$$SMR_r = \frac{\sum number\ of\ observed\ deaths\ in\ each\ small\ area}{\sum expected\ number\ of\ deaths\ \ in\ \ each\ small\ area} = \frac{\sum_i d_{ir}}{\sum_i t_{ir}(\frac{D_i}{T_i})} \quad (1)$$

$$\text{SE(logSMR)} = \frac{SE(SMR)}{SMR} = \frac{1}{\sqrt{d_r}} \quad (2)$$

$$\text{95\% CI: } \frac{SMR}{\exp\left(\frac{1.96}{\sqrt{d_r}}\right)}\ to\ SMR \times \exp\left(\frac{1.96}{\sqrt{d_r}}\right) \quad (3)$$

$$CMF_r = \frac{\sum expected\ number\ of\ deaths\ in\ standard\ population}{\sum number\ of\ observed\ deaths\ in\ standard\ population} = \frac{\sum_i T_i(\frac{d_{ir}}{t_{ir}})}{\sum_i D_i} \quad (4)$$

$$\text{SE(CMF)} = \frac{\sqrt{\sum_i T_i^2 \frac{d_i}{n_i^2}}}{\sum_i D_i} \quad (5)$$

$$\text{SE(logCMF)} = \frac{SE(CMF)}{CMF} \quad (6)$$

$$\text{95\% CI: } \frac{CMF}{\exp\left[\frac{1.96 \times SE(CMF)}{CMF}\right]}\ to\ CMF \times \exp\left[\frac{1.96 \times SE(CMF)}{CMF}\right] \quad (7)$$

$$\frac{\sum_i t_{ir}(\frac{D_{i,2015}}{T_{i,2015}})}{\sum_i t_{ir}(\frac{D_i}{T_i})} \quad (8)$$

$$1 - \left[\frac{\sum_i t_{ir} \left(\frac{D_i}{T_i} \right) - \sum_i t_{ir} \left(\frac{D_{i,2015}}{T_{i,2015}} \right)}{\sum_i t_{ir} \left(\frac{D_i}{T_i} \right)} \right] \quad (9)$$