



Summary of Epidemiologic Measures of Association

	Prevalence Ratio	Prevalence Difference	Risk Ratio	Risk Difference
Abbreviation	PR	PD	RR	RD
Synonyms			Relative risk (imprecise terminology - don't use)	Attributable risk
Interpretation in words	Those who were exposed had [PR] times the prevalence of [outcome] compared to those who were unexposed.	Among those who were exposed, the prevalence of [outcome] was [PD] higher [or lower] than among those who were unexposed	Those who were exposed had [RR] times the risk of [outcome] compared to those who were unexposed over [timeframe] years of follow-up	Among those who were exposed, the risk of [outcome] was [RD] higher [or lower] than among those who were unexposed over [timeframe] years of follow-up
Informal interpretation in words	Exposed were [PR] times as likely to have the outcome compared to unexposed		Exposed were [RR] times as likely to develop the outcome compared to unexposed over [timeframe] years of follow-up	
Sub-types				
Numerator*	Prevalence among exposed	Prevalence among exposed *[First component of the difference calculation (not a numerator)]	Risk among exposed	Risk among exposed *[First component of the difference calculation (not a numerator)]
Denominator*	Prevalence among unexposed	Prevalence among unexposed *[Second component of the difference calculation (not a denominator)]	Risk among unexposed	Risk among unexposed *[Second component of the difference calculation (not a denominator)]
Formula (2x2 table abbreviations)	$(a/(a+b))/(c/(c+d))$	$(a/(a+b))-(c/(c+d))$	$(a/(a+b))/(c/(c+d))$	$(a/(a+b))-(c/(c+d))$
Units	NONE	Cases per person	NONE (must report time period of follow-up)	Cases per person (must report time period of follow-up)
Range	0 - infinity	-1 - 1	0 - infinity	-1 - 1
Common scaling factor	Not scaled	Percent	Not scaled	Per 100 (%); 1,000; 10,000; or 100,000 population
Common study designs where this measure is used	Cross-sectional Cohort (at baseline or for non-outcome variables) Ecologic	Cross-sectional Cohort (at baseline or for non-outcome variables) Ecologic	Cohort Experimental Ecologic	Cohort Experimental Ecologic
Associated measures	Prevalence	Prevalence	Risk	Risk

2x2 Table	Diseased	Non-diseased
Exposed	a	b
Unexposed	c	d





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	Rate Ratio	Rate Difference	Odds Ratio
Abbreviation	IRR	IRD	OR
Synonyms	Relative risk (imprecise terminology - don't use)		Relative risk (imprecise terminology - don't use)
Interpretation in words	Those who were exposed had [IRR] times the rate of [outcome] compared to those who were unexposed	Among those who were exposed, the rate of [outcome] was [IRD] higher [or lower] than among those who were unexposed	Those who were exposed had [OR] times the odds of [outcome] compared to those who were unexposed
Informal interpretation in words			Exposed had [OR] times the odds to develop [for incident cases] or have [for prevalent cases] the outcome compared to unexposed
Sub-types			Prevalence odds ratio (POR) Exposure odds ratio (EOR)
Numerator*	Rate among exposed	Rate among exposed *[First component of the difference calculation (not a numerator)]	Odds of being a case among exposed [for EOR - odds of exposure among cases]
Denominator*	Rate among unexposed	Rate among unexposed *[Second component of the difference calculation (not a denominator)]	Odds of being a case among unexposed [for EOR - odds of exposure among controls]
Formula (2x2 table abbreviations)	$(a/\text{person-time at risk in exposed}) / (c/\text{person-time at risk in unexposed})$	$(a/\text{person-time at risk in exposed}) - (c/\text{person-time at risk in unexposed})$	$(a*d) / (b*c)$
Units	NONE	Cases per person-time	NONE
Range	0 - infinity	-infinity - infinity	0 - infinity
Common scaling factor	Not scaled	Per 1,000; 10,000; or 100,000 person-years	Not scaled
Common study designs where this measure is used	Cohort Experimental Ecologic	Cohort Experimental Ecologic	Case-control (EOR) Cross-sectional (POR) Cohort Experimental Ecologic
Associated measures	Rate	Rate	Odds

2x2 Table

	Diseased	Non-diseased
Exposed	a	b
Unexposed	c	d

