

Step 1: Organize the data by patient types. I noticed that there were 5 different patient types across the two sets of patients. These are provided as rows in the table below:

Step 2: Calculate probability of observing each patient type. We first count the number that fit the patient type (Using COUNTIFS function) and then divide it by count of total patients. In this formula, we are counting if the values in arrays of data fit the patient type MI=1, CHF=1 and Shock=0: =COUNTIFS(B3:B12, "1", C3:C12, "1", D3:D12, "0")/L8

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O					
1	Dr. Smith						Patient	Previous MI	CHF	Shock	Dr. Smith		Dr Jones							
2	Patient	Previous M	CHF	Shock	LOS		type	s MI	CHF	Shock	LOS	Prob	LOS	Prob						
3	1	1	1	0	4		A	1	1	0	4.50	0.2	5	0.3						
4	2	1	1	0	5		B	1	0	0	4.00	0.1	4	0.1						
5	3	1	0	0	4		C	1	0	1	4.50	0.4	5	0.3						
6	4	1	0	1	5		D	1	1	1	Null	0	5	0.1						
7	5	1	0	1	4		E	0	0	0	1.67	0.3	2	0.2						
8	6	1	0	1	4		Total					10		10						
9	7	1	0	1	5															
10	8	0	0	0	2		Question B: What is the expected outcome (average outcome) for Dr.													3.6
11	9	0	0	0	2		Question B: What is the expected outcomes if Dr. Jones if he was seelr													4
12	10	0	0	0	1		Question B: Is Dr. Smith more efficient than Dr. Jones?													Yes
13																				
14	Dr. Jones																			
15	Patient	Previous M	CHF	Shock	LOS															
16	1	1	1	0	5															
17	2	1	1	0	5															
18	3	1	1	0	5															
19	4	1	1	1	5															
20	5	1	0	1	5															
21	6	1	0	1	5															
22	7	1	0	1	5															
23	8	1	0	0	4															
24	9	0	0	0	2															
25	10	0	0	0	2															

Step 3: Calculate averages of patients that fall into the same type. You use the function average but have to enter the cell values one at a time with comma separation: =AVERAGE(E3:E4)

Step 4: Once all the data has been organized as seen above, to calculate the average for Dr. Smith use Sum Product function. This function multiplies the probability by the length of stay and sums it up: =SUMPRODUCT(K3:K7,L3:L7)

Step 5: To examine the value for Dr. Jones seeing patients of Dr. Smith, keep the probabilities of Dr. Smith and change the outcomes to Dr. Jones: =SUMPRODUCT(M3:M7,L3:L7)