Title

stata.com

stir — Report incidence-rate comparison

Syntax

```
stir exposedvar [if] [in] [, options]
```

options	Description
Main	
`strata(`*varname*`)`	stratify on *varname*
`noshow`	do not show st setting information
Options	
`ird`	report incidence-rate difference rather than ratio
`estandard`	combine external weights with within-stratum statistics
`istandard`	combine internal weights with within-stratum statistics
`standard(`*varname*`)`	combine user-specified weights with within-stratum statistics
`pool`	display pooled estimate
`nocrude`	do not display crude estimate
`nohom`	do not display homogeneity test
`tb`	calculate test-based confidence intervals
`level(#)`	set confidence level; default is `level(95)`

Options except `noshow`, `tb`, and `level(#)` are relevant only if `strata()` is specified.

You must `stset` your data before using `stir`; see [ST] **stset**.

`by` is allowed; see [D] **by**.

`fweights` and `iweights` may be specified using `stset`; see [ST] **stset**. `stir` may not be used with `pweighted` data.

Menu

Statistics > Survival analysis > Summary statistics, tests, and tables > Report incidence-rate comparison

Description

`stir` reports point estimates and confidence intervals for the incidence-rate ratio and difference. `stir` is an interface to the `ir` command; see [ST] **epitab**.

By the logic of `ir`, *exposedvar* should be a 0/1 variable, with 0 meaning unexposed and 1 meaning exposed. `stir`, however, allows any two-valued coding and even allows *exposedvar* to be a string variable.

`stir` may not be used with `pweighted` data.

`stir` can be used with single- or multiple-record or single- or multiple-failure st data.

Options

Main

`strata(`*varname*`)` specifies that the calculation be stratified on *varname*, which may be a numeric or string variable. Within-stratum statistics are shown and then combined with Mantel–Haenszel weights.

`noshow` prevents `stir` from showing the key st variables. This option is seldom used because most people type `stset, show` or `stset, noshow` to set whether they want to see these variables mentioned at the top of the output of every st command; see [ST] **stset**.

Options

`ird`, `estandard`, `istandard`, `standard(`*varname*`)`, `pool`, `nocrude`, and `nohom` are relevant only if `strata()` is specified; see [ST] **epitab**.

`tb` and `level(#)` are relevant in all cases; see [ST] **epitab**.

Remarks and examples

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`stir` examines the incidence rate and time at risk.

```
. use http://www.stata-press.com/data/r13/page2
. stir group, noshow
note:  Exposed <-> group==2 and Unexposed <-> group==1
```

	group		
	Exposed	Unexposed	Total
Failure	19	17	36
Time	5023	4095	9118
Incidence rate	.0037826	.0041514	.0039482
	Point estimate		[95% Conf. Interval]
Inc. rate diff.	-.0003688		-.002974 .0022364
Inc. rate ratio	.9111616		.4484366 1.866047 (exact)
Prev. frac. ex.	.0888384		-.8660469 .5515634 (exact)
Prev. frac. pop	.04894		

```
(midp)   Pr(k<=19) =                  0.3900 (exact)
(midp) 2*Pr(k<=19) =                  0.7799 (exact)
```

Stored results

stir stores the following in r():

Scalars

r(p)	one-sided p-value
r(ird)	incidence-rate difference
r(lb_ird)	lower bound of CI for ird
r(ub_ird)	upper bound of CI for ird
r(irr)	incidence-rate ratio
r(lb_irr)	lower bound of CI for irr
r(ub_irr)	upper bound of CI for irr
r(afe)	attributable (prev.) fraction among exposed
r(lb_afe)	lower bound of CI for afe
r(ub_afe)	upper bound of CI for afe
r(afp)	attributable fraction for the population
r(chi2_mh)	Mantel–Haenszel homogeneity χ^2
r(chi2_p)	pooled homogeneity χ^2
r(df)	degrees of freedom

Methods and formulas

stir simply accumulates numbers of failures and time at risk by exposed and unexposed (by strata, if necessary) and passes the calculation to ir; see [ST] **epitab**.

Reference

Dupont, W. D. 2009. *Statistical Modeling for Biomedical Researchers: A Simple Introduction to the Analysis of Complex Data*. 2nd ed. Cambridge: Cambridge University Press.

Also see

[ST] **epitab** — Tables for epidemiologists

[ST] **stset** — Declare data to be survival-time data

[ST] **stsum** — Summarize survival-time data