

The Economics of Health: How do we decide?



The Survival Game - Example

Year 1 (table on the right, middle columns)

- The die gives a 2 for Anna. Reading the Outcome Diagram for a person who was previously healthy, we see that she remains well. The outcome is recorded, and of course there is no cost.
- The die gives a 6 for Ben. Reading the Outcome Diagram for a previously healthy person, we see that this means he becomes sick. My decision is to treat him with VK, at a cost of 8 sims. Other players might well decide differently, which they record on their Survival Grids.
- The die gives a 4 for Chloe. She also becomes sick. My decision is to treat her with PS, at a cost of 4 sims.

This continues until all 12 people are accounted for.

At the end of the year, each player adds up their costs, and records the total together with the amount left in the budget at the bottom of the Year 1 column, as shown in the bottom rows of the table.

Person	Year 1		Year 2	
	Treatment	Cost	Treatment	Cost
Anna	-	-	-	-
Ben	VK	8	Im	-
Chloe	PS	4	D	6
...	
Cost per year		32		30
Total cost so far		32		62
Budget left		68		38

Year 2 (table, far right columns)

- The die gives a 3 for Anna, so she remains well.
- The die gives a 2 for Ben. The Outcome Diagram for someone being treated with VK shows that this means he recovers, and so is immune. This is recorded (im), and there is no further cost for his treatment. Nothing further needs to be recorded for Ben, as he can't suffer from this illness again.
- The die gives a 6 for Chloe. The Outcome Diagram for someone being treated with PS shows that this means that sadly she dies. This is recorded (D), together with the cost of 6 sims.
- Again, the game continues until all 12 people are accounted for. At the end of the year, each player totals their costs for the year, the accumulated total cost so far, and the amount left in the budget.

Years 3 to 5

- The game continues as in Year 2. If you have recorded someone as immune or dead, you no longer need to take notice of the die thrown for them, but the person may still be alive but sick on other players' Survival Grids, so carry on throwing the die as necessary.
- At the end of the 5th year, each player should count up how many people are alive and well (includes those who are immune), alive but sick, and dead. The winner is the person with the greatest number of people alive, or, in the event of a tie, the greatest number of people alive and well.

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<https://motivate.maths.org/content/MathsHealth/HealthEconomics>