

**leading question regarding gun permits example (success = favor permit)**

**The FREQ Procedure**

sample counts and percentages

Frequency Row Pct	Table of group by response			
		response(favor permit)		
	group	favor	not	Total
	leadingQ	403 68.89	182 31.11	585
	neutralQ	463 75.28	152 24.72	615
	Total	866	334	1200

**Confidence Limits for the Relative Risk**

risk ratio  $p_1/p_2$

Relative Risk = 0.9150	
Type	95% Confidence Limits
Wald	0.8525    0.9822
Column 1 (response = favor)	

95% confidence interval for the ratio  $p_1 / p_2$

**Relative Risk Test**

H0: $P1 / P2 = 1$ Wald Method	
Relative Risk	0.9150
Z	-2.4568
One-sided Pr < Z	0.0070
Two-sided Pr >  Z	0.0140
Column 1 (response = favor)	

Z is the test statistic  $Z_{calc}$   
 Pr < Z is the P-value for  $H_1: p_1 / p_2 < 1$   
 Pr > |Z| is the P-value for  $H_1: p_1 / p_2 \neq 1$

The FREQ Procedure

Frequency Row Pct	Table of group by response			
		response(HIV status)		
	group	positive	negative	Total
	vaccine	241 6.70	3357 93.30	3598
	control	126 6.98	1679 93.02	1805
	Total	367	5036	5403

sample counts and percentages

Confidence Limits for the Relative Risk		
Relative Risk = 0.9595		
Type	95% Confidence Limits	
Wald	0.7794	1.1813
Column 1 (response = positive)		

risk ratio  $p_1/p_2$

95% confidence interval for the ratio  $p_1 / p_2$

Relative Risk Test	
H0: P1 / P2 = 1 Wald Method	
Relative Risk	0.9595
Z	-0.3893
One-sided Pr < Z	0.3485
Two-sided Pr >  Z	0.6970
Column 1 (response = positive)	

Z is the test statistic  $Z_{calc}$   
 Pr < Z is the P-value for  $H_1: p_1 / p_2 < 1$   
 Pr > |Z| is the P-value for  $H_1: p_1 / p_2 \neq 1$

**West of Scotland coronary prevention study: 5 years (success=yes)**

**The FREQ Procedure**

Frequency Row Pct	Table of drug by response		
	drug	response(has a coronary event)	
	yes	no	Total
pravastatin	174 5.27	3128 94.73	3302
placebo	248 7.53	3045 92.47	3293
<b>Total</b>	422	6173	6595

sample counts and percentages

Confidence Limits for the Relative Risk	
Relative Risk = 0.6997	
Type	95% Confidence Limits
Wald	0.5799    0.8442
Column 1 (response = yes)	

risk ratio  $p_1/p_2$

95% confidence interval for the ratio  $p_1 / p_2$

Relative Risk Test	
H0: $P1 / P2 = 1$ Wald Method	
Relative Risk	0.6997
Z	-3.7286
One-sided Pr < Z	<.0001
Two-sided Pr >  Z	0.0002
Column 1 (response = yes)	

Z is the test statistic  $Z_{calc}$   
 Pr < Z is the P-value for  $H_1: p_1 / p_2 < 1$   
 Pr > |Z| is the P-value for  $H_1: p_1 / p_2 \neq 1$

**West of Scotland coronary prevention study: 15 years (success=yes)**

**The FREQ Procedure**

Frequency Row Pct	Table of drug by response			
	response(has a coronary event)			
	drug	yes	no	Total
sample counts and percentages	pravastatin	390 11.81	2912 88.19	3302
	placebo	509 15.46	2784 84.54	3293
	<b>Total</b>	899	5696	6595

Confidence Limits for the Relative Risk		
Relative Risk = 0.7641		
Type	95% Confidence Limits	
Wald	0.6759	0.8639
Column 1 (response = yes)		

risk ratio  $p_1/p_2$  →

← 95% confidence interval for the ratio  $p_1 / p_2$

Relative Risk Test	
H0: P1 / P2 = 1 Wald Method	
Relative Risk	0.7641
Z	-4.2957
One-sided Pr < Z	<.0001
Two-sided Pr >  Z	<.0001
Column 1 (response = yes)	

Z is the test statistic  $Z_{calc}$

$Pr < Z$  is the P-value for  $H_1: p_1 / p_2 < 1$

$Pr > |Z|$  is the P-value for  $H_1: p_1 / p_2 \neq 1$