



**Understanding Cost-Effectiveness Analysis in Health Care (313.790.81)**  
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**Exercise 2**

Please note that some of the methods necessary for doing the calculations in this exercise will be covered in LiveTalk 4.

- (1) Suppose you are an investigator in a clinical trial comparing treatments that can both extend life and improve quality of life. The treatments also have side effects that can decrease quality of life. Explain why quality adjusted life years gained would be preferred to life years gained as a measure of effectiveness in a cost-effectiveness evaluation done along with the clinical trial.
  
- (2) Suppose that a researcher asks a respondent the following question: "Without treatment, you will spend the remaining 40 years that you are expected to live with a limited ability to hear voices of people speaking to you from 3 feet away. How many years in perfect health would be worth the same amount to you as 40 years with partial deafness with the effects described?" What type of preference elicitation is this?
  
- (3) A respondent is presented with the following choices. "Without treatment, you can spend the next 40 years with constant but limited pain. We have a hypothetical treatment that will lead to one of two possible outcomes. Either you will be cured immediately and live 40 years in perfect health or you will die immediately. What risk of death are you willing to accept?" Suppose that the respondent indicates a willingness to accept a 10% risk of death from the treatment. What is the utility of the health state "constant but limited pain" for this respondent? Please show or describe your calculation.
  
- (4) Give one reason that we would expect the standard gamble to lead a relatively high utility for unfavorable health conditions.
  
- (5) Suppose that a person lives 6 months with a health utility of 0.75 and 6 months with a health utility of 0.85. What is the number of quality adjusted life years experienced by this person? Please show or describe your calculation.