Quantifying Risk: Contingency 2x2 Table Setup

A contingency table is used to compare individuals with and without a disease based on their exposure to a risk factor. There is a total of four boxes, each which sort a given population into the correct category using these criteria. Using a 2x2 table allows for the calculation of other risk quantifiers, such as odds ratio, relative risk, and attributable risk.



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Disease
Diseased-guy
This criteria refers to the presence or absence of a disease in an individual. If they have a disease, then they are positive for the disease. If they do not have a disease, then they are negative.

Along Top (x axis)
Along the Top
The x-axis along the top of the table has two categories; those individuals positive for the disease are placed under the first column, and those who are negative are placed in the second column.

Exposure
Exposed to radiation
This criteria refers to whether or not an individual has been exposed to a risk factor, or similarly has been intervened upon with treatment or testing. If they have ever been exposed to the studied risk factor, then they are positive for exposure. If they have never been exposed, they are negative for exposure.

Along Side (y axis)
Along the Side
The y-axis along the left side of the table has two categories; the exposed, positive risk factor individuals are sorted in the first row, but must also be placed under the correct x-axis column of whether they are positive or negative for disease. The same rule holds true for the non-exposed, negative risk factor individuals in the second row.

A: Exposed and Diseased (Sick)
Exposed to radiation with Disease from A-apple
The value written in the top left box are the sick patients who are positive for disease and exposed to the risk factor.

B: Exposed and Healthy
Exposed to radiation with Healthy-smile and B-bee Body-armor
The value written in the top right box are the healthy patients who are negative for disease but were still exposed to the risk factor.

C: Not Exposed and Diseased (Sick)
Not Exposed to radiation and Diseased from C-cat
The value written in the bottom left box are the sick patients who are positive for disease but were never exposed to the risk factor.

D: Not Exposed and Healthy
Not Exposed to radiation with Healthy-smile and D-dog
The value written in the bottom right box are the healthy patients who are both negative for disease and the risk factor.

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