***Note for teachers/lecturers:*** I developed this for delivery as a seminar as part of a second year module. It was aimed at students who are familiar already with first year economics material on production functions and consumer optimisation. It is entirely graphical so as to avoid getting bogged down unnecessarily in any underlying algebra. It is intended to show how individuals can maximise their utility using highly-simplified versions of the Grossman model of A) health as a consumption good (based on [Wagstaff (1986)](https://doi.org/10.1111/j.1467-8586.1986.tb00206.x)), and B) health as an investment good.

In Part A of the seminar I give students an A3 sheet of paper on which to work in small groups in drawing the four-quadrant model.

Overall I find that the material is about right for a 50 minute (in-person!) seminar. I have not yet used it for delivery online.

As I plan to use this material in future seminars I would prefer to share associated lecture slides and notes on solutions via email only. If you would like these, feel free to contact me at [d.howdon@leeds.ac.uk](mailto:d.howdon@leeds.ac.uk).

**Grossman model – seminar 1**

The Grossman model can be used to illustrate predictions regarding health and healthcare. You have been introduced to two simplified versions of the model which can yield some useful insights. The first of these sees health as a consumption good, yielding utility directly; the second sees health as an investment good, which the individual purchases in order to yield future returns in the form of income.

In this seminar, we’ll examine these models in a little more depth.

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**Part A: health as a consumption good**

You saw in lectures a four-quadrant model that illustrates the idea of health as a consumption good. Although you should be reasonably familiar with each part of this, it can be a little tricky to piece the model together.

**Activity 1**

Without looking at lecture notes directly, try to complete the diagram below with an example of this four-quadrant model. You can discuss in twos if you wish.

Other consumption

Other consumption

Health inputs  
(healthcare)

Health

**Health production function**

**Indifference curves,**

**Welfare possibility  
frontier**

**consumption  
=  
consumption**

**Budget  
constraint**

**Activity 2:**

Compare answers as a group – if there are any differences, discuss why. Agree on a final correct answer. Draw this on sheet 1. In a different colour, add lines to show the impact of a fall in income.

**Activity 3:**

Now consider, as a group, how you would illustrate an increase in the level of the individual’s education. Hint: think about which of the quadrants is directly affected by this change. Agree on an answer and draw this on sheet 2. What does this imply for optimum levels of health and healthcare inputs?

**Part B: health as an investment good**

While the diagram we use to illustrate health as an investment good is quite substantially simpler than that for health as a consumption good, it is equally important to understand the intuition.

**Activity 4:**

Without referring to lecture notes, on the axes below, draw a diagram to illustrate a model of health as an investment good. Again, you can discuss in twos if you wish. Ensure you label the axes and any lines you draw.

**Activity 5:**

Discuss as a group how to illustrate an increase in the level of the individual’s education. Add a line to the diagram above to illustrate this.