1. Contacts updates

*both come into contact below infection radius for 1 time period*

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  | *1* | *q* |
|  | *1* | *0* |

*==*

1. *Probability update for test*

*is tested at the end of period j.*

*T = test is positive*

*F = test is negative*

*We assume FP, FN rates of tests*

*Update for all i= (D periods backwards)*

*If test is positive:*

*Prior:*

*Posterior:*

*Support that the test results gives :*

*Update to:*

*If test is negative:*

*Prior:*

*Posterior:*

*Support that the test results gives :*

*Update to:*

1. *Update of decay (healing / death):*

*got a test result T/F M periods after test taken (at day j) - update by rule 2 for , update for all (including ) by rule 1 and 3 for*

*Step by step algorithm (inputs:*

1. *Base: All of the population start with given by user (assumed at algorithm start)*

*Assuming period , calculate period :*

1. *Update all probabilities according to contacts at period by rule 1 (run rule 1 times)*
2. *All test conducted on period return for population*
3. *Update for all for according to rule 2.a*
4. *Update for all for all symptomatic according to rule 2.b*
5. *Recalculate all probabilities according to contacts at periods by rule 1 (run rule 1 times)*
6. ***Take tests*** *from top T possible infected (results to return in days)*
7. ***Isolate*** *top K possible infected* ***OR*** *all above threshold Th*

Calculate tradeoff between K and T (K as a function of T to flatten the curve so peek below health system threshold)