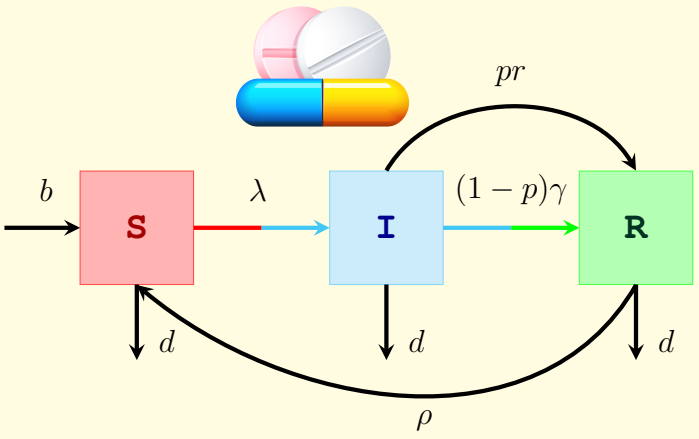
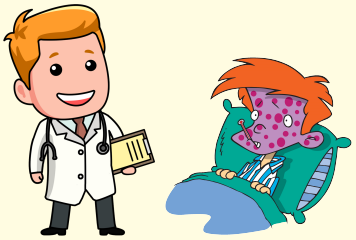



$p$ people have access to treatment and $(1-p)$ people do not.

$r$ represents the drug recovery rate.



Drug Therapy **SIRSBD** Measles Model 1

## System of ODEs

We define the parameter $\mu = d = b$.

$$\frac{d\mathbf{S}}{dt} = \mu \mathrm{N} - \beta \mathbf{IS} - \mu \mathbf{S} + \rho \mathbf{R} \tag{1.1}$$

$$\frac{d\mathbf{I}}{dt} = \beta \mathbf{IS} - pr\mathbf{I} - \mu \mathbf{I} - (1-p)\gamma \mathbf{I} \tag{1.2}$$

$$\frac{d\mathbf{R}}{dt} = pr\mathbf{I} - \mu \mathbf{R} - \rho \mathbf{R} + (1-p)\gamma \mathbf{I} \tag{1.3}$$