



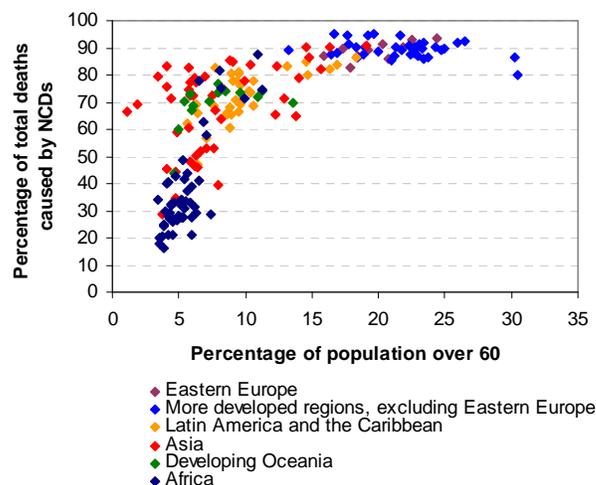
Population Ageing and the Non-communicable Diseases

1. Each year, non-communicable diseases (NCDs) cause more than 36 million deaths worldwide, representing around 63 per cent of all mortality. Four categories of NCDs are responsible for more than 80 percent of NCD deaths globally: cardiovascular diseases, cancers, diabetes and chronic respiratory diseases. Exposures to risk factors that accumulate over the life course such as tobacco use, unhealthy diets, physical inactivity and harmful use of alcohol increase the risk of morbidity and mortality due to NCDs. The World Health Organization estimates that over 20 million deaths could be prevented each year by reducing the level of exposure to these modifiable risk factors.¹

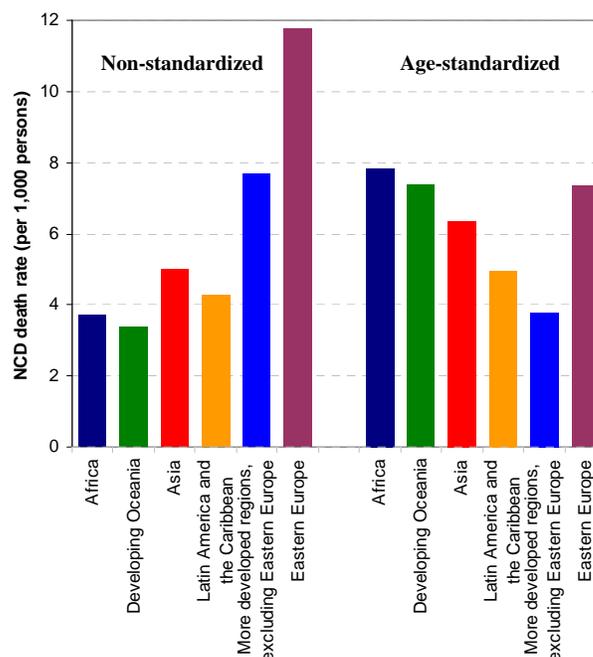
2. As populations age, NCDs cause a growing proportion of all deaths. Rapid reductions in fertility combined with improvements in survival lead to population ageing, wherein an increasing proportion of the population is concentrated among older age groups. Because susceptibility to NCDs increases with age, populations with older age structures tend to experience a greater share of deaths due to NCDs compared to populations with very young age structures where communicable diseases such as pneumonia and diarrhoeal diseases disproportionately affect children and produce a large burden of mortality. In many countries of the more developed regions, more than 20 per cent of the population is aged 60 or over and NCDs cause more than 80 per cent of all deaths.

3. Differences in population age structure mask the disproportionately high risks of NCD mortality experienced in the developing regions. NCD death rates that are non-standardized by age structure indicate that the risk of mortality due to these causes in Africa is about half the risk in the “more developed regions, excluding Eastern Europe”, but removing the effect of population age structure yields an age-standardized NCD death rate in Africa that is close to double that of the “more developed regions, excluding Eastern Europe”. These patterns indicate that the main reason the “more developed regions, excluding Eastern Europe”, experienced much higher death rates from NCDs than other regions is that the corresponding population was relatively old. Once the influence of age structure is removed, the risk of dying from a NCD was actually higher in populations with relatively young age structures, namely Africa, developing Oceania and Asia.

In countries with a large percentage of population over age 60, the vast majority of deaths are caused by NCDs



Adjusting for differences in the population age structure reveals that risk of death associated with NCDs tends to be highest in developing regions



Source: *Changing Levels and Trends in Mortality: the role of patterns of death by cause*, (United Nations publication, ST/ESA/SER.A/318). Estimates of the percentage of population above age 60 are from *World Population Prospects: The 2010 Revision*. Estimates of the proportion of deaths due to NCDs and NCD death rates are from the World Health Organization.

4. Future population growth and population ageing will drive large increases in the burden of mortality due to NCDs, even if no changes occur in the age-specific risks of dying from an NCD. With no changes in age-specific NCD death rates, the annual number of NCD deaths in Africa would grow from 3.7 million in 2008 to close to 14 million in 2050. About 45 per cent of that increase would be due to population growth, while the remaining 55 per cent would be due to the ageing of the population. Population growth would also play a large role in the increase in NCD deaths in developing Oceania, while population ageing would be responsible for the overwhelming majority of the increase in NCD deaths to 2050 in Asia, Latin America and the Caribbean, and the “more developed regions, excluding Eastern Europe”. In Eastern Europe, where exceptionally low fertility is projected to lead to declining population size, population ageing would account for all of the 54 per cent increase in NCD deaths by 2050.

The WHO anticipates that age-specific risks of NCD mortality will generally decline in the future, reflect-

-ing advancements in the quality and availability of medical care, but those gains will not be sizable enough to offset future increases in NCD deaths related to population growth and ageing.² Moreover, declining age-specific NCD risks are not guaranteed. Mounting concern surrounds increasing levels of exposure to important NCD risk factors in developing countries, where tobacco use, unhealthy diet, physical inactivity and the harmful use of alcohol pose a growing threat to population health. To address those risks, the United Nations General Assembly in its 2011 *Political Declaration on the Prevention and Control of NCDs*³ advocated a multisectoral approach that places prevention as the cornerstone of a global response to the growing challenges posed by the NCDs.

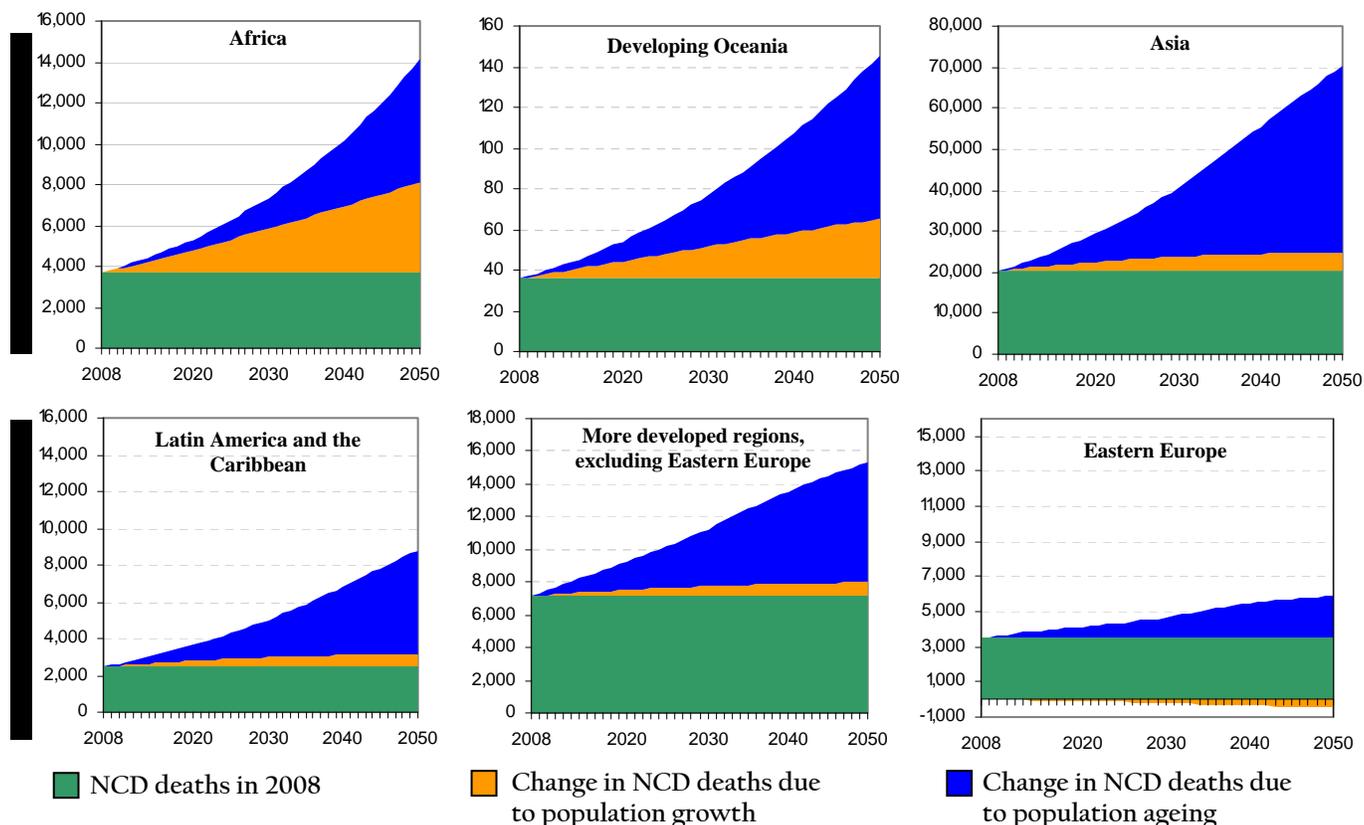
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¹ WHO . 2010. *Global Status Report on Non-Communicable Diseases*. (Geneva)

² Mathers, Colin and Dejan Loncar. 2006. Projections of Global Mortality and Burden of Disease from 2002 to 2030. *PLoS Medicine*, vol. 3, issue 11, e442.

³ A/66/L.1

Even if no changes were to occur in the age-specific risks of dying due to NCDs into the future, population growth and ageing would still produce large increases in the burden of mortality due to NCDs



Data sources and methods: The number of NCD deaths in 2008 is calculated by multiplying the sex- and age-specific estimates of the population of each region in 2008 (from *World Population Prospects: The 2010 Revision*) by the sex- and age-specific NCD mortality rates in 2008 (from the World Health Organization estimates of deaths by cause). The population growth-attributable change in the number of NCD deaths for each year compared to 2008 is calculated by multiplying the crude NCD mortality rate in 2008 by the total population projected in each year and then subtracting the number of NCD deaths in 2008 from that figure. The change in NCD deaths due to population ageing is calculated as the difference in NCD deaths in each year compared to 2008, less the change in NCD deaths that is due to population growth or decline.