SBP COST CALCULATOR
User guide

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"Sustainability is the capacity of a research infrastructure to remain operative, effective, and competitive over its expected lifetime" as defined by the OECD at the Global Science Forum in 2017. Applied to biobanking, the biobank infrastructures[1] provide services (e.g. sample processing, sample storage) performed by trained personnel as well as adapted equipment to the biobank community. To maximize their use, visibility and efficiency at an institutional level, they must develop a self-sustainable business model and apply a proper recovery cost for the activities they perform.

From a business perspective and to support this approach, Swiss Biobanking Platform (SBP) has developed a Cost calculator to help the biobank infrastructures determine the costs associated with the pre-analytical services[2] they provide and invoice the interested party (e.g. biobanks or researchers) in a transparent and harmonized manner.

The Cost Calculator was developed in collaboration with the main Swiss biobanking infrastructures from:

- Universitätsspital Basel — representative: Andreas Loehrl
- Inselspital Bern — representative: Carlo Largiadèr
- University of Bern — representative: Aurel Perren
- CHUV Lausanne — representative: Elodie Ristorcelli
- HUG Geneva — representative: Pierre Lescuyer
- Universitätsspital Zürich — representative: Michael Weisskopf

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[1]   An organized facility that offers services to biobanks.

[2]   The pre-analytical services consist of all steps of sample handling prior to the analytical phase (from sample collection to sample storage and distribution).

GUIDE : HOW TO USE SBP COST CALCULATOR TOOL

This document is intended to guide biobank infrastructures set up and use SBP Cost Calculator as per the services they offer to biobanks and researchers. This tool will mainly support the calculation of direct costs associated to a specific project. Indirect costs can be considered in the calculation but are more difficult to be translated into a defined price.

Indeed, direct and indirect costs can be linked to a project. Direct costs represent costs associated with the material used as well as the manpower that directly benefit the project. All other costs (e.g. administration salaries, IT services, rent, overhead, electricity, purchase of equipments) that are not specific to the project only but can benefit other projects or activities are considered as indirect costs.

What to do before using the tool?

1. In the "Services" tab, adapt the list of services with those that apply to your infrastructure.

2. In the "Material" tab, adapt the list of supplies and consumables (i.e. the material you use) with those that apply to the services you offer.

To make it easier to calculate the costs associated with the material, there are two options:

Option 1

You already know the **price associated with the service** you provide (e.g. DNA extraction).

→ List the **price associated with this service** in the dedicated column in the "Services" tab.

	Services list	Service cost (in CHF for 1 sample)
Sampling	Sample Collection	2.5
	Histologic Sampling or Grossing	
	Native Material Grossing	
	FFPE Control block creation from native	
	Snap freezing	
	Cryopreservation	

Explanatory use case

*a project requiring the collection of **10 Whole Blood samples in order to extract their DNA**.*

PROJECT #	1	
REQUESTER	Internal	
PRIMARY SAMPLES	Whole blood	
DERIVED SAMPLES		DNA
	Whole blood	
TOTAL NR OF SAMPLES	10	

Option 2

You don't know the **price associated with the service**.

→ List the **price associated with the consumables** ("Material cost per unit") in the dedicated column in the "Material" tab.

Explanatory use case

*To extract DNA, the tubes are collected in **7.5mL Saarstedt EDTA Monovettes***

Consumables categories	Items	Material cost per unit
Containers: tubes	Saarstedt tube 2mL	
	Saarstedt tube low binging protein 1,5mL	
	Saarstedt tube 1,2mL (serum)	
	Saarstedt EDTA Monovette 7,5mL	1.2
	Saarstedt Serum Monovette 7,5mL	
	FluidX Tube 0,7mL	
	FluidX Tube 2mL	
	FluidX Tube 6mL	
	Serum CAT 5mL	
	1 EDTA Tube 10mL	
	PAXgene blood RNA	
	Fecocontainer	
	Falcon 15mL (CSF)	
	Cryotube 5mL	
	Cryotube 2mL	
	Falcon tube Saarstedt 15mL	

How to use the tool?

1. Create a **new tab** for each project and enter the **information associated with the project** on the left side, i.e., project number, requester, primary sample types (see the proposed drop-down menu), sample types derived (see the proposed drop-down menu).

2. Enter the **figures to your project**:
- Total number of samples
- Number of patients
- Number of visits per patient (if applicable)
- Number of samples per visit (if applicable)

Tip: If you need to obtain a cost per sample, extract the services listed for that particular type of sample, then divide by the number of samples required for this particular type.

3. Enter the **services you provide for each category** (i.e., sampling, sample administration, processing, storage, distribution, external service), using the drop down menu from the list of services you previously established or adapted (**step 1**).

Option 1

You already know the **price associated with the service** you provide.

→ You must enter **the number of units**. Here, the number of units corresponds to the number by which you must multiply the price of the service.

*Tip: Bear in mind the number of samples for which **this service price** is applied. Don't forget to adapt it according to the number of samples processed.*

| COST ITEMS | | | | | |
| MATERIAL ITEMS | | | | | |
Supplies, consumables, etc.	Price/unit	Nr of units	Service cost	Service cost	Time (in Min.)
	0	10	0	25	11
	0		0	0	
	0		0	0	
	0		0	0	
	0		0	0	
	0		0	0	
Subtotal CHF		0		25	

The price of the service will appear in the "Service cost" column of the tool

Option 2

You know **the prices associated with the supplies and consumables** used.

→ List all the **material items** (supplies, consumables, etc) necessary to perform the service.

Tip: List only the material items used specifically for this project. Do not list items that apply to other projects as these are indirect costs.

→ Enter the **number of units** used per material item.

*10 Saarstedt EDTA Monovette 7,5mL are used in this project, to collect 10 whole blood samples. Thus, **10** represents the number of units.*

| COST ITEMS | | | | | |
| MATERIAL ITEMS | | | | | |
Supplies, consumables, etc.	Price/unit	Nr of units	Service cost	Service cost	Time (in Min.)
Saarstedt EDTA Monovette 7,5mL	1.2	10	12	0	11
			0	0	
			0	0	
			0	0	
			0	0	
			0	0	
Subtotal CHF		12		0	

The Service Cost will be automatically calculated (Price/Unit x Nr of Units).

4. Enter the **time required** to perform the service (**expressed in minutes** in the file) and the **associated hourly wage** which depends on the category of personnel performing the service (see the red boxed columns below).

The time required is the labour time needed to perform the service.

For some services, e.g. registering sample-related data in a BIMS, this does not require any consumables, just labour time. Taking this time into account in the calculation therefore enable the biobank infrastructure to cover more accurately their expenses.

CATEGORY	SERVICE	COST ITEMS — MATERIAL ITEMS — Supplies, consumables, etc.	Price/unit	Nr of units	Service cost	Service cost	LABOUR — Time (in Min.)	Cost/Hour	
SAMPLING	Sample Collection	Saarstedt EDTA Monovette 7,5mL	1.2	10	12	0	11	75	
			0		0	0			
			0		0	0			
			0		0	0			
			0		0	0			
			0		0	0			Sampling costs
		Subtotal CHF		**12**		**0**	**13.75**		**25.75**

You will then obtain a cost associated with each category of service. This cost will reflect your material and personal expenditure for each of the applicable categories.

You have also the possibility to list other costs for external services in the case you subcontract an external partner for certain service (e.g. transport).

Taken together, these costs will give you the total cost of a project. (in the black box on the left).

TOTAL NR OF SAMPLES	10	
NUMBER OF PATIENTS		#DIV/0!
NUMBER OF VISITS PER PATIENTS		#DIV/0!
NUMBER OF SAMPLES PER VISIT		

Date	
Responsible person	

Total project cost
88.85

Project deliverables
The Cost Calculator Tool

Appendix
A document listing all the indirect costs that a Biobank infrastructure may encounter (with the incidence of these costs, who may bear them, etc.). This document supports interested parties to consider all the costs associated to their project and raise awareness of the "hidden" and particularly substantial costs of biobanking activities.

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