authorized personnel. The data transmission from client computer to data servers is encrypted.

OS has built-in functionality whereby changes that need to be made to a Collection Protocol (CP) already in use are restricted by User Role permissions and tracked. The FoM Digital Solutions Data Management Team receives the request and can then verify and approve the proposed changes. OpenSpecimen maintains an audit trail of each and every action performed on the system by a user.

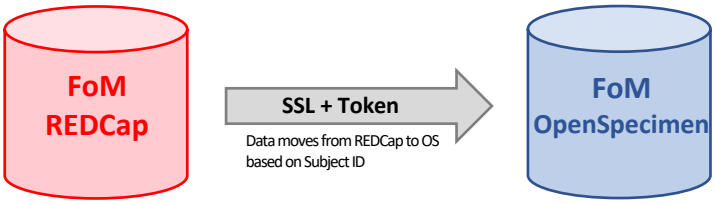
The FoM DM Team provisions research team member access to the OS. The research team is responsible for specifying individual access team member access to OS functionality and data. OS is accessible via UBC CWL login multi-factor authentication (MFA).

When required, OS can collect and store personal identifying information (PII). Access to view/export PII can be granted or restricted via user permissions.

Note: it is the responsibility of the research team to describe the security their physical biorepository.

C.14.B. Identify the data set, how the linkage will occur, and provide a list of data items in the other database. Also, identify what personal information will be used to link the databases and how confidentiality regarding this shared information will be preserved.

The FoM Data Management team is able to link UBC Faculty of Medicine (FoM) REDCap project data with FoM OpenSpecimen project data. The FoM DM team will facilitate the programming of this linkage. Data variables in UBC FoM RedCap can only be moved one-way to a UBC OS project.



Note: The research team is responsible for providing the specific variables used for linking (and if they are PII), the variables being pushed from FoM REDCap to OpenSpecimen, and describing the protocol-specific workflows. Any linkages beyond this must also be described by the research team.