

Chapter 16 Homework

1. The table to the right shows the global disease burden and the R&D funding for several diseases.
 - Define DALY. Why is the DALY a better measure of disease burden than mortality rate?
 - Based on this chart, what recommendations would you make for future funding of R&D funding?

2. Over the last decade, describe the epidemiologic shift in burden of disease that has occurred in developing countries. Given this epidemiologic shift, recommend two specific changes that should be made to R&D funding priorities for chronic diseases. Discuss one challenge associated with each recommendation.

3. You are working for a non-profit organization dedicated to implement new health technologies in the world's least developed countries. The board of directors wants to allocate their 2006 budget to the development of biotechnologies that will most improve health in developing countries. To encourage the successful application of these technologies to global health, they have requested that you conduct a study to determine which biotechnologies could have the largest positive impact on health in developing countries. Your final report must address the following questions:
 - Mention at least three technologies that you would recommend for implementation.
 - Explain the potential positive impact that each technology could have on health.
 - Describe the criteria you used to select these technologies.

4. You are provided with \$100 million dollars to make an investment in one of the three following areas:
 - Launch of a public health program to educate people regarding the risks of lung cancer and the benefits of smoking cessation and offers free smoking cessation programs.
 - Development of a new screening test for early lung cancer which costs \$100 and has a specificity of 95% and a sensitivity of 98%.
 - Development of a novel pharmaceutical compound to treat lung cancer. The new treatment reduces side effects by improving the specificity of targeting and improves 5 year survival for lung cancer patients by 30%.
 - Choose one of options and explain your rationale for selecting this option. Be sure to justify why you feel the option that you selected is a better investment than the other two options. Please be as quantitative as possible in your justification.

5. Reflect on what we have learned about world health in relation to your own personal and career goals. How can YOU work to improve world health? Write down one personal goal illustrating how you will try to improve world health as a result of something you learned in this text.