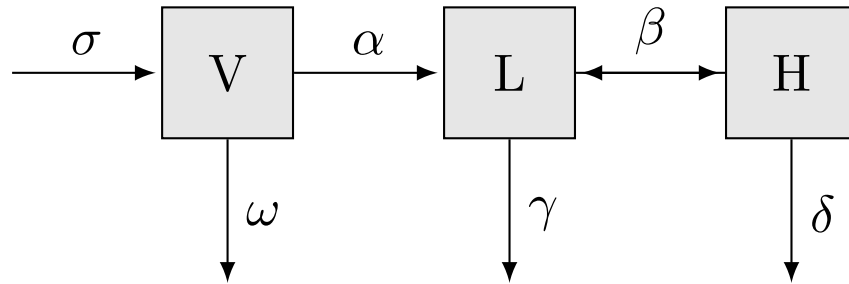


## Model Idea #2 : Needs an Actual Density Function

Charles Marks



$$V(t+1) = V(t) + \sigma - \omega - \alpha$$

$$L(t+1) = L(t) + \alpha - \beta - \gamma$$

$$H(t+1) = H(t) + \beta - \delta$$

$\sigma$  : This would be a function intended to account for the population which is somehow vulnerable to injection drug use, where the risk they have is sufficient that exposure to injectors is the remaining necessary thing for their initiation

$$\alpha(V, L, H) : V * OE(L, H) * R$$

$OE(L, H)$  : value between 0-1 which represents the odds ratio of being exposed to an initiator...*this is our density function*

$R$  : based on data, value between 0-1 which reflects the probability between 0 and 1 that if the individual is exposed to an initiator that they get initiated

Another idea is to have an  $OE_L$  and  $OE_H$  along with a  $R_L$  and  $R_H$ , conceptually running into a high initiator should place a  $V$  at higher risk than someone who runs into an low initiator