Xcode File Edit View Find Navigate Editor Product Debug Source Control Window Help 28 % Tue

No Scheme | AB_vaccine-testing: **Ready** | Today at 20:56

vaccine_main.cpp | transmission.cpp | init.cpp | init.h | vaccination.cpp | defs.h | vaccination.h

transmission.cpp 〉 No Selection

```
54      double pInf=-1.0; //negative by default
55
56      if (!(inHousehold) && !(noneIsolated)) return(pInf); // outside household, no transmission for isolated persons
57
58      if (statusContact==102  || statusContact==13) {
59          // if neighbour is pre-asymptomatic or asymptomatic, include re-scale in transmissibility because of asymptomatic route "r_a"
60          if (noneIsolated) {// if neighbour and susceptible are not isolated
61              if (isVaccinated == VAX_FUL) {   // if susceptible is vaccinated, add factor v_sus
62                  pInf = 1.0-pInfStub*params.r_a*params.v_sus_FUL;
63              } else if (isVaccinated == VAX_MID) {
64                  pInf = 1.0-pInfStub*params.r_a*params.v_sus_MID;
65              } else {
66                  // if susceptible is not vaccinated, no factor v_sus
67                  pInf = 1.0-pInfStub*params.r_a;
68              }
69          else {  // if either of them are isolated, due to being the household layer, there can be a contact and a possible infection but
            factor "factor_isol" added
70              if (isVaccinated == VAX_FUL) {
71                  pInf=1.0-pInfStub*params.r_a*params.v_sus_FUL*params.factor_isol;
72              else if (isVaccinated == VAX_MID) {
73                  pInf=1.0-pInfStub*params.r_a*params.v_sus_MID*params.factor_isol;
74              } else {
75                  pInf=1.0-pInfStub*params.r_a*params.factor_isol;
76              }
77          }
78      } else if (statusContact==102  || statusContact==13) {
79          // same as before but contacts are pre-asymptomatics or asymptomatics vaccinated, add factor v_trans in transmission
80          if (noneIsolated) {
81              if (isVaccinated == VAX_FUL){
82                  pInf=1.0-pInfStub*params.r_a*params.v_sus_FUL*params.v_trans;
83              } else if (isVaccinated == VAX_MID){
84                  pInf=1.0-pInfStub*params.r_a*params.v_sus_MID*params.v_trans;
85              } else {
86                  pInf=1.0-pInfStub*params.r_a*params.v_trans;
87              }
88          } else {
89              if (isVaccinated == VAX_FUL) {
90                  pInf=1.0-pInfStub*params.r_a*params.v_sus_FUL*params.factor_isol*params.v_trans;
```