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NCD Mortality indicator
Indicator definition

- Unconditional probability of dying between ages 30 and 70 from 4 major NCDs – CVDs, cancers, diabetes, and chronic respiratory diseases.

- This indicator excludes potential for confounding across countries due to death from competing causes or different population age-structures.

- Allows within country comparison over time to monitor 25% reduction, without confounding as mentioned above.

- Age interval chosen because:
  - NCD mortality starts rising at age 30.
  - Mortality below 70 years is premature death in all populations aged 30 years.
  - Cause-specific attribution above age 70 is riddled with uncertainty.
Computation

- **Step 1**: calculate 5 year age-sp death rate – $\hat{5}M_x$

\[
\hat{5}M_x = \frac{\text{Total deaths from four NCD causes between exact age } x \text{ and exact age } x + 5}{\text{Total population between exact age } x \text{ and exact age } x + 5}
\]

- **Step 2**: convert into probability of dying – $\hat{5}q_x$

\[
\hat{5}q_x = \frac{\hat{5}M_x \times 5}{1 + \frac{\hat{5}M_x \times 2.5}{\hat{5}M_x \times 2.5}}
\]

- **Step 3**: compound across target age interval

\[
40q_{30} = 1 - \prod_{x=30}^{65} (1 - \hat{5}q_x)
\]
Data requirements

- Numerators and denominators from same and well-defined populations
- Adequate population under surveillance to yield robust indicators at national / sub national state level, depending on policy requirements
- Continuous recording of mortality with high completeness of death recording
- Accuracy of cause-of-death ascertainment as close as possible to death registration in the form of multiple causes of death, given known potential for co-morbidities across NCDs
### Hypothetical Example to Calculate NCD Mortality Indicator

<table>
<thead>
<tr>
<th>Age</th>
<th>Dths</th>
<th>Pop</th>
<th>Dth rate nMx</th>
<th>nqx</th>
<th>1 - nqx</th>
<th>Product of 1-nqx</th>
<th>40q30</th>
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Outline

Indicator definition and computation

Is baseline information available for the target?

Is there a reliable system for data collection in the Member countries?

What is the current capacity of Member countries to collect and report on the target every 5 years?

What additional data collection mechanisms are needed to enable reporting on the mortality target?