CREATE

"CREATE your own collection (i.e. build a new biobank)"

We define CREATING as the process of assembling your own biospecimen collection to build a biobank that you (and/or other researchers) can draw on. This may be a small collection that will be compiled and then used by one user for their own specific purpose (mono user) or at the other end of a spectrum it may be a larger collection that can be used by multiple users and for many research purposes (poly user).

In this section we will introduce the key concepts to CREATING a biobank. But, as previously discussed CREATING and operating a biobank is complex.

CREATE is presented here as a distinct option involving setting up your own biobanking processes to create your own biobank. However, it is common for researchers to obtain biospecimens through LOCATING or CONTRACTING, and then to only consume part of the biospecimens for a specific project. The remaining materials are often stored in the laboratory for future research that also often involves collaboration with other researchers and sharing of biospecimens and data between laboratories. It should be recognized that this means the researcher has also CREATED a biobank.

Therefore, if you decide to CREATE a biobank at the outset, or whether you have obtained biospecimens by LOCATING or CONTRACTING and decided to store unused portions of biospecimens for future use, we strongly suggest that you see our dedicated education modules at www.biobanking.org. These modules cover each aspect of biobanking in sufficient detail to allow you to CREATE a quality biobank and ultimately certify your biobank.

While you think about whether CREATING a biobank is really for you consider the following scenario, questions to ask yourself and aspects to consider all in the context of establishing your own biobank.

Scenario
Dr. Jones is a Professor at the University of Alberta who is interested in Rheumatoid Arthritis. Dr. Jones believes that biomarkers in blood will be key to understanding this disease better, however it has been hard for them to obtain samples at the correct time and in the correct format for their research. The research institute they work at has the infrastructure to house a biobank and they have identified a funding opportunity that would support a research resource for their institute. Dr. Jones is willing to invest their time in establishing and leading a biobank for Rheumatoid Arthritis research. A key aspect of the biobank will be ensuring high quality and standardization of biospecimens, so they will be looking into a certification or accreditation program for their biobank. Dr. Jones believes that research could be more cost effective and

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efficient if the collection of samples for research was centralised and that there is the potential to use single patient samples for multiple research projects.

In some instances, initiation of a new collection of biospecimens will be the best choice. This can lead to creation of a dedicated resource, with enrollment criteria and biospecimen preservation and format that is tailor-made for a certain area of research. However, the effort involved should not be underestimated and this option will require the dedication of a significant amount of time and financial resources. This could be regarded as an interesting project alongside the research conducted by a laboratory, or as a distraction from the ultimate goal of pursuing important research questions.

When planning to CREATE your own biobank, some questions you'll need to think about are:

- What are the types of biospecimens that will be the priority for collection?
- What will be the intended current and possible future research use of the biospecimens?
- What preservation and processing methods should be chosen?
- Who will be the custodian or the person responsible for the biospecimens collected?
- What procedures will be used to maintain biospecimen quality and prevent degradation?
- How will any biospecimen-related data be stored and managed?
- How will the costs of maintaining the biobank be sustained?

Aspects of CREATING to consider are summarized in the table below:

Aspect	
Time	Usually, time intensive over a long period, however a lot of satisfaction can be gained from creating an effective resource.
Effort	Usually very high effort over a long period, but the commitment may allow one to establish access to biospecimens that are otherwise hard to obtain.
Cost	Creating a biobank is always expensive. A portion of costs can be recovered if access to the biobank is offered to other researchers by charging cost recovery fees for access to the biobank. However, it is very hard, if not impossible to achieve full cost recovery, and therefore strategies to cover initial setup and maintenance costs need to be developed.
Research study considerations	If you choose to create a biobank you will have the potential to share biospecimens or portions of biospecimens with other researchers and potentially establish useful collaborations and reduce your overall costs to maintain the biobank. Even if you require all the portions of some specific biospecimens, it is usually the case that other biospecimens in the biobank are not a

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	priority for your project and may be available for someone else's study. Of course, there is the possibility that some biospecimens will never be utilized. Biobanks give rise to highest quality biospecimens only if operated well and if they are maintained to allow for the collection of sufficient data (including outcomes data) over a period of time.

Consider the scenario we presented of Dr. Jones: CREATING a biobank is advantageous to Dr. Jones because they are willing to share biospecimens they collect with other researchers. As a result of this attitude Dr. Jones has sought out funding for a biobank and is willing to lead such an endeavor. As a result, they will be able to access and provide access for other researchers to high quality and standardized biospecimens that will benefit the Rheumatoid Arthritis community.

Summary of creating

Creating your own biobank can be very rewarding as it can provide an interesting challenge and distinct project alongside a research project and also create something that can be of benefit to others. However, the time, effort, and cost to CREATE a good biobank should not be underestimated. There are many intricacies to the process and as the leader of the biobank you need to be invested for the biobank to succeed. This module provides you with the basic information and considerations. If you think that you are at the stage where you want to CREATE a biobank then we highly recommend that you take our Essentials of Biobanking course which not only provides you with all the essential details but will enable you to CREATE a biobank that meets best quality standards and to certify the biobank.

Access the Essential of Biobanking course here: https://biobanking.org/webs/education

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