SICKO Coefficient Explained

The SICKO Coefficient (S_c) is used assess the true value of infection in *C. elegans* by accounting for animals that have died prior to the experiment with and without infection.

Variables

$D_p =$ Number of Worms that **Died** During **Washing**

$D_{IO} =$ Number of Worms that **Died** and Were **Infected** While **Observed**

$D_{NO} =$ Number of Worms that **Died** and Were **Not Infected** While **Observed**

$D_{TO} =$ **Total** Number of Worms that **Died** While **Observed**

$T_{AW} =$ **Total** Number of Worms that are **Alive** After **Washing**

$T_{NC} =$ **Total** Number of Worms in Condition **Not Censored**

Calculated Variables

$D_{IP} =$ Number of Worms that **Died** During Washing Due to **Infection**

$$D_{IP} = D_P\left(\frac{D_{IO}}{D_{TO}}\right)$$

$P_I =$ **Projected** Infected Worms

$$P_I = (\frac{D_{IO}}{T_{NC}})T_{AW} + D_{IP}$$

SICKO Coefficent

$$S_c = \left(\frac{1}{\sqrt{1 - \frac{P_I}{T_{AW}}}}\right)\left(\frac{\bar{P}_I}{|\bar{P}_I - (D_{IP} + \bar{D}_{IO})|}\right)$$