BEMT User Guide Contents

Quick Start Guide (using the Home Page)

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Once logged in, the Home Page is the dashboard for your work in the BEMT.

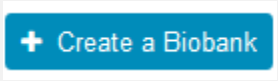
You can access the Home Page at any time by clicking the Home Page Icon on the top left menu.

On the Home Page, you have the ability to create and review information for more than one biobank.

This is valuable for the following reasons:

- In case you have more than one biobank operation you are responsible for.
- To compare and contrast multiple plans for your biobank. For example, suppose you want to see the different capital requirements for your biobank if you kept the biobank at its current size vs. invested in growth.

Creating a biobank is as simple as clicking the Create a Biobank button.



You are asked for a name, a description, and whether you want to "Copy the Template Biobank". If you do not select "Copy the Template Biobank", your biobank is created with no data – you can then build your biobank economic model from scratch.

As an alternative and for your convenience, the BEMT includes an existing sample or "template" biobank that you can use as a starting point, or just as a way to quickly tour the system by looking at a complete biobank's economic model.

The "template" biobank is a hypothetical biobank with the following example properties:

- Small, US-based, Academic Medical Center Biobank
- Brand new – planning its launch with limited infrastructure, small team, limited set of services

If you choose to "Copy the Template Biobank", your new biobank will have a complete economic model (Labor Categories, Equipment, Supplies, Specimen, Products, and Services that you offer, costing for each, projects, and a 3 year forecast. You can then modify the data to fit your own biobank – or you can delete it all, and start from scratch.

We recommend that for your first try using the BEMT, the first biobank you create should be a copy of the template – navigate and get comfortable using the BEMT with this template, and then decide whether you want to start from scratch or build off of the template.

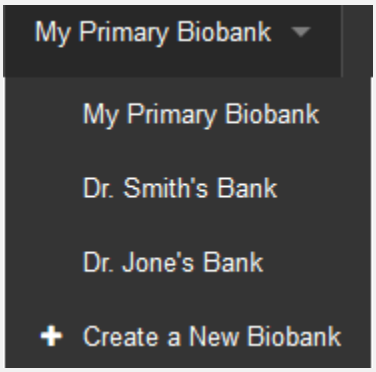
You can create as many biobanks as you want to in the BEMT – they will be listed on the table shown below. Please use names that are easy to understand in case your list gets very large.

Biobank Name	Step 1 Labor	Step 2 Equip.	Step 3 Supplies	Step 4 Prod & Svc	Step 5 Unit Cost	Step 6 Projects	Step 7 Forecast Years 1, 2 and 3			
My Primary Biobank (selected)	5	13	15	4	4/4	3	($454,271.67)	$18,140.00	$18,140.00	
Dr. Smith's Bank	5	13	15	4	4/4	3	($454,271.67)	$18,140.00	$18,140.00	
Dr. Jone's Bank	5	13	15	4	4/4	3	($454,271.67)	$18,140.00	$18,140.00	

How to use the Biobank Table on the Home Page?

1. You can only have one biobank "selected" at a time. Although you can review the entire list, only one of them is your active or "selected" biobank. This is noted by the "(Selected)" shown directly after the name. If you want to review or modify data for a biobank, it must be the selected biobank.

2. You can change the Selected biobank in two different ways:
    a. Non Selected Biobanks are clickable links (in blue). If you click the name of one, it will become the Selected Biobank.
    b. Once you have at least one biobank, your menu on the top of the page (just right of the Home Page Icon), will be a list of your biobanks. The Selected biobank will appear on the top of the menu. You can select a different biobank here.



3. You can quickly view the description of a biobank by hovering over the name with your mouse cursor.

4. All the way on the right of the table are a few icons for each biobank in the list. By hovering over each icon, you can quickly see what each does.

    a. Clicking the pencil icon allows you to change the name and/or the description of your biobank.
    b. Clicking the icon with the two folded pages allows you to copy/duplicate the biobank.

c. Clicking the icon with the two arrows allows you to replace your biobank's current data with no data, or a copy the "template" biobank data.
d. Clicking the X icon deletes your biobank altogether.

5. Steps 1-7 are the different activities you go through while using the BEMT to build your economic model. These steps are further explained through the remainder of this Help Guide. The table on the Home Page shows your progress on each step towards completion.

    a. For Steps 1-3 (My Biobank), the number in the table shows how many Labor Categories, Equipment, and Supplies for your biobank are listed. For example, the template biobank, as shown in the example table above, has 5 different labor categories, 13 pieces of equipment, 15 supplies,

    b. For Steps 4 (Specimens, Products, and Services), the number in the table shows how many specimen, products, and services your biobank offers.

    c. Step 5 (Unit Costs) indicates how many of the specimens, products and services have a cost analysis.

    d. Step 6 (Projects) list how many projects have been defined.

    e. Step 7 (Forecast) shows the calculated Net Income for each of the 3 forecasted years. Notice, for example, the template biobank loses $454k in year one, but makes a profit thereafter.

My Biobank (steps 1, 2, and 3) Overview

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Completing "My Biobank", requires the addition, review, and maintenance of Labor Categories, Equipment, and Supplies. All three of these work similarly.

Each has a Master List you can add to. Click the "Add" buttons to define specifics to be added to your Master List. For example, when adding a Labor Category, you are asked to pick a Category Name, give it a Title, specify a Base Salary, and a Fringe Benefits Rate.

When adding Equipment to your Master List of Equipment, you are first asked if you are buying or leasing. If buying, you are asked for a Type, Name, a Purchase Price, the number of years you believe the equipment will be usable (Usable Life), an Annual Service Contract amount, and how many hours per year will the equipment be available for use (Billable Hours). For example, if you operate your biobank 7 days a week, 24 hours per day, this would be 8736 hours. If you operate only 40 hours per week, this would be 2080 hours per year. This is helpful in determining the true costs of using this equipment for specific amounts of time – something done later on in the BEMT. Leased equipment does not ask for purchase price and usable life – instead it asks for annual lease price and lease term (years).

When adding Supplies, you are asked for Type, Name, Unit and Cost per Unit.

It is important to be as complete as possible with Labor, Equipment, and Supply information. This information is used in multiple ways throughout the BEMT. For example, when determining the costs of collecting a specimen, you will be asked how much time is spent by different employees (labor) in collecting and preparing the specimen, what equipment is used, and what supplies are consumed. This is tallied to determine what it truly costs to collect each specimen – useful information in determining a suitable Price.

If you would like to see what other biobanks include for Labor and Equipment – as well as their specifics about costs, see "Review Market Data When Needed".

Instructions:

1. Managing My Labor
2. Managing My Equipment
3. Managing My Supplies

My Biobank/My Labor

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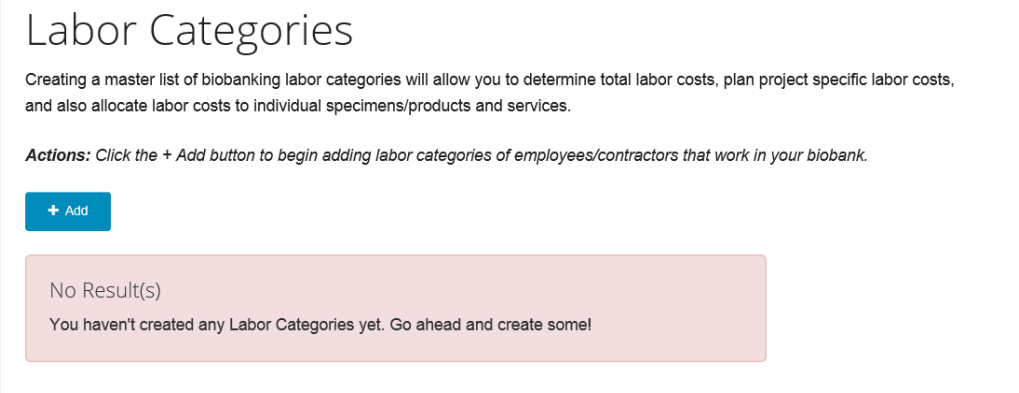
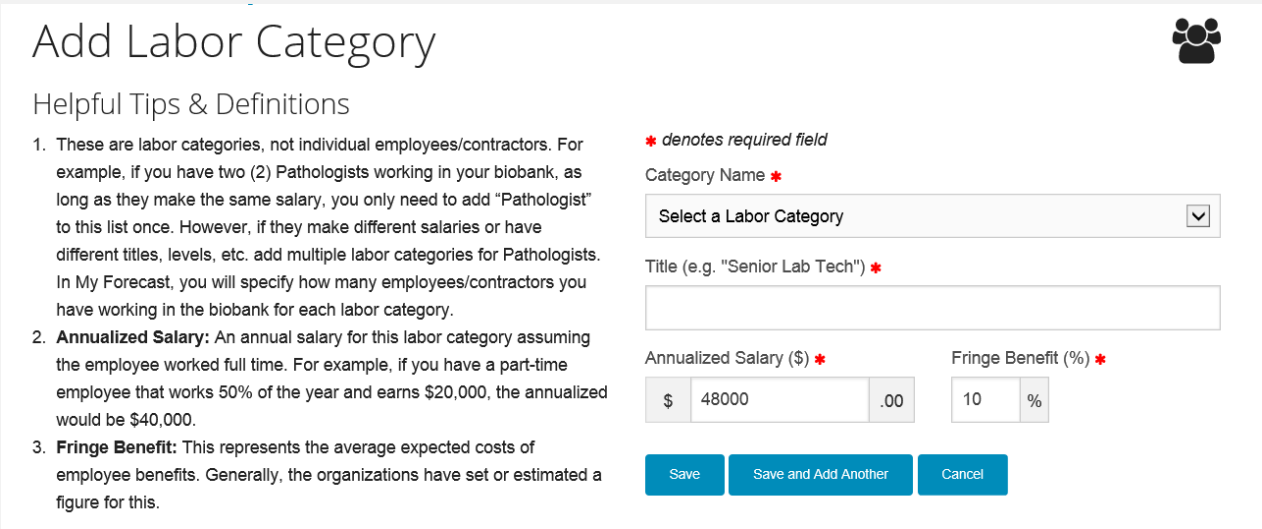
When entering My Labor for the first time, you are presented with an empty Master List of Labor Categories:



Clicking the "Add" button will allow you to add a new Labor Category to your Master List:



Adding a new Labor Category is as simple as picking a category from the provided list that is closest to what you are looking for (choose Other if nothing is close enough), giving the Labor Category a Title, Selecting a Salary, and a Fringe Rate for that Labor Category.

Some Considerations:

1. This is not a list of employees or contractors. This is a list of Labor Categories for which your employees or contractors would fall into. For example, if you have 3 lab technicians all earning a similar salary, you can create a single Labor Category called Lab Technician. Later in the BEMT you can specify that you have 3 of these technicians. For now, you are simply entering the categories with their associated salaries/fringe rates.

2. If you currently have an employee that works part time (say 50%) and earns $20,000. Do not put $20,000 as their annualized salary for their Labor Category. In order to keep things comparable to each other, the BEMT only thinks in terms of the salary if the person works 100% (full time). In this example, the Annualized Salary would be $40,000 (if this person worked full time, they would earn $40,000). Later in the BEMT you will be able to specify that only a half of a full time equivalent works in this Labor Category.

3. Often times in the BEMT, fields have default values as examples. Please make sure you enter your actual values before Saving.

4. If you plan on adding multiple Labor Categories, you can use the button called “Save and Add Another”. This button allows you to enter another Labor Category without having to go back to the Master List each time.

My Biobank/My Equipment

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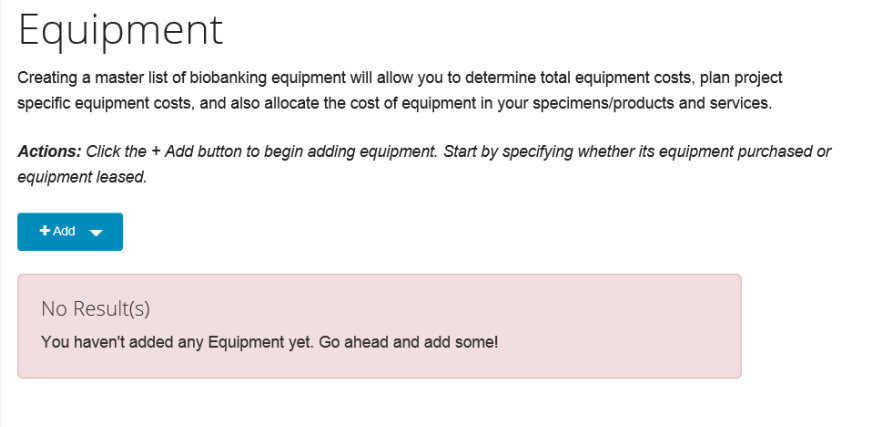
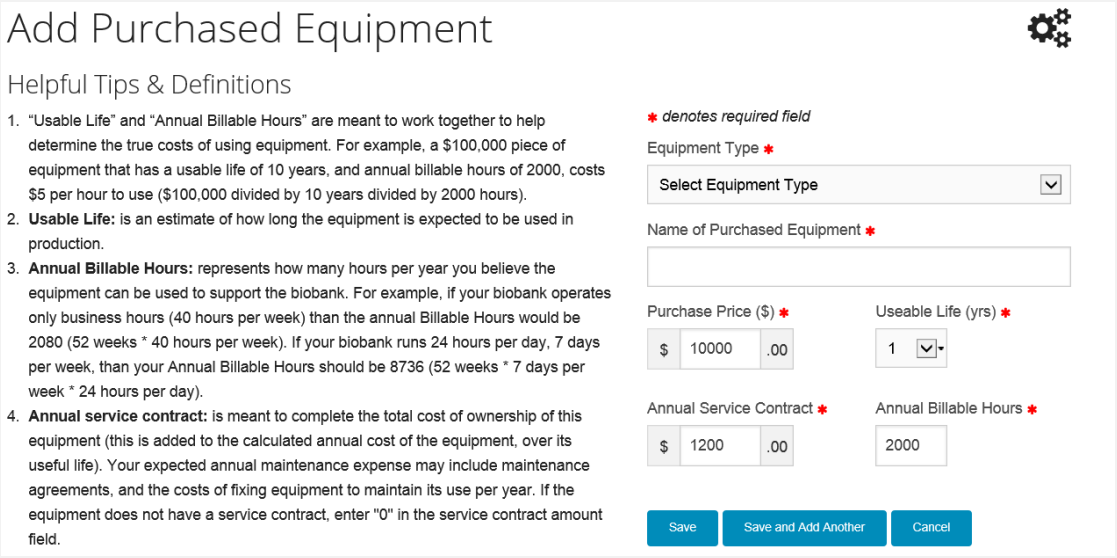
When entering My Equipment for the first time, you are presented with an empty Master List of Equipment:



Clicking the "Add" button will give you two choices (Purchased Equipment or Leaser Equipment). If you select Purchased Equipment:



Adding a new Purchased Equipment is as simple as picking a Type from the provided list that is closest to what you are looking for (choose Other if nothing is close enough), giving the Equipment a Name, Selecting a Purchase Price, Usable Life, Service Contract Amount, and Billable Hours. Adding a new Leased Equipment is similar. The only difference is that instead of Purchase Price, it asks for Lease Amount, and instead of Usable Life, it asks for Lease Duration.

Some Considerations:

1. Name: If you have multiple units of the same equipment, you only need to add this Equipment once. The exception to this is if you have acquired different units for significantly different prices. Under this situation, you can specify the differences by using the Name. Later in the BEMT you can specify how many units of each equipment you have.

2. Purchase Price (for Purchased Equipment) and Lease Amount (for Leased Equipment)

    a. Sometimes biobanks acquire equipment with no costs – salvage, donation, etc. In this situation purchase price can be $0.
    b. Sometimes biobanks share equipment and as a result share in the purchase price and the ongoing expense of maintaining it. Try and be as accurate as possible in what the capital outlay is for both the purchase price and the service contract.

3. Annual Service Contract:

    a. Sometimes biobanks do not have Service Contracts – enter $0.
    b. Sometimes biobanks have Service Contracts covering multiple pieces of equipment. You can handle this by either trying to estimate the split across the different types of equipment or by adding a placeholder piece of equipment. You can call is something like “Service Bundle” and give it no purchase price, but a bundled Service Contract amount.
    c. Sometimes biobanks have Service Contracts as part of their Lease Amount in which case there is no need to double count it – set the Annual Service Contract to $0.
    d. Sometimes biobanks share in maintenance costs. Try and be as accurate as possible in what the capital outlay is for the Service Contract.

4. Usable Life (for Purchased Equipment): Some equipment is expected to live for 10-15 years with proper maintenance, some for longer, some for shorter. This is important because its used to spread over the cost of the equipment over time. A $100,000 piece of equipment expected to live for 10 years costs you $10,000 per year (when determining true costs of using the equipment). A $100,000 piece of equipment that is expected to live 25 years costs you $4,000 per year. This is just an estimate.
5. Lease Duration (for Leased Equipment): Used similarly as Usable Life to determine annual costs of owning the Equipment , lease term represents how many years you will be paying the Annual Lease Cost for that Equipment.

6. Annual Billable Hours: This is basically used to determine the number of hours the Equipment is eligible for use. For example, if a piece of equipment sits in a lab that is only open 40 hours per week, than this number should be 2080. If its available for use 24 hours a day 7 days a week, then perhaps it should be set as 8736 (24 hours * 7 days * 52 weeks). However, if its available all the time, but realistically only going to be used during shorter hours (because of personnel limitations, etc), you can specify the actual number of hours the Equipment is potentially going to be available for use. The purpose of this is to help determine the cost of using this Equipment. For example, suppose to review a Specimen for Pathology Verification, a

Microscope is used for 30 minutes. The BEMT will take the Purchase Price of the Microscope (suppose $25,000) divide it by the Usable Life (suppose 5 years) which equals $5,000 per year. It will then add the Annual Service Contract amount (suppose $1,000). The cost of using the equipment is $6000 per year. If the equipment is available for use (Annual Billable Hours) for 2000 per year, then the cost per hour is $3.00 per hour. For 30 minutes of use, the Equipment costs $1.50. This becomes important when determining the Unit Cost of a Specimen, Product, or Service later in the BEMT. Imagine when the costs of all the Labor, all the Equipment, and all the Supplies that are used to collect a Specimen are properly added – you will then truly know what it costs your biobank – and perhaps be in a better position when determine what fees to charge.

My Biobank/My Supplies

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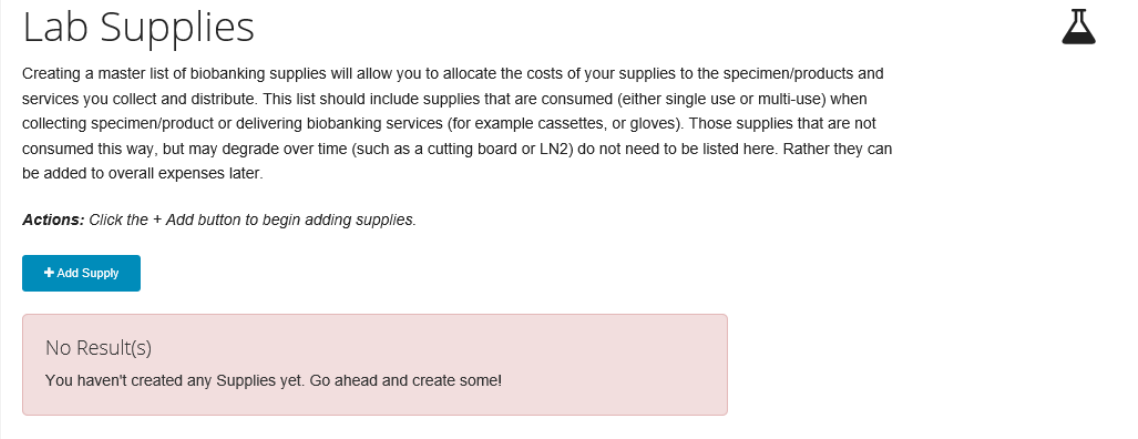
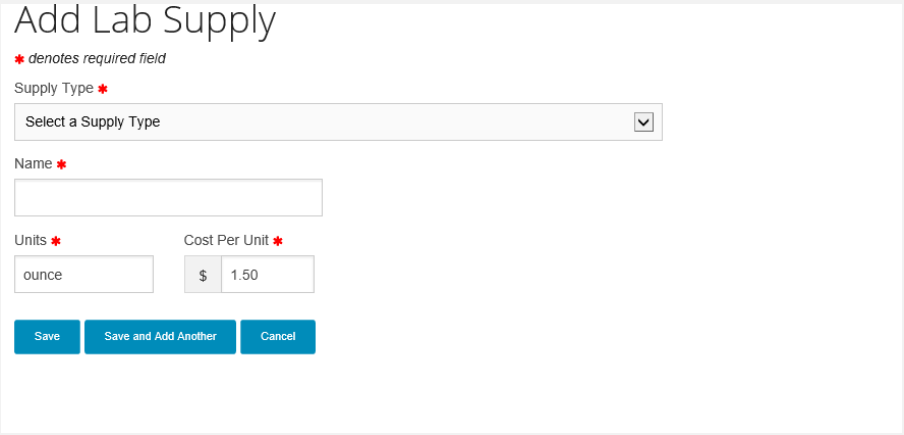
When entering My Supplies for the first time, you are presented with an empty Master List of Supplies:



Clicking the "Add" button will allow you to add a new Supply to your Master List:



Adding a new Supply is as simple as picking a Type from the provided list that is closest to what you are looking for (choose Other if nothing is close enough), giving the Supply a Name, Selecting the Units its priced at, and listing its Cost per Unit.

Some Considerations:

1. This is not a list of all the Supplies in your biobank. Rather this should be a list of Supplies that are consumed when collecting or distributing Specimens, Products, and Services. Supplies that are re-used should be considered as ongoing lab fees (and added when listing your expenses in My Forecast). Think of these Supplies as Supplies you can easily associate its Costs to individual Specimen, Products, or Services. For example, if every time you collect a specimen, you consume a container, you can associate the costs of the container to each Specimen.

2. For Supplies that can be used for multiple Specimens, Products, and Services, you can add them, but make sure when you associate the costs to the Specimen, Products, and Services (later in the BEMT) you do not double count the costs. For example, if a supply can be used twice, when associating it to a Specimen, associate 50% of it.

My Specimens, Products, and Services (Step 4 and 5)

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If your biobank collects Specimens, creates Products, and provides Services, this is where you would specify which ones – and some details. Similar to "My Biobank" (Labor, Equipment, and Supplies), here you would create Master Lists of Specimens, Products, and Services. The first thing you are asked when adding one is whether you are adding a Specimen/Product or a Service - the BEMT maintains two lists.

Adding a Specimen/Product or Service is simple – you are asked for a Name, Category, and to provide a Description. The more specific the Name and Description are, the easier it is to manage your lists and to articulate specifics about costs and prices. We recommend that your descriptions include as much information that would help an end user of the specimen, product or service understand what they would be getting.

If you would like to see what other biobanks include for Specimens, Products, and Services, see "Review Market Data When Needed".

Once you have added Specimens, Products, and Services, you can now define the unit costs associated with collecting, processing, distributing the Specimen or Product, or the costs of providing the Service.

Instructions:

1. Adding a new Specimen/Product or Service
2. Defining Unit Costs for Specimens, Products, and Services

My Specimens, Products, and Services/Adding New

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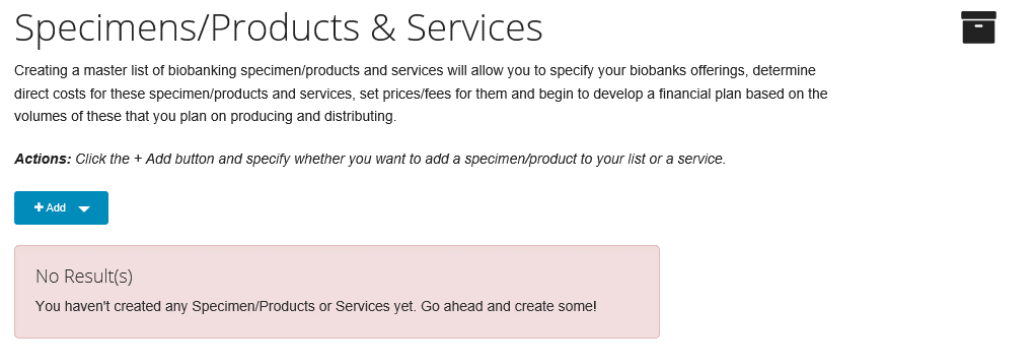
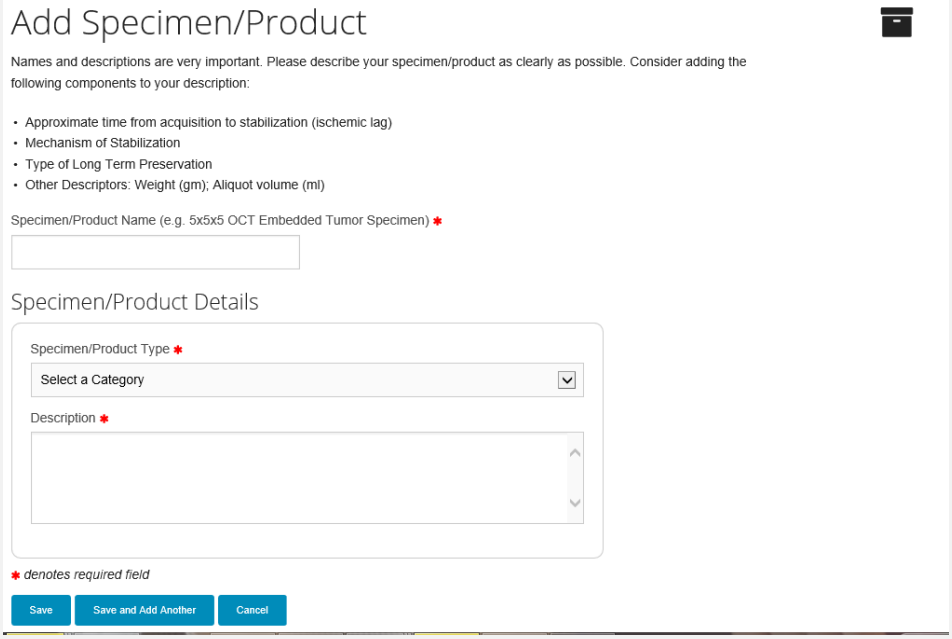
When entering My Specimens, Products, and Services for the first time, you are presented with an empty Master List:



When clicking the "Add" button, you will be asked whether to Add a new Specimen/Product or to Add a new Service:



Both Adding a New Specimen/Product and Adding a New Service involved the same three values you are asked to provide. Adding a New Specimen, Product, or Service is as simple as picking a Type from the provided list that is closest to what you are looking for (choose Other if nothing is close enough), giving the Specimen, Product, or Service a Name, and providing as detailed of a Description as possible.

Some Considerations:

1. You have as much flexibility as you want in determine how to define your Specimens, Products, and Services. For example, some users may choose to create one Specimen titled "Frozen

Tumor Specimen." Other users may choose to create multiple such as "Frozen Tumor Specimen – Breast Cancer", "Frozen Tumor Specimen – Lung Cancer", etc. Other users may even have very long lists whereby defining the Specimen down to other factors such as clinical data, tissue of origin, tumor cell counts, etc. The level of detail you use to define different Specimens, Products, and Services is up to you.

2. The Description field is very important. This is where you can provide details that will be useful in comparing your Specimens, Products, and Services to others. Information like clinical data collected, Diagnosis, Tissue type, Pathology Qc, tumor counts, ischemic times, Gross Appearance, etc. can all help you and those who you share your fee schedules and forecasts with understand the definition of your Specimens, Products, and Services. The more detail you provide, the easier to understand what you are offering.

My Specimens, Products, and Services/Defining Unit Costs

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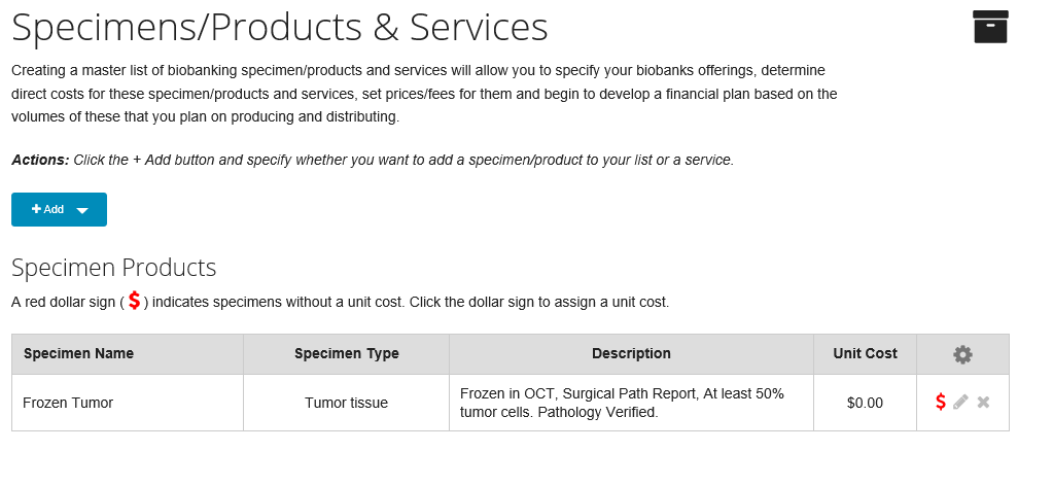
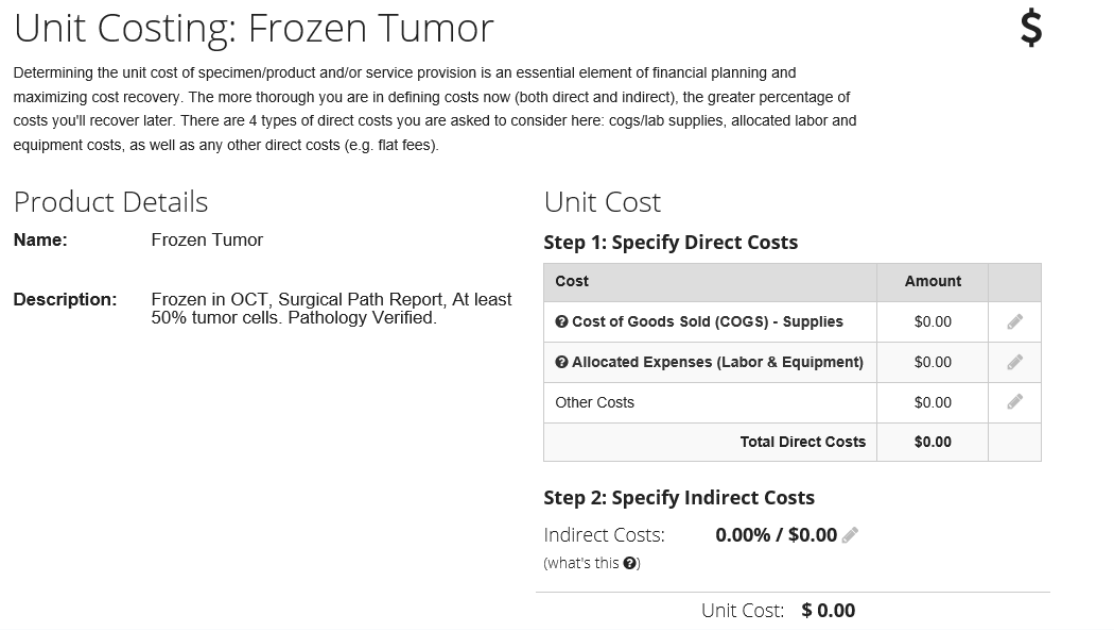
After you have added your Specimens, Products, and Services, now you can define their Unit Costs. This is a very important exercise as it accomplishes two necessary steps in the BEMT. First, by specifying the estimated true Unit Cost of providing one unit of a Specimen, Product, or Service, you can ensure when determining what fees (prices) to charge for these Specimens, Products, or Services that you are setting the Fee (Price) with full information as to what it actually costs you. In other words, if this process helps you determine that the cost of collecting, processing, and distributing one Frozen Tumor Specimen is $78, and you are asked to provide these Specimens for $50, you at least know that you are providing them at less than your costs – it may enable you to reset your end user's expectations and perhaps raise the fee to $78 – so that you at least can recover your entire costs. Without knowing your Costs, its very hard to recover them.

Second, specifying your Unit Costs will automatically complete portions of your Forecast – saving you a step later in the BEMT.

Once you have added Specimens, Products, and Services, you will notice a **$** next to Specimens, Products, and Services that do not have costs already defined (the red color goes away once the cost is set).



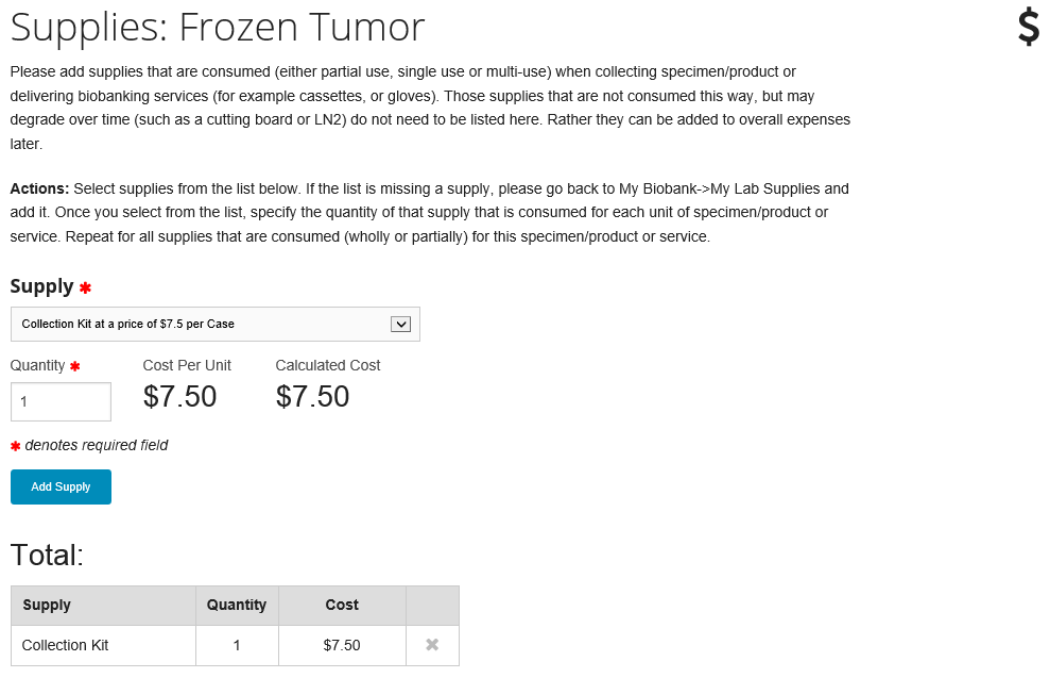
The BEMT provides a simple tool to estimate the cost for one unit of each Specimen, Product, or Service (Unit Cost). To do this, click **$** and you will be taken to "Unit Costing".



This Unit Cost "calculator" will help you walk through the determination of your unit costs. On the right, you see a table which suggests that the first step is to specify your Direct Costs. For the purposes of the BEMT, think of direct costs as:

- Supplies that you consume when collecting, processing, or distributing one unit of the Specimen, Product, or Service in question.
- Time that your employees or contractors spend working on that Specimen, Product, or Service.
- The Equipment needed to collect, process, or distribute that Specimen, Product, or Service, and the amount of time the equipment is used.

If you click on the pencil/edit icon next to Cost of Goods Sold (COGS) – Supplies, you will be taken to a page where you can specify what Supplies and what volumes are used per unit of your Specimen, Product, or Service:



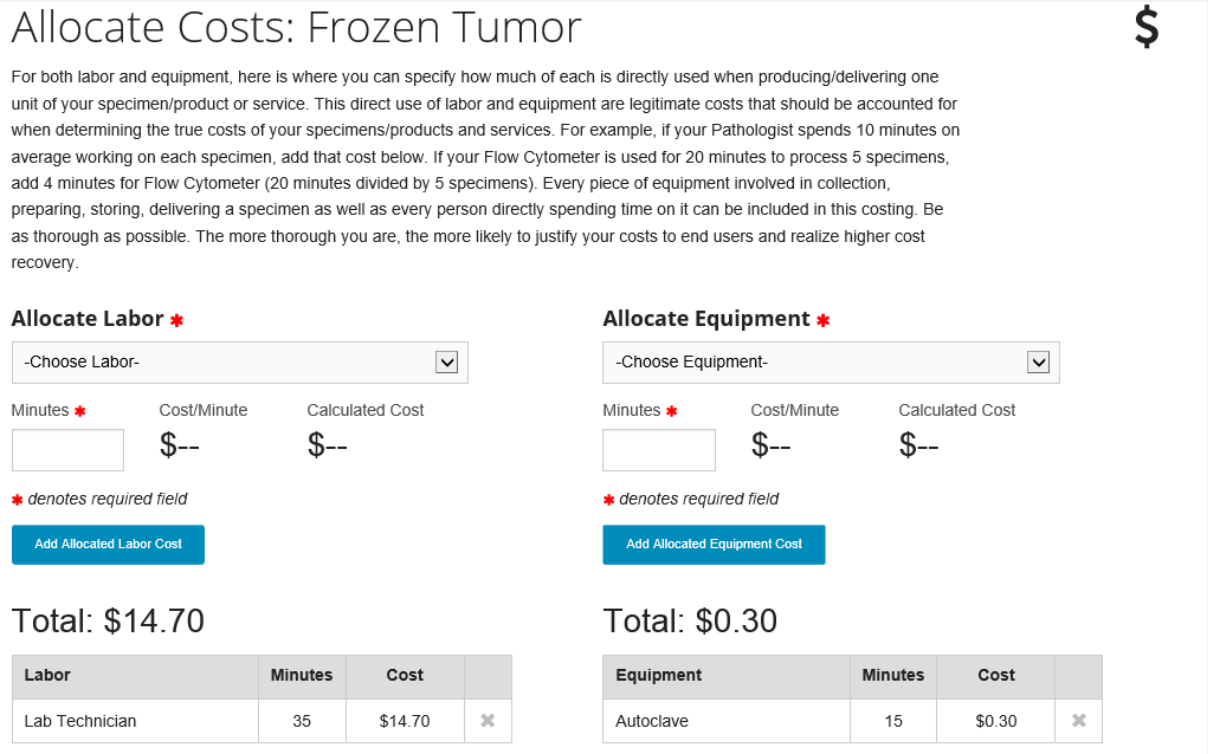
Select the Supply from the list (note: this list was populated by you when you added Supplies in "My Biobank"). Specify how many units of the Supply is needed for your Specimen, Product, or Service. Keep adding Supplies to the table at the bottom until you are complete.

Some Considerations:

1. Supplies may not be consumed by a single unit of a Specimen, Product, or Service. For example, you may buy gloves in boxes of 100, but only use 10 in the processing of a Specimen. Or you may use one collection kit for a case and there may be multiple Specimens from the case. You can handle these scenarios by setting the quantity to be a fraction. For example, .10 boxes of gloves.

2. Sometimes is easier to list out every supply. However, sometimes is tempting to bundle them into a single Supply with a totaled up cost. The more detailed list you make, the more likely you are to be accurate with your costing and not forget items/miss costs.

If you return to the Unit Cost "calculator" when you are done adding Supply Costs, you can now add Allocated Expenses by clicking the edit/pencil icon:



Add Labor and Equipment by selecting them from the lists, and specifying how many minutes of each are used in the collection, processing, distributing of the Specimen, or Product, or the delivery of the Service. Keep adding them to the tables at the bottom until complete.

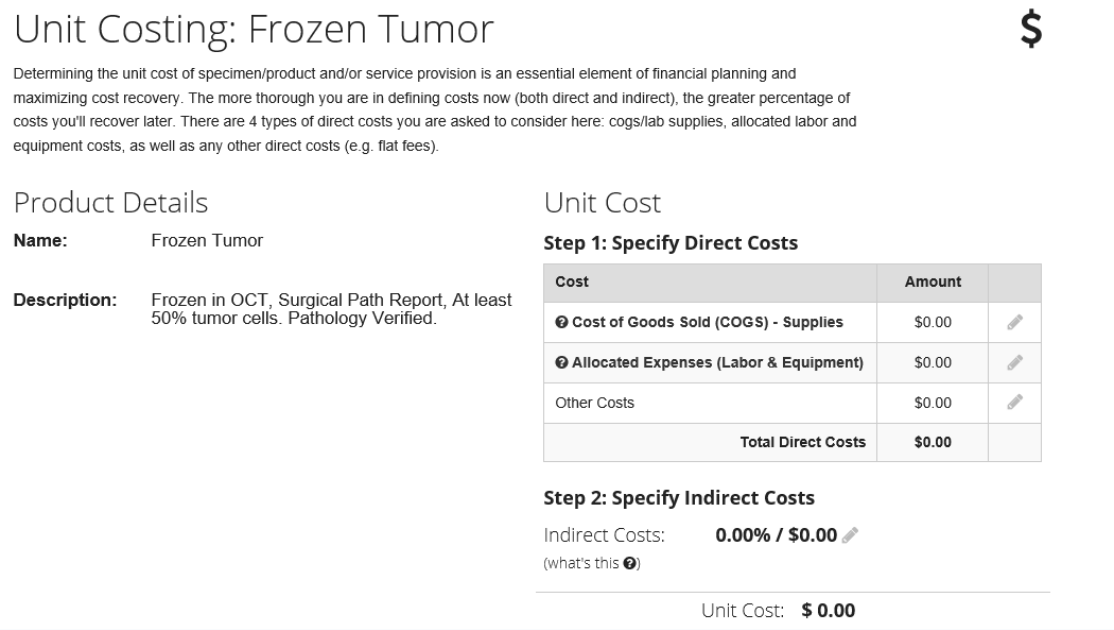
Some Considerations:

1. For Labor, this is simply adding every contractor or employee involved in the process and estimating the number of actual minutes spent working on it. This is not elapsed time (for example waiting for cells to culture in an incubator), this is actual level of effort spent directly working on the Specimen, Product, or Service. If a team member spends an hour processing 10 Specimens, then put 6 minutes for the Specimen. If three team members each spend 15 minutes on a Specimen, and they are of the same Labor Category, then select 45 minutes for that Specimen.

2. Equipment works similarly as Labor. If a piece of equipment is used to process a specimen for 15 minutes, enter 15 minutes. If a piece of equipment can process 10 samples in the same 15 minutes, enter 1.5 minutes – as you are really using 1.5 of the available minutes that machine can be used for.

3. Equipment (Storage/Freezers). This can be complicated. Suppose you are dealing with an upright freezer that holds a maximum of 400 standard storage boxes and you are estimate the freezer use for a single sample that fits into a vial, where 91 vials fit into a box. This means 36,400 vials can fit into this freezer (400 boxes * 91 vials). Suppose you provide a monthly storage service and are trying to apply the direct costs for using a freezer to store this single

specimen for a month, you would determine the total minutes in a month (30 days * 24 hours * 60 minutes) which is 43,200 and divide by the fact that there are 36,400 vials in the freezer. This amounts to 1.19 minutes per specimen per month. In other words, similar to the example in item #2 above, a freezer can handle 36,400 samples at a time. To be accurate, you would consider this when determine actual minutes used.



There is an option to add other costs. This can be used to cover other specific per unit costs that are not covered in equipment, labor, and supplies. A perfect example of this may be commissions or royalties, electricity consumption, shipping, etc.

When you are complete with Step 1: Specify Direct Costs, you can do Step 2: Specify Indirect Costs. Many organizations have a specified Indirect Rate. This is where you would enter that rate.

My Projects (Step 6)

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Under Construction

My Forecast (Step 7)

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