

$$\lambda_F(t) = \beta(1 - \epsilon(t))\iota(t)$$

$$\lambda_M(t) = r_\beta\beta(1 - \hat{\epsilon}(t))\iota(t)$$

$$\iota(t) = \frac{r_\beta I_M + I_F + P_M + P_F}{A_M + A_F}$$

