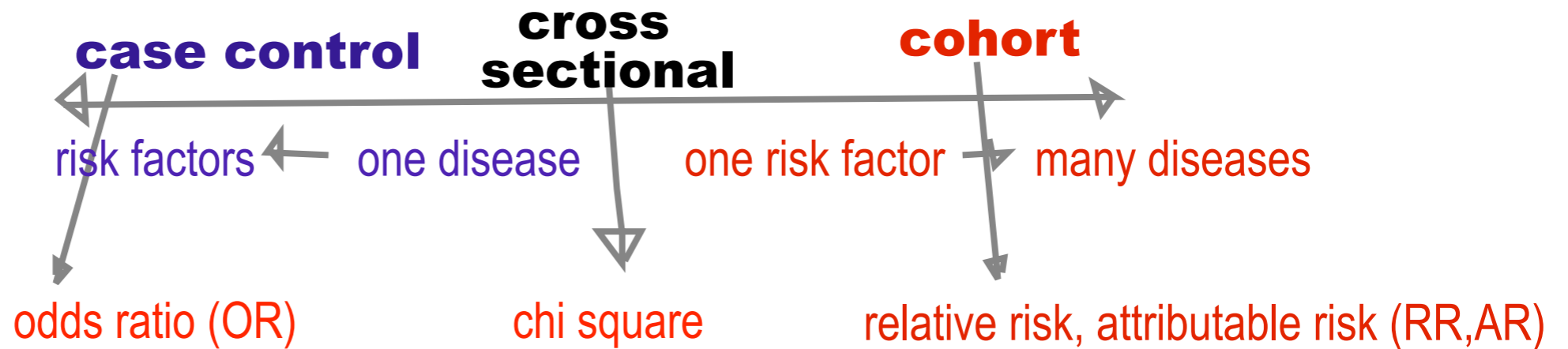


# Hypothesis testing in observational studies(1): concepts



Ask Mish



odds = interested/uninterested  
 this case: Exposed/Non exposed

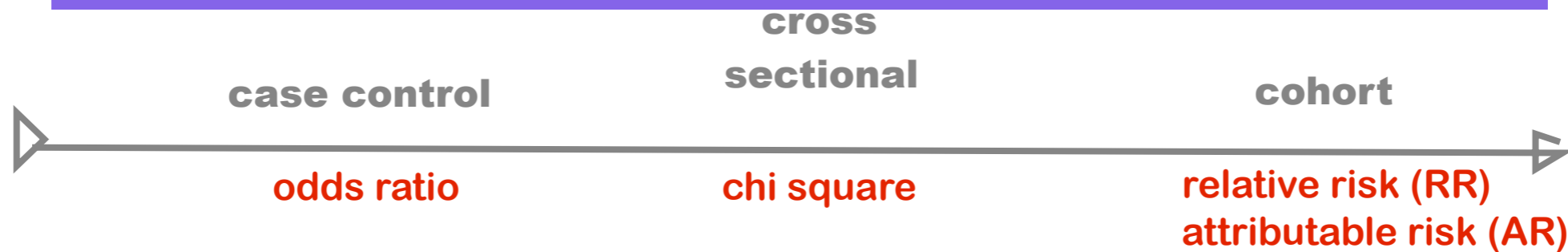
**RRR\* or RRI\* relative risk reduction of  
 relative risk increase of the  
 exposed**

	disease	no disease
exposed	a	b
non exposed	c	d

# Hypothesis testing in observational studies(2) formulas



Ask Mish



OR = odds of exposure for cases divided by odds of exposure for controls

$$a/c : b/d = ad/bc$$

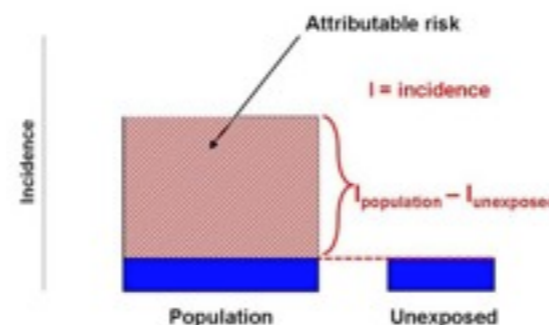
	disease	no disease
exposed	a	b
non exposed	c	d

RR = incidence among exposed vs incidence among unexposed

$$a/all : c/all = a/c \text{ (DIVISION)}$$

Question for RR:  
how much more likely?

$$RRR^* \text{ or } RRI^* = |1 - RR|$$



AR = also called absolute risk reduction =ARR

AR = incidence in the exposed -incidence in the control

Question for AR: how many more cases in E vs U?

$$NNT^* \& NNH^* = 1/ARR$$