JOHNS HOPKINS BLOOMBERG SCHOOL of PUBLIC HEALTH

Understanding Cost-Effectiveness Analysis in Health Care (313.790.81)
Instructor: Kevin D. Frick, PhD
Exercise 3

(1) Using the discount rate recommended by the US Panel on Cost-Effectiveness in Health and Medicine, which has the higher present value: spending $1000 today or spending $215 today, $215 one year from today, $215 two years from today, $215 three years from today, and $215 four years from today? Show the present value of both spending streams to justify your answer. Suppose that the discount rate were 0%. Suppose that the discount rate were 5%. Show all work.

(2) Would it be better to have a guaranteed real rate of interest of 4% or a nominal rate of interest of 10% with inflation at 5%? Show the work to justify your response.

(3) The average medical care price index in 2003 was 297.1 The average medical care price index in 2002 was 285.6 What was the rate of medical care price inflation? Was the rate of medical care price inflation higher than the rate of general inflation given that the general price indexes were 184.0 (2003) and 179.9 (2002)? Show your work.

(4) You have the following data on a hypothetical 4 year intervention that ran from 1998-2002. The inflation rates listed give you the inflation from each year to the next year (so for 1998, it is the rate of increase from 1998-1999). Use these data to calculate the present value of a hypothetical 4 year intervention in 2003 dollars using the US Panel on Cost-Effectiveness in Health and Medicine suggested discount rate. Show all work.

Year	Cost	Inflation
1999	$1,540,000	2%
2000	$1,245,000	3%
2001	$1,779,000	3%
2002	$2,010,000	2%

Copyright 2005, The Johns Hopkins University and Kevin Frick. All rights reserved. Use of these materials permitted only in accordance with license rights granted. Materials provided "AS IS"; no representations or warranties provided. User assumes all responsibility for use, and all liability related thereto, and must independently review all materials for accuracy and efficacy. May contain materials owned by others. User is responsible for obtaining permissions for use from third parties as needed.