What Would the Diagram for the Model Look Like?

susceptible

exposed

infected

recovered

S $\xrightarrow{\text{infection}}$ E $\xrightarrow{\text{infectious}}$ I $\xrightarrow{\text{recovery}}$ R

β $\quad$ σ $\quad$ γ

vaccination ν $\quad$ breakthrough $\quad$ $1 - ve$

V

$$\frac{dS(t)}{dt} = -\beta S(t)I(t) - \nu S(t)$$

$$\frac{dV(t)}{dt} = \nu S(t) - \beta(1 - ve)V(t)I(t)$$

$$\frac{dE(t)}{dt} = \beta S(t)I(t) + \beta(1 - ve)V(t)I(t) - \sigma E(t)$$

$$\frac{dI(t)}{dt} = \sigma E(t) - \gamma I(t)$$

$$\frac{dR(t)}{dt} = \gamma I(t)$$