```
In [1]:
```

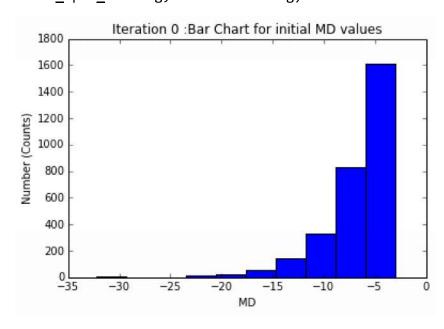
#error checking measures

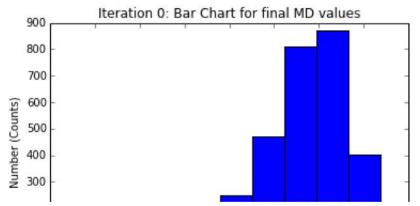
```
import csv
import matplotlib.pyplot as plt
numberofGraphs = 15
def csv_dict_writer(path, fieldnames, data):
   with open(path, "wb") as out file:
      writer = csv.DictWriter(out_file, delimiter=',', fieldnames=fieldnames)
      writer.writeheader()
      for row in data:
          writer.writerow(row)
masterListforReplications = []
field_names = "QALY,TotalCost".split(",")
from PlottingSystemClass import PlottingSystem
from SimulationSystemClass import SimulationSystem
plottingsystem = PlottingSystem(plt)
order = 1
%matplotlib inline
for i in range(2):
   sysSimulation = SimulationSystem(3000, "PatientList/Patients_list_{}.csv".format(i
   sysSimulation.SystemSimulation()
   plottingsystem.plot(sysSimulation,order,i,masterListforReplications)
   order += (numberofGraphs*1)
   del sysSimulation
print order
csv_dict_writer("MList.csv",field_names,masterListforReplications)
CURRENT ITERATION: 0
Average QALY: 12.7170011537
Average Medical Cost: 24494.6907
Average MD: -12.075565191
Patient 0: List of Medication Progression is [0, 1, 1, 6, 6, 6, 8, 8, 10, 10, 10, 1
0, 10, 10, 10, 10]
Patient 0: List of Final Medication Amount is [8, 6, 4, 0, 2]
Patient 1: List of Medication Progression is [0, 1, 1, 6, 6, 6, 8, 8, 10, 30, 30, 3
0, 30, 30, 30, 30, 30, 30, 30, 30, 30]
Patient 1: List of Final Medication Amount is [8, 6, 4, 0, 2]
Patient 2: List of Medication Progression is [0, 1, 1, 6, 6, 6, 8, 8, 10, 10, 1
0, 10, 10, 30, 30, 30, 30, 30]
Patient 2: List of Final Medication Amount is [8, 6, 4, 0, 2]
Patient 3: List of Medication Progression is [0, 1, 1, 6, 7, 7, 7, 5, 5, 5, 5, 5, 5,
Patient 3: List of Final Medication Amount is [5, 1, 2, 0, 3]
Patient 4: List of Medication Progression is [0, 1, 1, 6, 6, 6, 8, 8, 10, 10, 1
0, 10, 10, 10]
Patient 4: List of Final Medication Amount is [7, 5, 3, 0, 1]
CURRENT ITERATION: 1
Average QALY: 12.687301048
Average Medical Cost: 25179.1445667
Average MD: -12.1891528011
```

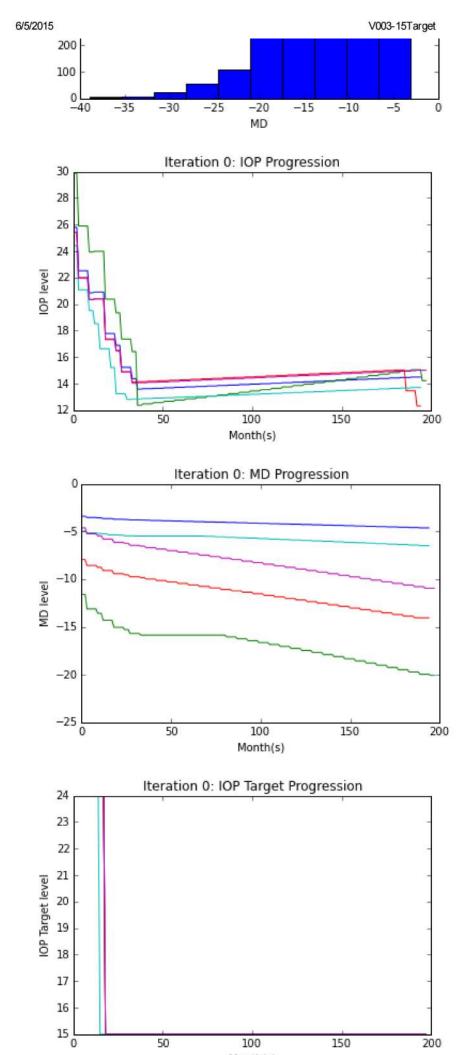
```
Patient 0: List of Medication Progression is [0, 1, 2, 2, 2, 16, 16, 18, 18, 19, 19,
19, 19, 19, 19, 30, 30, 30, 30, 30, 30]
Patient 0: List of Final Medication Amount is [1, 8, 4, 6, 2]
Patient 1: List of Medication Progression is [0, 1, 1, 6, 6, 8, 9, 9, 9, 11, 11, 11,
11, 11, 11, 11, 11]
Patient 1: List of Final Medication Amount is [10, 8, 1, 5, 3]
Patient 2: List of Medication Progression is [0, 1, 1, 6, 6, 6, 8, 8, 10, 10, 10, 1
0, 30, 30, 30, 30, 30, 30]
Patient 2: List of Final Medication Amount is [8, 6, 4, 0, 2]
Patient 3: List of Medication Progression is [0, 1, 2, 2, 2, 17, 17, 17, 20, 20, 30,
30, 30, 30, 30, 30, 30, 30, 30, 30, 30]
Patient 3: List of Final Medication Amount is [1, 6, 0, 4, 2]
Patient 4: List of Medication Progression is [0, 1, 1, 6, 6, 6, 8, 8, 10, 10, 30, 3
0, 30, 30, 30, 30, 30, 30, 30]
Patient 4: List of Final Medication Amount is [9, 7, 5, 0, 3]
31
```

C:\Users\Martin Nguyen\Anaconda\lib\site-packages\matplotlib\pyplot.py:424: RuntimeW arning: More than 20 figures have been opened. Figures created through the pyplot in terface (`matplotlib.pyplot.figure`) are retained until explicitly closed and may co nsume too much memory. (To control this warning, see the rcParam `figure.max\_open\_wa rning`).

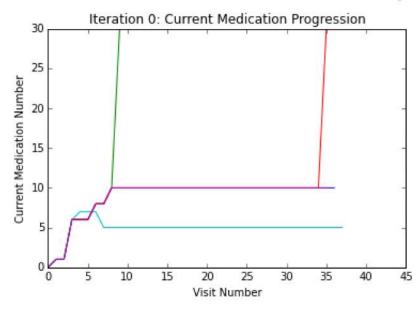
max\_open\_warning, RuntimeWarning)

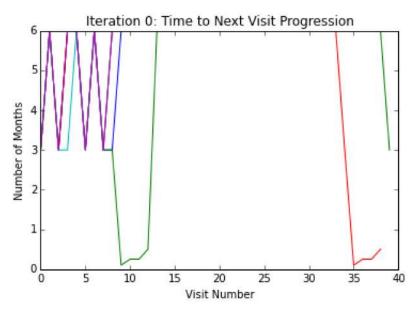


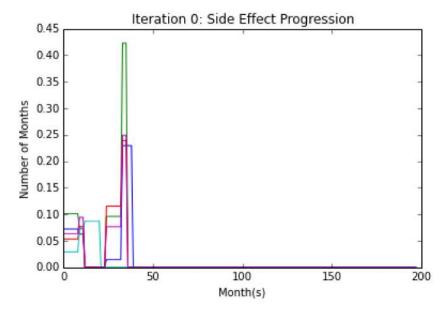


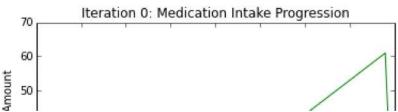


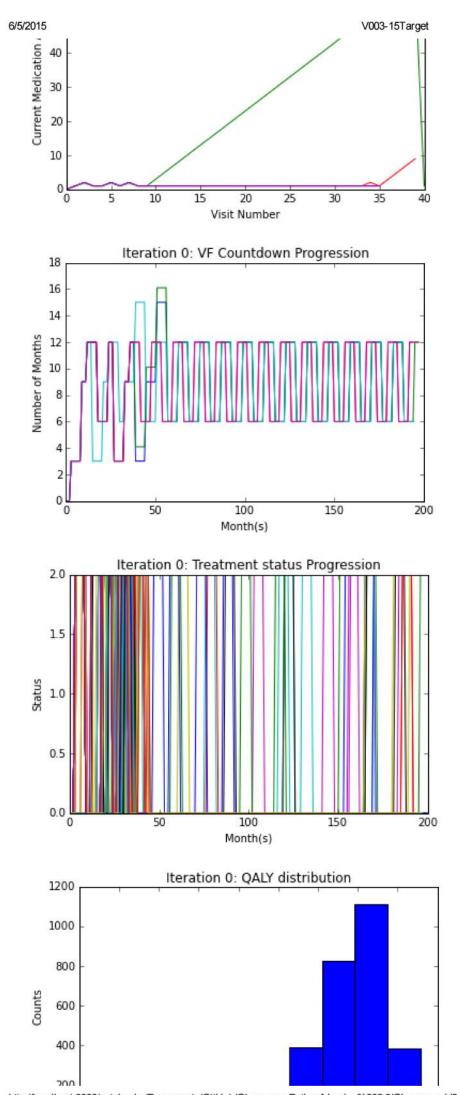
Month(s)

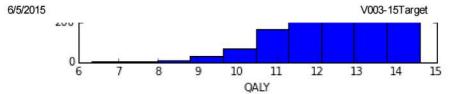


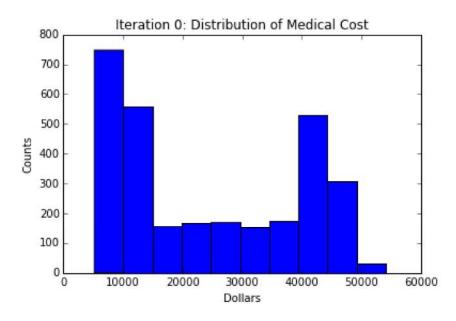


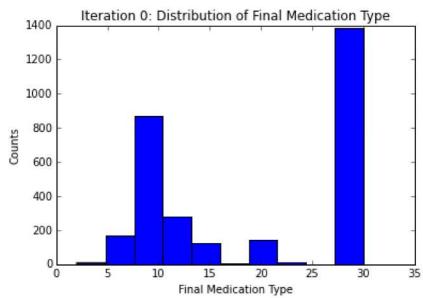


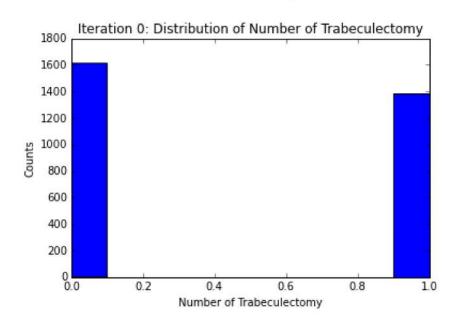




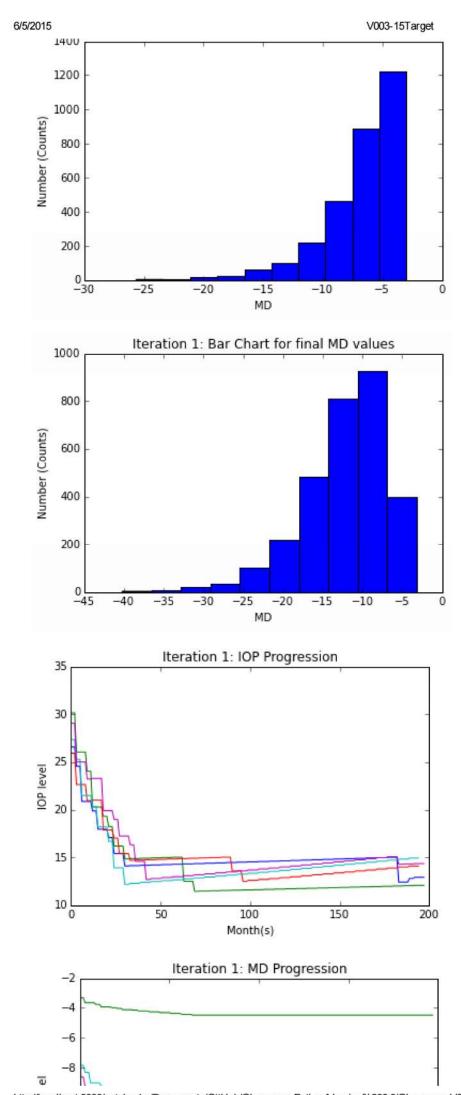


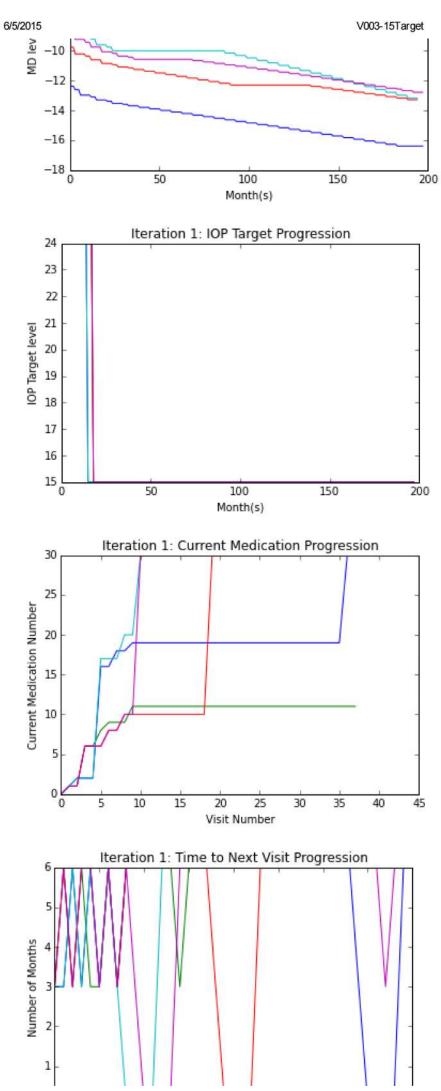




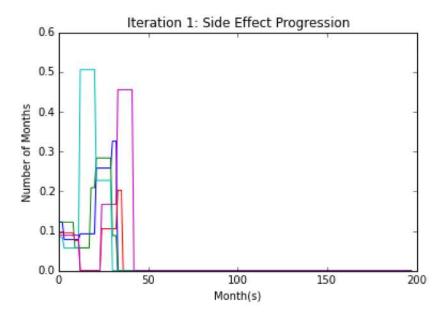


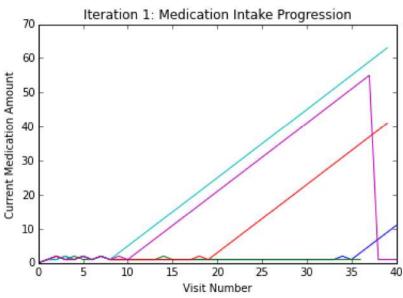
Iteration 1 :Bar Chart for initial MD values

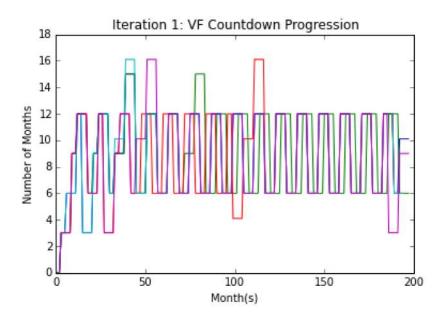


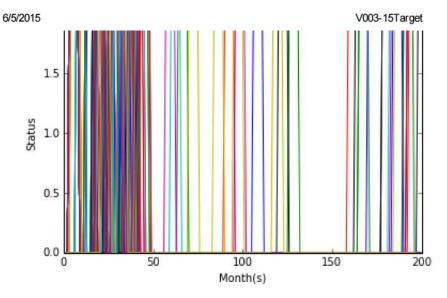


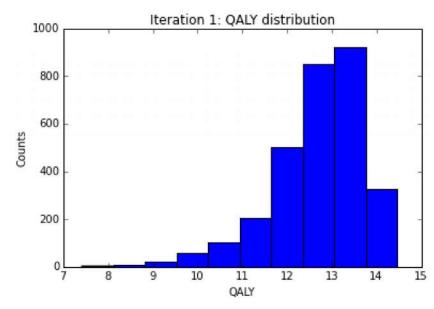
Visit Number

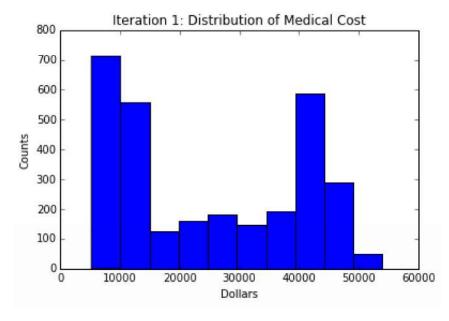


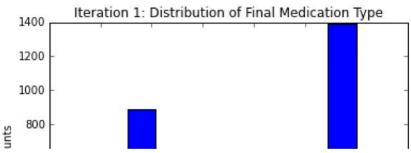


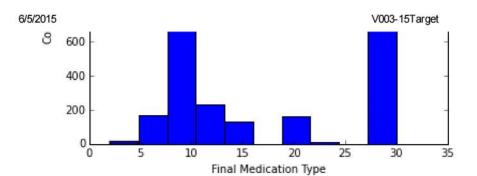


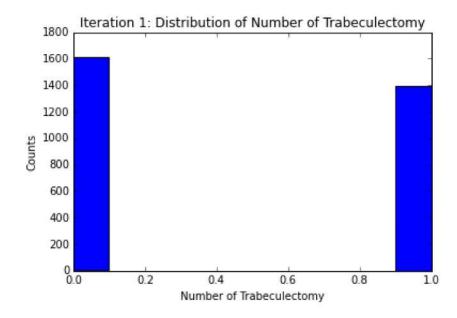












In [ ]: