Numbers in body of table are expected number of events required in Group 1 to give specified power if relative rate in Group 2 is R.

Relative Rate**	Expected events in Group 1 to give: * 80% Power	90% Power	95% Power
0.1	10.6	14.3	17.6
0.2	14.7	19.7	24.3
0.3	20.8	27.9	34.4
0.4	30.5	40.8	50.4
0.5	47.0	63.0	77.8
0.6	78.4	105.0	129.6
0.7	148.1	198.3	244.8
0.8	352.8	472.4	583.2
0.9	1489.6	1994.5	2462.4
1.1	1646.4	2204.5	2721.6
1.2	431.2	577.4	712.8
1.4	117.6	157.5	194.4
1.6	56.6	75.8	93.6
1.8	34.3	45.9	56.7
2.0	23.5	31.5	38.9
2.5	12.2	16.3	20.2
3.0	7.8	10.5	13.0
5.0	2.9	3.9	4.9
10.0	1.1	1.4	1.8

** Ratio of incidence rate in Group 2 to incidence rate in Group 1.

* Using a two-sided significance test with $p<0.05$.
The two groups are assumed to be of equal size *(B&D more general)*

Taken from Table 3.2 in Chapter 3 "Study Size" in "Methods for Field Trials of Interventions against Tropical Diseases: A Toolbox" Edited by P.G. Smith and Richard H. Morrow. Oxford University Press Oxford 1991. (on behalf of the UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases)

Note that roles of Group 1 and 2 above are reversed from in Smith & Morrow text; *See also Breslow NE and Day NE Vol II, Section 7.3*

Formulae for calculating study size requirements for comparison of rates using two groups of equal size

from Table 3.4 of Morrow and Smith, with role of groups 1 & 2 reversed.

Formula — Section in text

Notation

• *Choosing study size to achieve adequate precision*

$$\mathbf{e_1 = (1.96/\log_e f)^2 (R + 1)/R}$$

e_1 = Expected no. of events in group 1 — 3.2
R = Rate in group 2/Rate in group 1
Gives 95 per cent CI from R/f to Rf

• *Choosing study size to achieve adequate power*

$$\mathbf{P\text{-}T = (z_\alpha + z_\beta)^2 (r_2 + r_1)/(r_2 — r_1)^2}$$

P-T = Person-time in each group — 4.2
r_i = Rate in group i

$\mathbf{z}_\alpha$ = 1.96 for significance at $p < 0.05$

Power	80%	90%	95%
$\mathbf{z}_\beta$	0.84	1.28	1.64