Supplementary table 1: Key assumptions, limitations and strengths of the PRIME Model

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| **Key Assumptions** | **Key Limitations** | **Key Strengths** |
| The model assumes that interactions between risk factors are generally positive, for example that the interaction of combined risk from two risk factors is larger than the sum of both components. | PRIME, like post NCD models does not take into account interactions between different risk factors for NCDs. This is due to a lack of supporting literature around the size of interactions between risk factors. | The model analysis is based on inputs from comprehensive and high quality population health surveys, population CENSUS and mortality data |
| The PRIME model assumes a ‘steady state’ within the population and shows changes for one point in time only. | The PRIME model is incapable of incorporating the time-lag between exposure to risk factor change, and the outcome. Therefore it is not possible to estimate when the results would be achieved. It is also unclear how long after risk factor exposure has changed that there would be an observed effect on the outcome. | The model has been designed  using the strongest available scientific evidence on the  links between chronic disease mortality and dietary  intake, alcohol consumption, smoking, physical activity  and obesity levels |
|  | PRIME also cannot consider the lifetime effect of exposure to different risk factors. For example, if there has been a high prevalence of smoking among young adolescents in the population, but a low rate in the elderly population, this could provide distorting effects on preventable or averted deaths. | The model is able to model the effect of changes in multiple risk (including detailed nutrient intake data) factors simultaneously on mortality rates from different chronic diseases, by age and sex. |

*Notes: Abbreviations: NCD, Non-Communicable Disease. Adapted from Scarborough et al, 2014. The Preventable Risk Integrated ModEl and Its Use to Estimate the Health Impact of Public Health Policy Scenarios. Scientifica. Vol 2014.*