CMOST uses the «sandbox principle» for calibration moving from easy to more complex calibration.

**Step 1:**

* handles.Variables.new\_polyp\_female  
  adjusts female new polyp initiation
* handles.Variables.Progression(1), (2), (3)  
  early adenoma progression. In this step we only want to adjust   
  early progression so 4-6 will be adjusted later
* handles.Variables.NewPolypRate  
  age dependent adenoma initiation
* handles.Variables.IndividualRisk  
  This parameter gives the distribution of high-risk and low-risk individuals in the population. It is of utmost importance for screening. But the only way I find to benchmark it is the distribution of polyps in the population. This is a weakness of my calibration procedures (and in ZIM we will not even have that parameter). And I am not entirely sure my actually procedure works here. Further, I originally planned to use Young, Mid, Old population polyp distribution but I later restricted benchmarking to the middle age population

Necessary output parameters (BM means benchmark):

* BM.OutputValues.EarlyAdenoma\_Male
* BM.OutputValues.EarlyAdenoma\_Female
* BM.OutputValues.EarlyAdenoma\_Ov
* BM.Polyp\_early
* BM.OutputValues.YoungPop
* BM.OutputValues.MidPop
* BM.OutputValues.OldPop

**Step 2**

* handles.Variables.EarlyProgressionRate
* handles.Variables.early\_progression\_female
* handles.Variables.Progression(5)  
  mediates stage distribution between adenoma-5 and adenoma-6

Necessary output parameters:

* BM.OutputValues.AdvAdenoma\_Ov
* BM.OutputValues.AdvAdenoma\_Male
* BM.OutputValues.AdvAdenoma\_Female
* BM.Polyp\_adv

**Step 3**

* handles.Variables.advanced\_progression\_female;
* handles.Variables.Location\_EarlyProgression(13)
* handles.Variables.Location\_AdvancedProgression(13)  
  the latter two parameters regulate progression of rectum polyps. In order to get the fraction of rectum carcinoma right I need to make polpys in the rectum advance faster
* handles.Variables.FastCancer  
  adjusts fast cancer rates (probability that an adenoma of a given size becomes a cancer directly.
* handles.Variables.AdvancedProgressionRate

Necessary output parameters:

* BM.CancerOriginValue
* BM.LocationRectum
* BM.OutputValues.Cancer\_Ov
* BM.OutputValues.Cancer\_Female
* BM.OutputValues.Cancer\_Male