## Numbers required for 90\% power

Deaths from x
 $0 \quad 200,000 \quad 400,000 \quad 600,000 \quad 800,000 \quad 1,000,000 \quad 1,200,000$

Intervention X reduces the risk of dying from A by $30 \%$ (HR=0.70), but increases the risk of dying from by by $100 \%$ ( $\mathrm{HR}=2.0$ ). The risk of $A$ is much higher in population 2 than in population 1 (and vice versa for $B$ ). The impact in terms of all-cause mortality in quite different in the two populations.

|  | Polulation 1 |  |  | Polulation 2 |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | Control | Treated | Differe <br> nce | Control | Treated | Differe <br> nce |
| Disorder A | 400 | 280 | -120 | 2000 | 1400 | -600 |
| Disorder B | 125 | 250 | +125 | 50 | 100 | +50 |
| Total | $\mathbf{5 2 5}$ | $\mathbf{5 3 0}$ | $\mathbf{+ 5}$ | $\mathbf{2 0 5 0}$ | $\mathbf{1 5 0 0}$ | $\mathbf{- 5 5 0}$ |

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Choleserol Treatment Trialists' (CTT) Collaborators, Lancet 2012.

