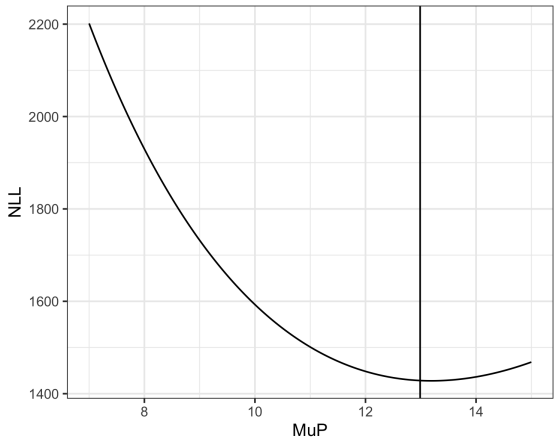
June 10, 2021 Meeting Agenda

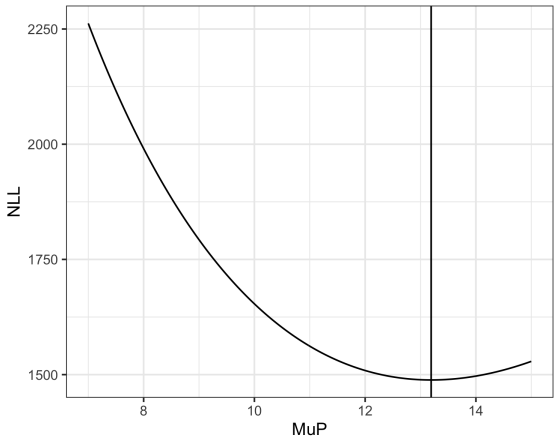
June 9, 2021

1 Joint estimation of μ_p and μ_t

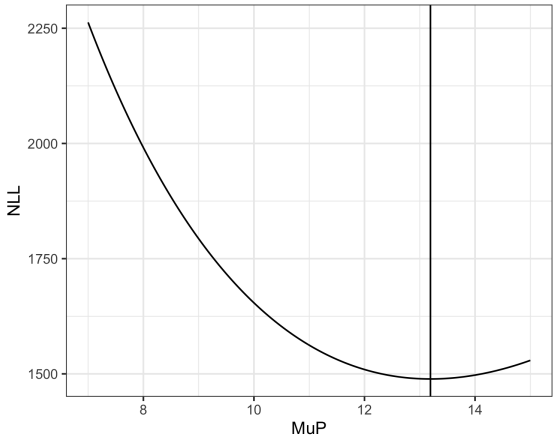
This week I worked on implementing the plots we talked about last time. One of them is a plot of the negative log likelihood vs μ_p. The other is Nasser's plot of number of trials vs μ_t. The graphs are shown below. I also added a table with the progression of μ_t and μ_p throughout the course of the algorithm. I caught a mistake in how I was calculating μ_t and I've fixed it. Our current estimate of $\mu_t = 0.081$ which is about 12 days per trial. Our current estimate of $\mu_p = 13.19$.



(a) Iteration 1

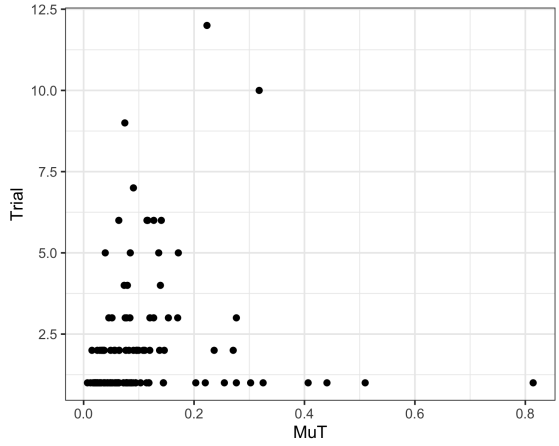


(b) Iteration 2

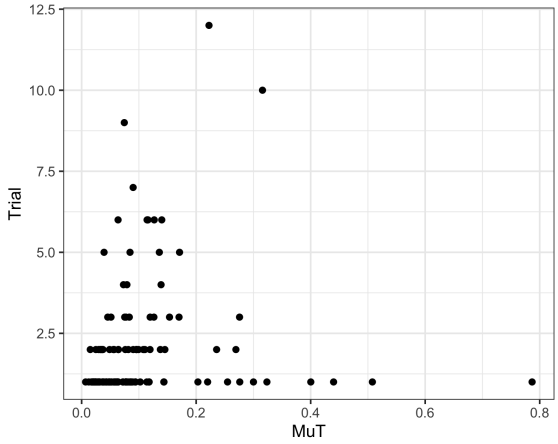


(c) Iteration 3

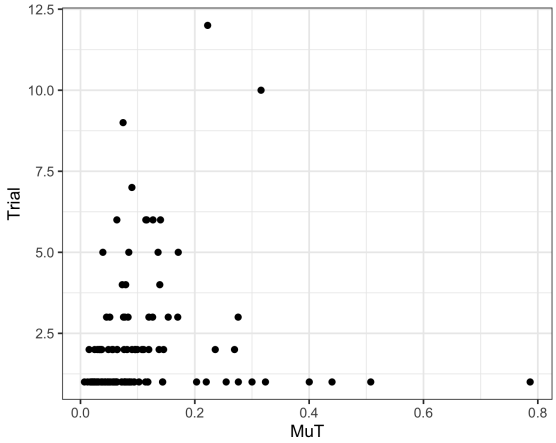
Figure 1: Negative log likelihood vs μ_p



(a) Iteration 1



(b) Iteration 2



(c) Iteration 3

Figure 2: Number of Trials vs mu_t

Table 1: Evolution of μ_p and μ_t

Iteration	μ_t	μ_p
0	0.12	10.7
1	0.082	12.99
2	0.081	13.19
3	0.081	13.19

1.1 Next Steps

- Do Poisson tail calculations.
- Add information about optimizer to document.