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A tool to identify NCD interventions to achieve the SDG target

Many countries remain off track to reach the Sustainable Development Goal (SDG) target 3.4, which calls for a reduction of a third in premature mortality from non-communicable diseases (NCDs) between 2015 and 2030.[1] Reductions in NCD death rates have slowed since 2010, which is attributed to several factors including increases in risk-factor levels and inadequate investment in preventive and early treatment interventions.[2] The situation has been made worse by the COVID-19 pandemic, which has severely disrupted NCD screening and treatment services in many countries.[3]

The NCD Countdown 2030 Collaborators conducted an analysis, published in March 2022, of potential pathways through which countries could get back on track to achieving the SDG 3.4 target in the aftermath of the pandemic. We found that fully implementing a focused set of highly cost-effective clinical interventions and intersectoral policies to address NCD mortality could greatly accelerate progress and could help the world as the whole to achieve the SDG 3.4 target. A strategy such as this could avert approximately 39 million deaths between 2023 and 2030, but would require an additional US$18 billion per year.[4,5]

Drawing from previous NCD Countdown reports, and in partnership with the WHO Department of Noncommunicable Diseases, we developed an online tool for users to visualise the potential effects of the interventions included in our report under a range of different implementation scenarios.[5,6] The interventions are based on recommendations from *Disease Control Priorities*, 3rd edition, and are aligned with WHO recommendations on priority NCD interventions.[7–9] The tool enables users to quickly see the effect that different combinations of interventions would have on achieving the SDG 3.4 target in their country context.

The tool has two tabs that present different levels of analysis. In the Dashboard tab, users can quickly add and scale-up interventions using default model inputs

For the **online tool** see https://dcp-uw.shinyapps.io/NCDC/

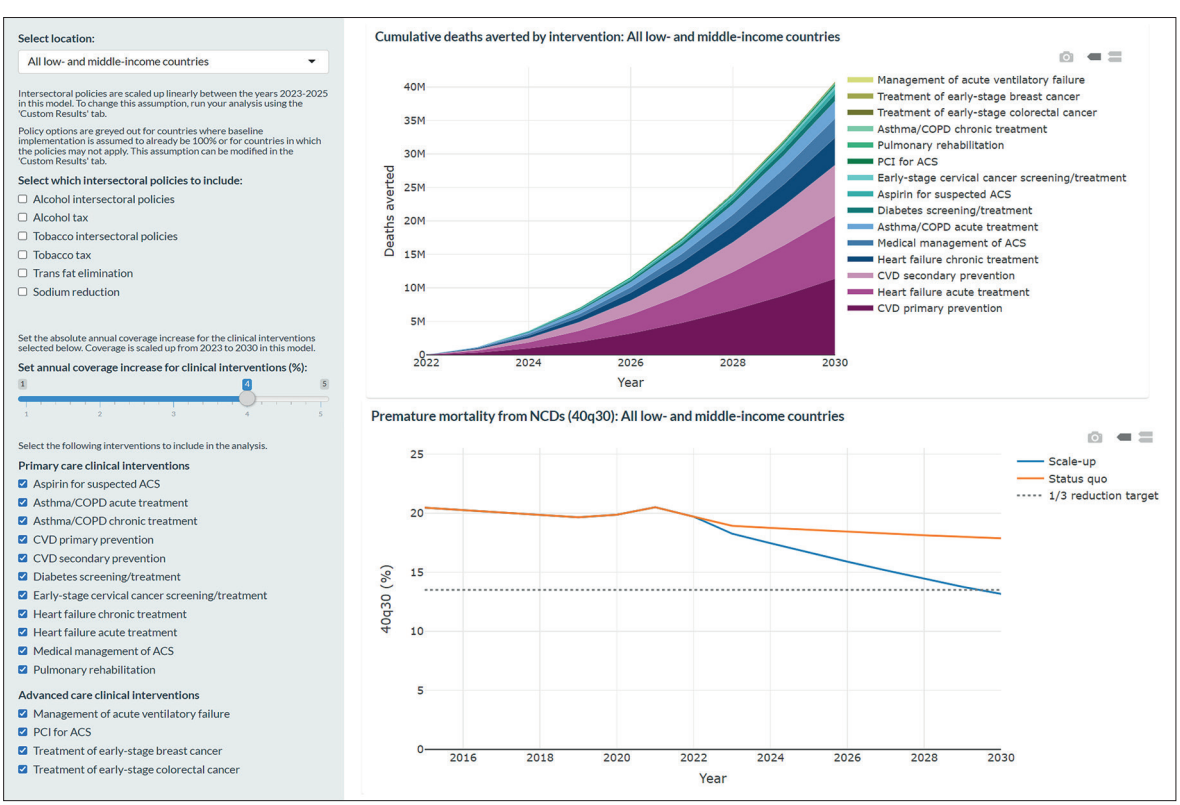

Figure: **Application of the simulation tool for the aggregate of 123 low-income and middle-income countries**
The figure shows a direct screenshot from the online tool. In this example, aggregate results are shown for 123 low-income and middle-income countries analysed according to the selections made in the menu on the left.

and implementation assumptions to design their own package of interventions. This tab is intended for quick, high-level comparisons of the effects of interventions. It should be noted that these default values have not been carefully reviewed and endorsed by Member States and should not be interpreted as official estimates. In the Custom Results tab, users can inspect and change intervention inputs (eg, current coverage) on the basis of local data and can specify more detailed scale-up patterns for their selected interventions. This tab is designed for a more detailed analysis and therefore can take several minutes to run. Users can download the data and a full report of their analysis in either tab.

We show the application of the tool for the aggregate of 123 low-income and middle-income countries (figure). In this example, if the user selects all the clinical interventions but no risk-factor reduction policies, intervention coverage would have to increase by 4% per year to achieve the SDG 3.4 target by 2030. However, if the six intersectoral policies are included, a lower (and more feasible and affordable) intervention scale-up rate of 3% per year would be required to achieve similar results. In both scenarios, the model estimates that approximately 40 million deaths and 400 million disability-adjusted life years could be averted.

The estimates produced by this tool are intended to serve as a starting point for detailed local analyses and deliberations to inform national NCD strategies and lists of essential services, medications, and diagnostics. We hope that this tool will facilitate transparent and data-driven priority setting among policymakers and planners and help to identify feasible options for achieving the SDG 3.4 target in each country.

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