

After reading the article below, choose the best answer to each of the **ten questions**. Answer all questions **based ONLY on what is stated or implied in the article**

Halving premature death

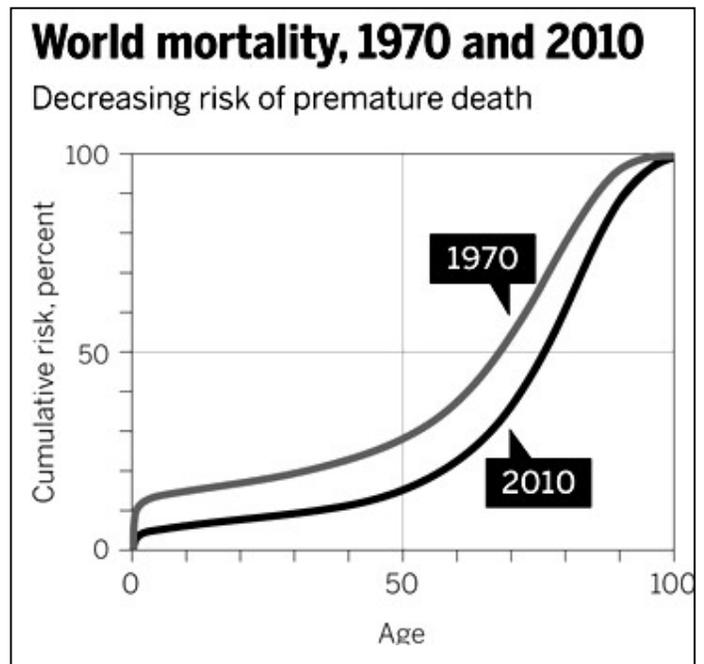
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Death in old age is inevitable, but death before old age is not. Except where HIV or political disturbances predominated, mortality rates have been decreasing for decades, helped by sanitation, health care, and social changes. Even in low-income countries, at current death rates, three-quarters of newborn infants would survive to age 50, and half would survive to age 70. If disease control keeps progressing and economic development proceeds, then within the next few decades—except where disasters or new epidemics supervene—under-50 mortality should fall to less than half of today's 15% global risk, and under-70 mortality should be less than one in six.

World under-5 mortality decreased from 14% of all live births in 1970 to 5% in 2010. It could reach 2% by 2030, with continued attention to female education, perinatal care, vaccination, adequate nutrition, curative treatment, and other key child survival determinants. World under-50 mortality halved from 28% in 1970 to 15% in 2010 (5% under-5 plus 10% later), but varies 10-fold between countries, with further inequalities within countries. Its

main causes, apart from maternal and perinatal mortality, include communicable diseases, under-nutrition, and fatal injuries (suicide, homicide, and, particularly, accidents). They also include alcohol, a major cause of injuries, and tobacco.

Noncommunicable diseases (NCDs), such as cancer, stroke, heart disease, and emphysema, cause a quarter of all deaths before age 50, plus four-fifths of those at ages 50 to 69. The most important external factor is smoking, which still causes about a quarter of all cancer deaths in the



European Union and a third of all cancer deaths in the United States, plus comparable numbers of deaths from other diseases. Smoking also causes many deaths in China, India, Russia, and worldwide (totaling about 5 million deaths a year, and rising). Fortunately, quitting works; smokers who stop before age 40 (and preferably well before 40) avoid over 90% of the risk. Each year, governments make US\$300 billion directly or indirectly from tobacco, so at constant prices, a one-third reduction would lose governments \$100 billion. But if tax increases double the current prices and thereby reduce smoking by one-third, this would save just as many lives and gain governments \$100 billion a year.

The World Health Organization's recent resolution on NCDs calls for reducing smoking by a third by 2025, decreasing hazardous alcohol drinking, and halting the increase in obesity. It also supports the wide use of generic drugs such as statins and antihypertensives to prevent NCD recurrence.

If 2010 mortality rates continue unchanged (which they will not, as death rates are already falling), then in 2030 there would be about 20 million deaths before age 50, and 20 million more at ages 50 to 69. For many countries, halving their 2010 under-50 mortality rate by 2030 would be a feasible target; worldwide, it would avoid 10 million of the 20 million deaths projected above for 2030. Adoption of this target would reinforce current successful efforts to reduce maternal and child mortality and death from HIV, tuberculosis, malaria, and other communicable diseases, but would also require serious and successful efforts to substantially reduce accidents and NCD mortality.

Changes in mortality at ages 50 to 69 are dominated by NCD mortality, where some important control measures may take decades to have their full effects. Although reductions of about one-quarter or one-third could well be seen by 2030, halving global mortality in this age range will take longer. But even if the ultimate goal is to substantially reduce under-70 mortality, halving under-50 mortality would be a more immediate target and could be achieved worldwide by 2030 (or in the 2030s). With additional gains in later middle age, some 40% of all premature deaths would be avoided.

Public health and medicine do not offer eternal life, but do offer a more comfortable life and an increasingly good chance of avoiding premature death. Still, however, almost all of us will die before 100.

Question 1:

The authors focus **primarily** on...

- (A) Reduction of mortality between 1970 and 2010
- (B) Effects of alcohol and tobacco in rates of cancer deaths worldwide
- (C) Most common causes of human mortality
- (D) Effective public health strategies to further reduce human mortality
- (E) Efforts that have successfully contributed to the reduction of mortality during the last decades

Question 2:

According to the text, which of the following statements about premature death is accurate?

- (A) Female education, perinatal care, vaccination and adequate nutrition are the most effective strategies to globally reduce risk of premature death
- (B) Most causes of premature death could be prevented by effective public health actions
- (C) Premature death has been reduced from 14% in 1970 to 5% in 2010
- (D) Effective public health strategies could reduce premature death to 2% in 2030
- (E) Death rate of newborn infants in low-income countries is higher than in high-income countries

Question 3:

It can be inferred from the article that death rate before age 50...

- (A) ... has been rising steadily over the past decades
- (B) ... is mainly caused by maternal and perinatal mortality
- (C) ... is nearly impossible to be further reduced
- (D) ... is highly heterogeneous across the world, mostly caused by local factors
- (E) ... is likely to continue unchanged until 2030

Question 4:

According to the authors, “*Noncommunicable diseases (NCDs), such as cancer, stroke, heart disease, and emphysema, cause a quarter of all deaths before age 50, plus four-fifths of those at ages 50 to 69*” (3rd paragraph). The authors imply that:

- (A) The proportion of smokers at age 50 to 69 is higher than the proportion of under-50 smokers
- (B) Public health authorities are not concerned with NCDs, as they are natural diseases that are not preventable
- (C) 25% of deaths of people under-50, and 80% of deaths at ages 50-69, are caused by NCDs
- (D) All NCDs could be prevented by reducing smoking and alcohol abuse
- (E) The risk of death caused by NCDs does not accumulate over time

Question 5:

The authors imply which of the following about the under-50 mortality?

- (A) Could be reduced by increasing taxes on tobacco
- (B) The most important external factor is alcohol abuse
- (C) It is possible for all countries to half the under-50 mortality by 2030
- (D) Prevention of infectious disease should be the main strategy to reduce under-50 mortality
- (E) The effective strategies that reduced under-50 mortality between 1970 and 2010 should continue to be employed in the future, potentially further halving under-50 mortality by 2030

Question 6:

Which of the following **arguments** is used to **support** authors' **position** on smoking?

- (A) Governments should raise taxes on tobacco
- (B) Quitting smoking is ineffective to reduce the risk of cancer
- (C) European Union and United States have implemented successful programs to reduce smoking, but it still causes about a quarter of all cancer deaths in the E.U. and a third in the U.S.
- (D) Statins and antihypertensives are effective drugs to treat cancer caused by smoking
- (E) Smoking is a public health issue because it causes cancer, which substantially contributes to adult mortality

Question 7:

It can be inferred from the article that “decreasing hazardous alcohol drinking” would affect mortality rates because alcohol...

- (A) causes different communicable diseases
- (B) raises the homicide rates
- (C) causes different sorts of cancer
- (D) is an important cause of fatal accidents
- (E) is one of the causes of increase in obesity

Question 8:

Based on the 2010 mortality rate, the authors propose two scenarios for 2030. According to their scenarios, which of the following statements is **false**?

- (A) There will be a total of 40 million deaths of under-69, if 2010 mortality rates remain constant
- (B) There will be a total of 20 million deaths of under-50, if 2010 mortality rates remain constant
- (C) There will be a total of 20 million deaths of under-69, if 2010 mortality rates are halved
- (D) There will be a total of 20 million deaths at ages 50 to 69, if 2010 mortality rates are halved
- (E) There will be a reduction of 20 million deaths of under-69, if 2010 mortality rates are halved

Question 9:

According to the authors, “*with additional gains in later middle age, some 40% of all premature deaths would be avoided*” (6th paragraph). By “premature deaths” the authors mean:

- (A) under-5 mortality
- (B) under-50 mortality
- (C) deaths that are caused by all external factors that can be removed or prevented
- (D) death of children that are caused by infectious diseases (communicable and non-communicable), which may be prevented by female education, perinatal care, vaccination, adequate nutrition, curative treatment, and other key child survival determinants
- (E) death of adults that are caused only by diseases, fatal injuries, cancer, stroke, heart disease, and emphysema, which are the focus of public health initiatives

Question 10:

It can be inferred from the article that HIV, political disturbances, natural disasters and epidemics:

- (A) Have been the major concern of public health authorities during the last decades
- (B) Are the main causes of under-50 mortality rates worldwide
- (C) Do not contribute substantially to mortality rates
- (D) Are external factors that have prevented the fall of mortality rates in the last decades
- (E) Prevent the implementation of health care, sanitation and social changes, which could reduce mortality rates