

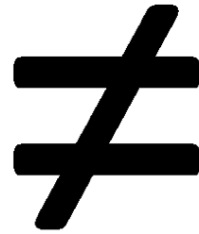
Cause

Fletcher seminar 15 June 2023

Tereza Lerchova

Association or Cause

Association



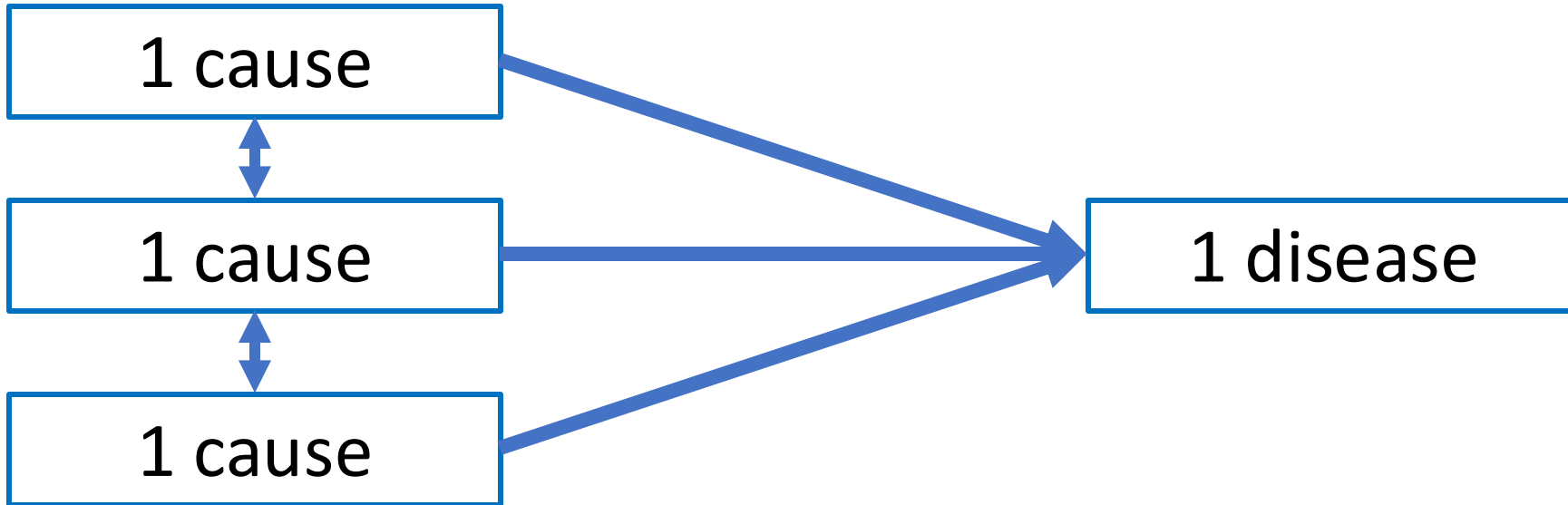
Causal relationship

Cause

1.



2.

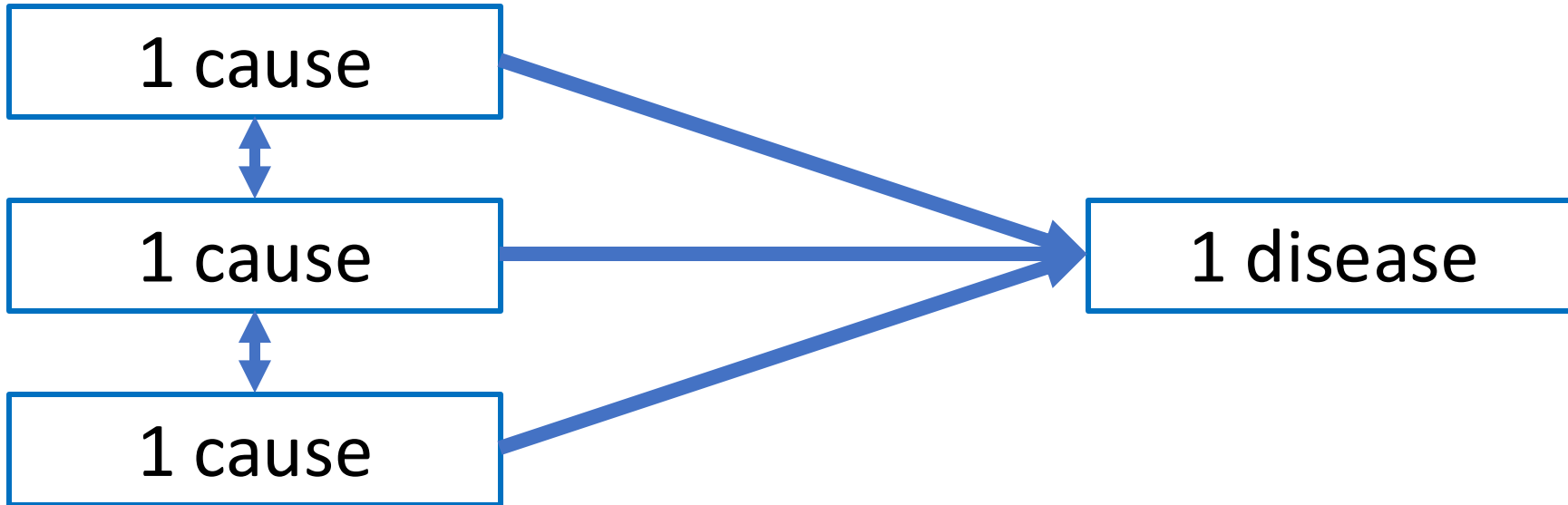


Cause

1.



2.

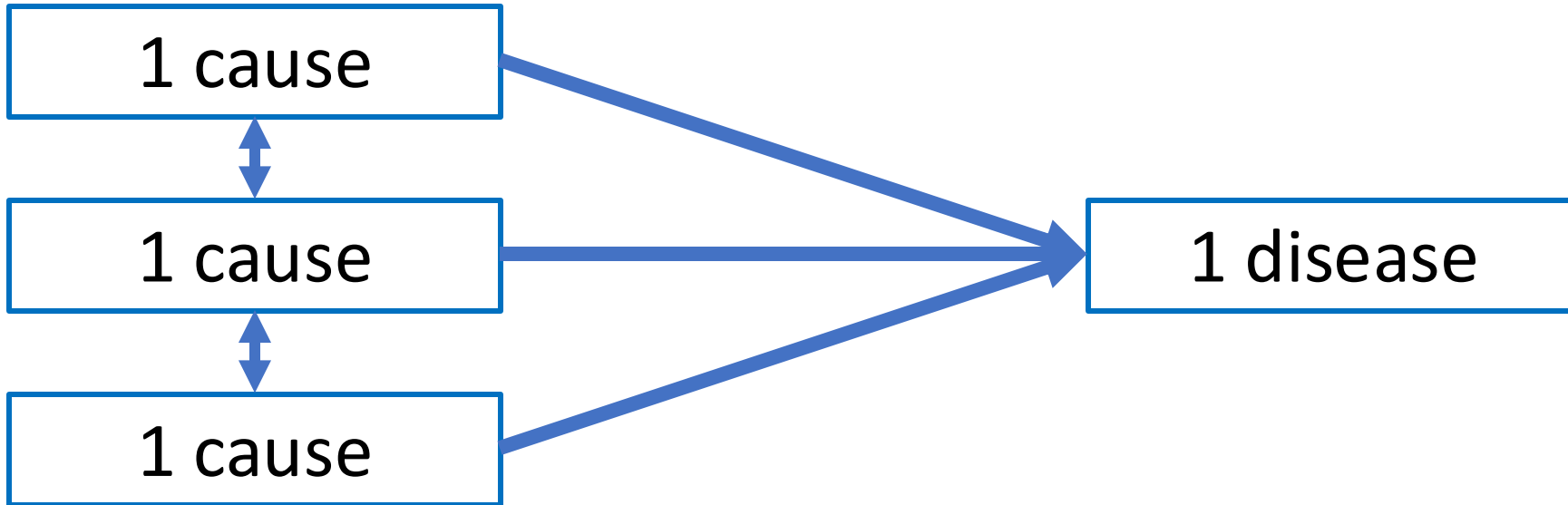


Cause

1.



2.

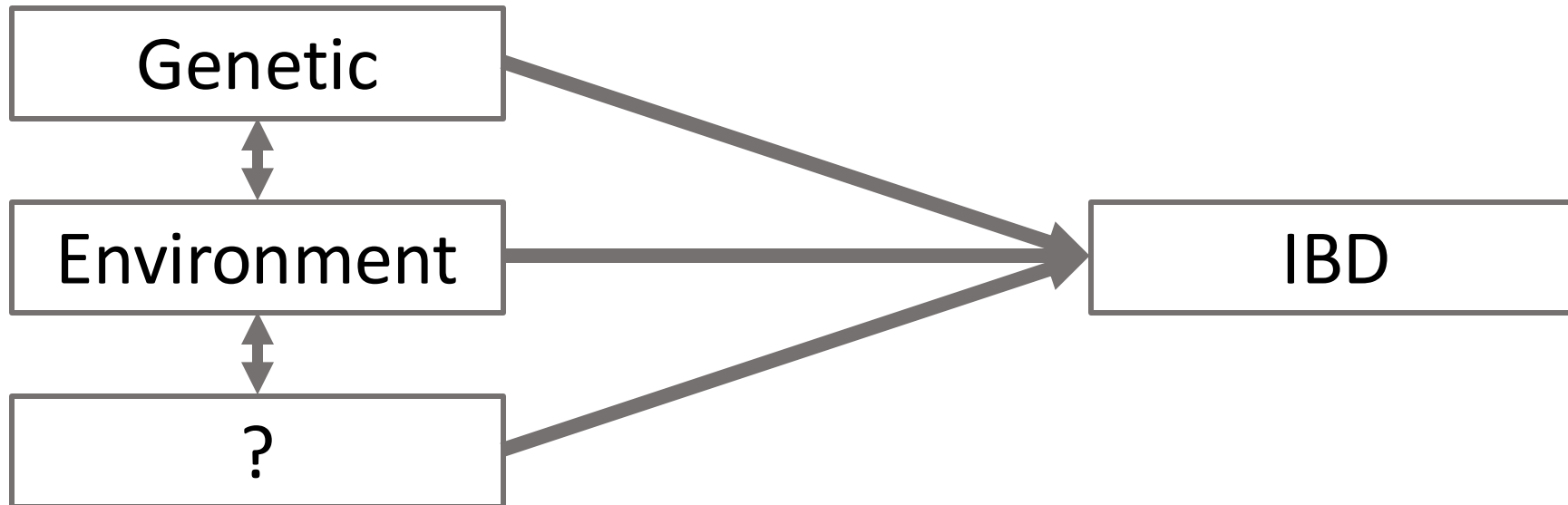


Cause

1.



2.

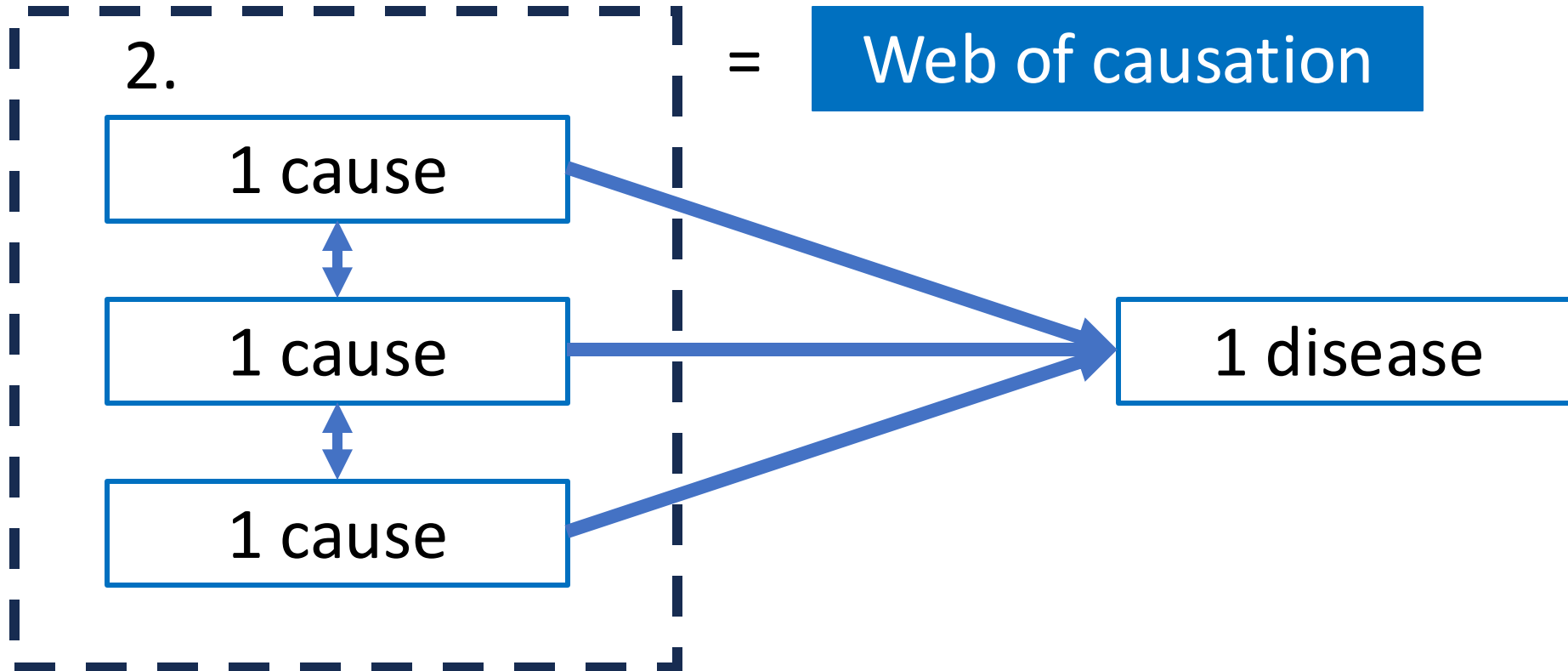


Cause

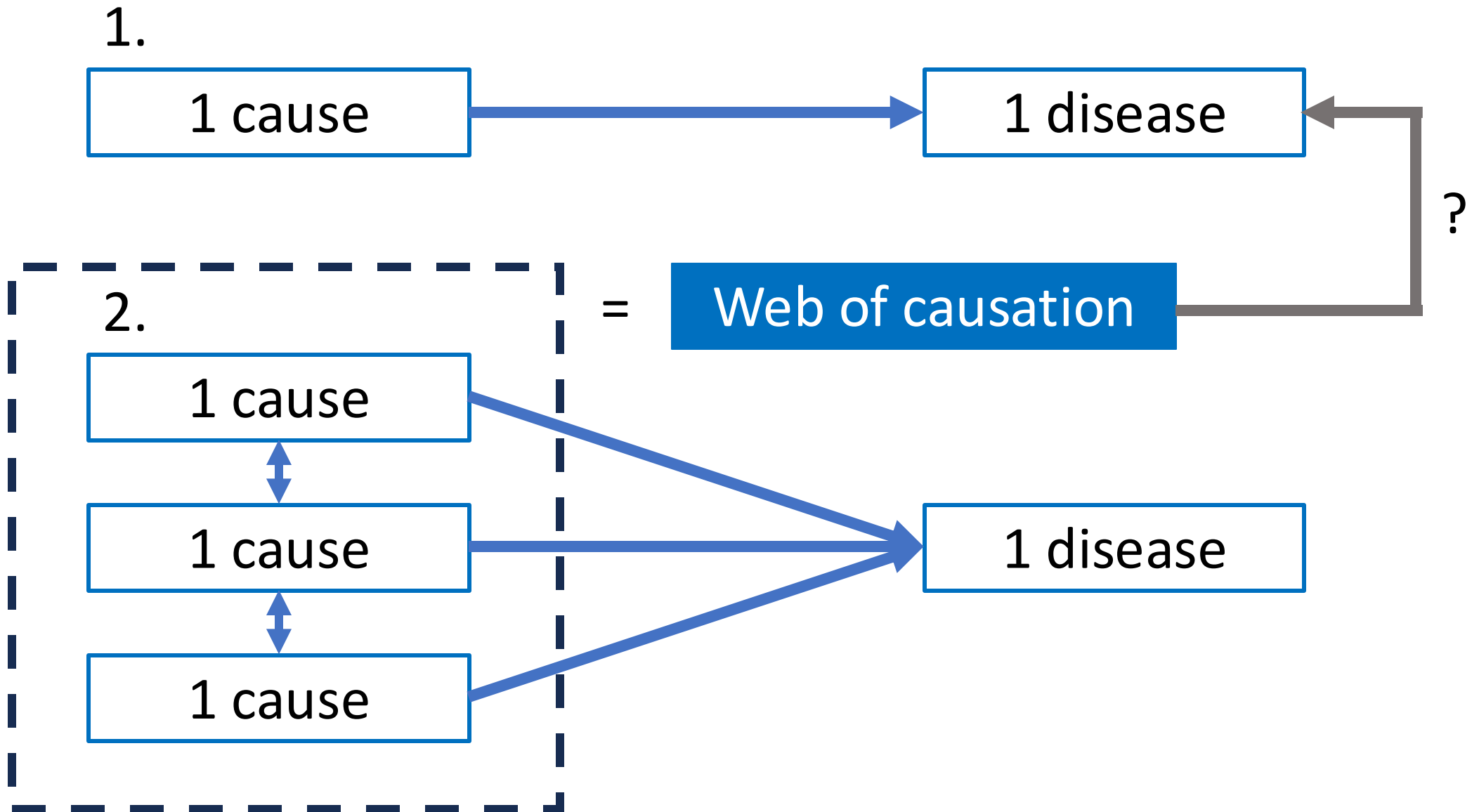
1.



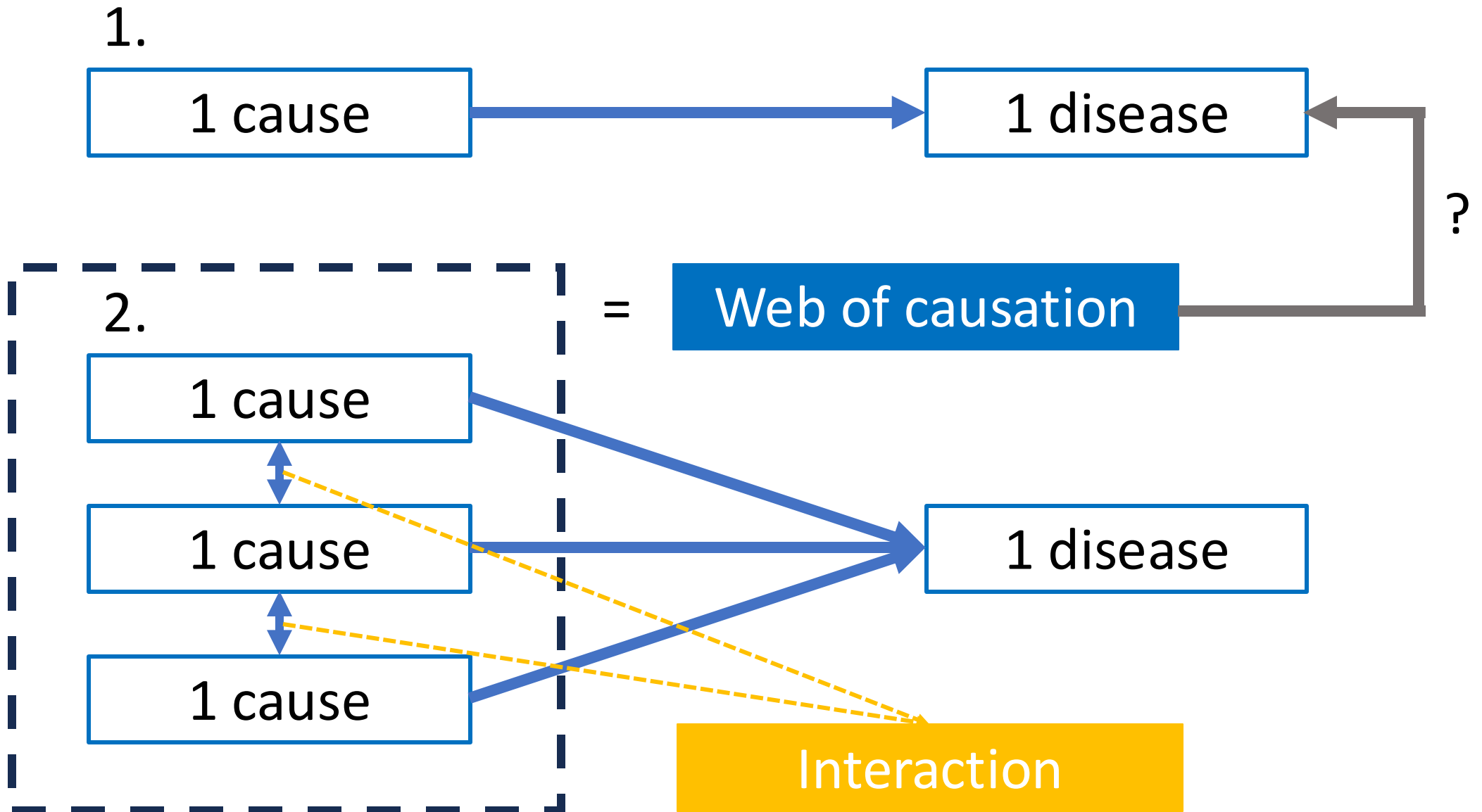
2.



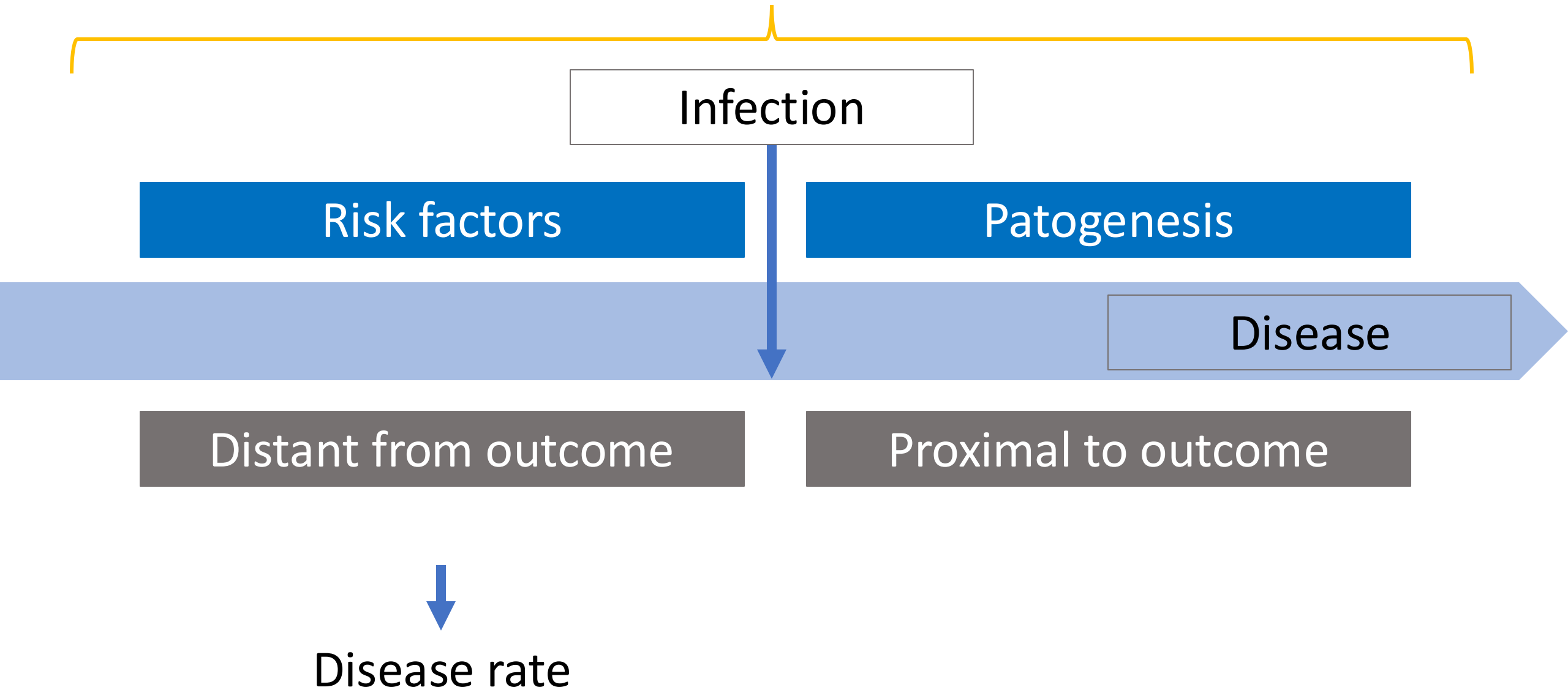
Cause



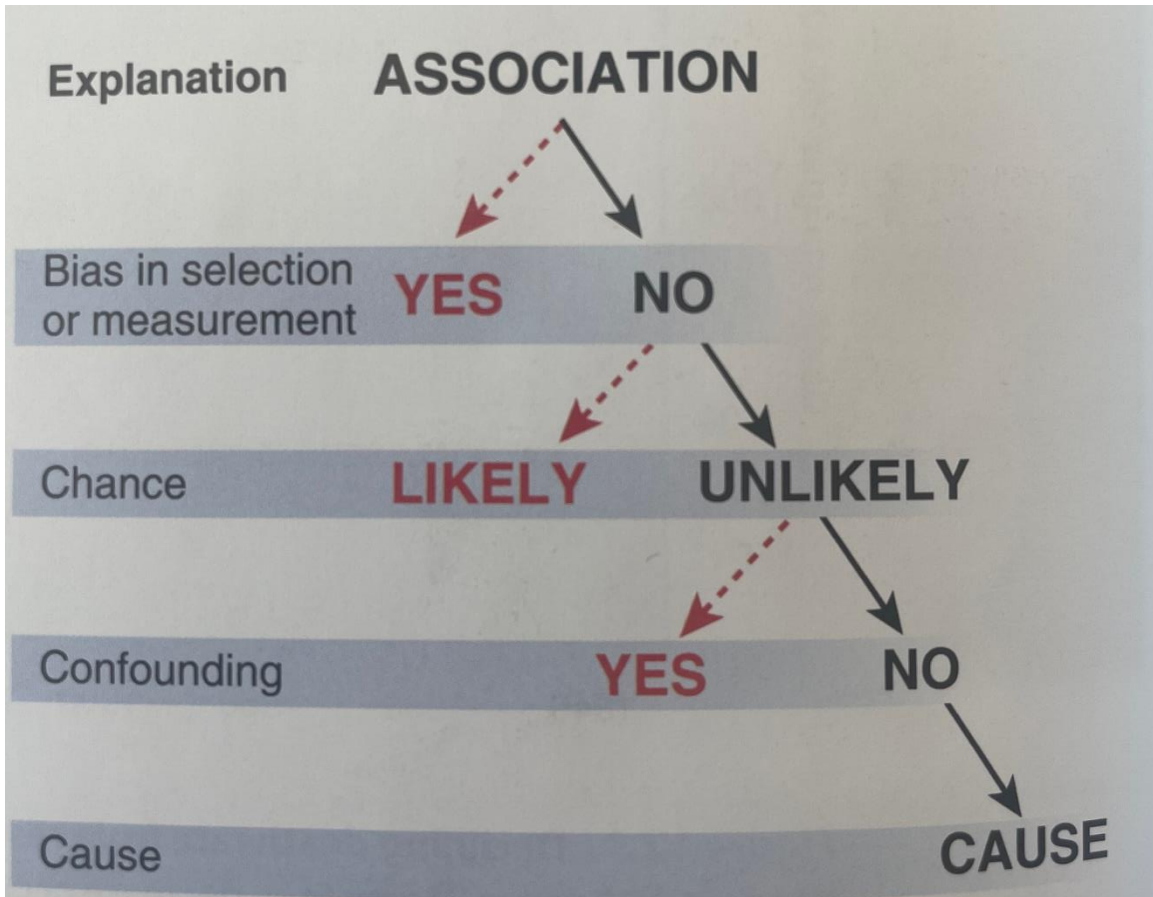
Cause



Continuum to the disease



Association or cause?



Randomized control trials

Systematic reviews

Cohort studies

Case-control studies

Case reports

Personal experience

Association or cause (?) in observational design

1. Temporality

1. Cause → 2. Effect ! Reverse causation

2. Strength

3. Dose response

↑ Exposure → ↑ Effect ! Confounder

4. Reversibility

5. Consistency

Several different research → The same result ! Study quality

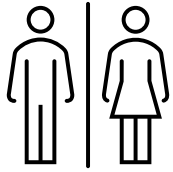
Association or cause (?) in observational design

6. Biologic plausibility

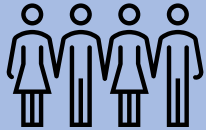
7. Specificity

8. Analogy

Ecological studies

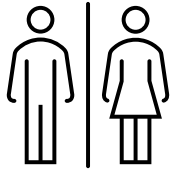


Individual exposure per persone

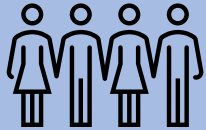


Average exposure of the group
(level of the exposure in the
environement)

Ecological studies



Individual exposure per persone



Average exposure of the group
(level of the exposure in the
environement)

! Ecological fallacy

→ Time-series study

Data capture

Intervention

Data capture



Models

Inputs

Risk factors

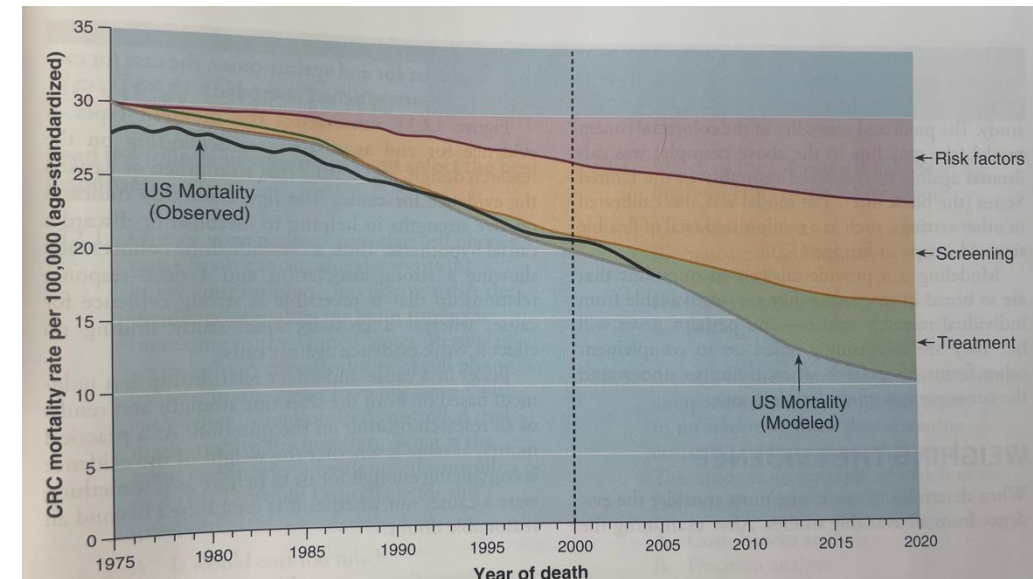
Test sensitivity

Test specificity

Treatment effectiveness

Prevention effectiveness

Relative importance of various causes of disease and its prevention



Conclusion

