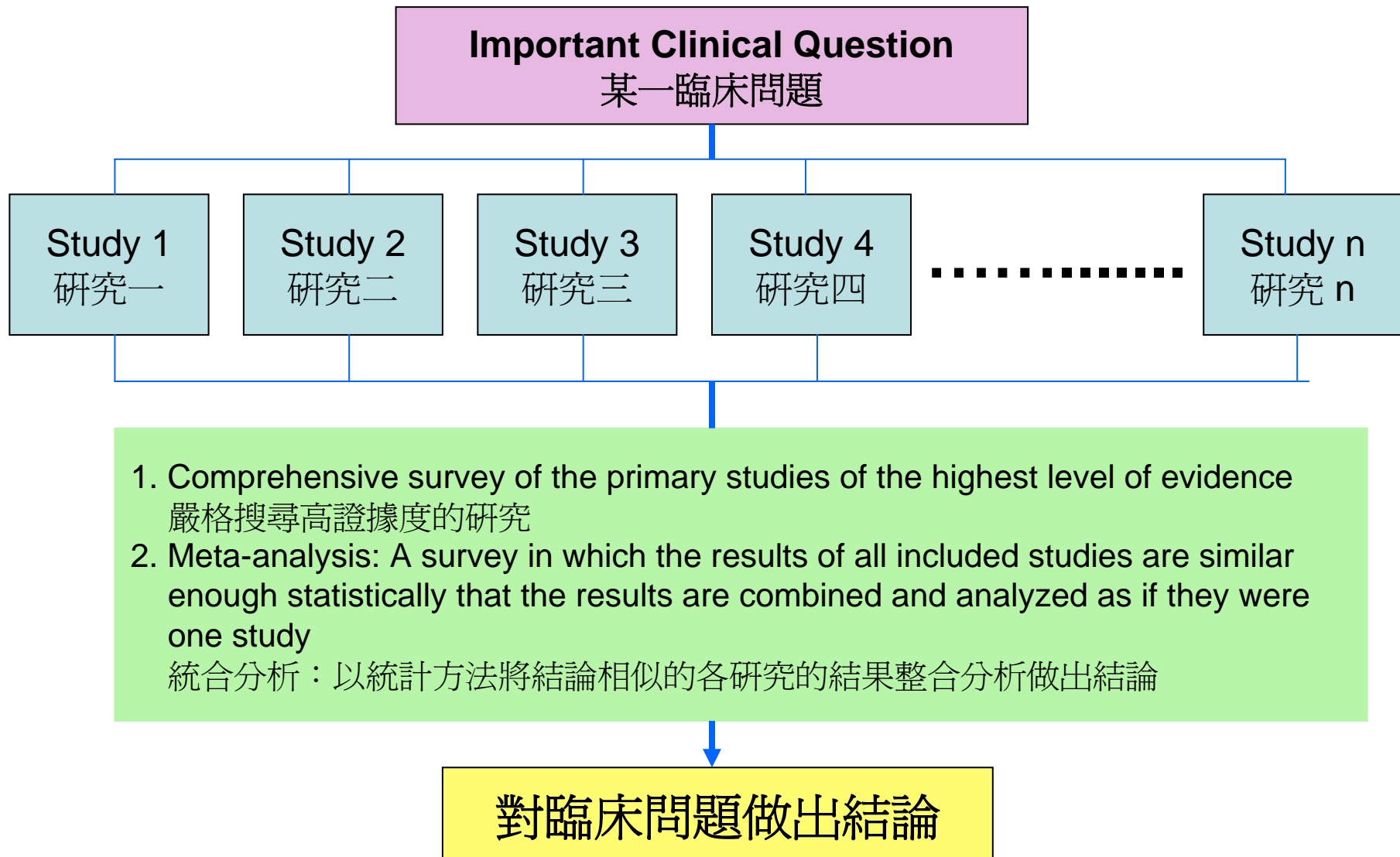


“系統性回顧”的文獻評讀



Systematic Reviews and Meta-Analyses

系統性回顧與統合分析



Critical Appraisal of Systematic Review

“系統性回顧”的評析

- **Are the results of the review valid (效度如何)?**
 - What question did the systematic review addressed (回答什麼問題)?
 - Is it unlikely that important, relevant studies were missed (沒有遺漏重要的文獻)?
 - Were the criteria used to select articles for inclusion appropriate (選擇文獻的準則適當)?
 - Were the included studies sufficiently valid for the type of question asked (選擇的文獻有效回答所問的問題)?
 - Were the results similar from study to study (各研究的結果相似)?
- **What were the results (結果為何)?**
 - How are the results presented (結果如何呈現)?

What question did the systematic review addressed (PICO)

想要回答什麼問題？

最理想狀況為何？	何處找到相關訊息？
應清楚闡明文章想要回答的問題，暴露因子(包括治療、檢驗等)與結果的因果關係簡單明瞭	題目、摘要或前言的末段應清楚描述所關心的問題。

是

否

不清楚

評論： _____

Is it unlikely that important, relevant studies were missed
沒有遺漏重要的文獻？

最理想狀況為何？	何處找到相關訊息？
<p>資料搜尋是否完整，包含</p> <ul style="list-style-type: none">-- 重要的資料庫如Medline, Cochrane, EMBASE等-- 相關研究的參考文獻-- 向專家請教，特別是尚未刊載的研究-- 不只限於英文資料-- 搜尋策略包括MESH term及text words	<p>“研究方法”詳細描述搜尋字彙與策略</p> <p>“研究結果”詳列回顧的題目、摘要、全文數目，排除的文章及排除理由，並以圖表或流程圖呈現</p>

是

否

不清楚

評論： _____

Were the criteria used to select articles for inclusion appropriate
選擇文獻的準則適當?

最理想狀況爲何？	何處找到相關訊息？
<p>事先清楚界定“收入”及“排除”文章的準則</p> <p>準則的描述應包括病人群的特性、介入治療的方法或暴露因子、有興趣的研究結果</p> <p>研究的類型及研究設計</p>	<p>“研究方法”詳細描述“收入”及“排除”文章的準則，通常亦包含研究的類型</p>

是

否

不清楚

評論： _____

Were the included studies sufficiently valid for the type of question asked
選擇的文獻有效回答所問的問題？

最理想狀況為何？	何處找到相關訊息？
應描述所回顧的每篇文章研究的品質 研究品質的判定準則依不同臨床問題而事先擬定的，如隨機分配、雙盲、追蹤的完整度等	“研究方法”應描述品質的評估及所使用的準則 “研究結果”應說明各研究的品質

是

否

不清楚

評論： _____

Were the results similar from study to study 各研究的結果相似？

最理想狀況為何？	何處找到相關訊息？
<p>最理想的狀況是各研究的結論一致或差異不大</p> <p>如果各研究的結果有差異，作者以統計的方法檢驗是否達到有統計意義的差別</p> <p>探討各研究結論差異的原因</p>	<p>“研究結果”應說明各研究的結果是否有差異，並討論可能的原因</p> <p>“Forest plot”應顯示差異性的檢驗結果。</p>

是

否

不清楚

評論： _____

How are the results presented

結果如何呈現？

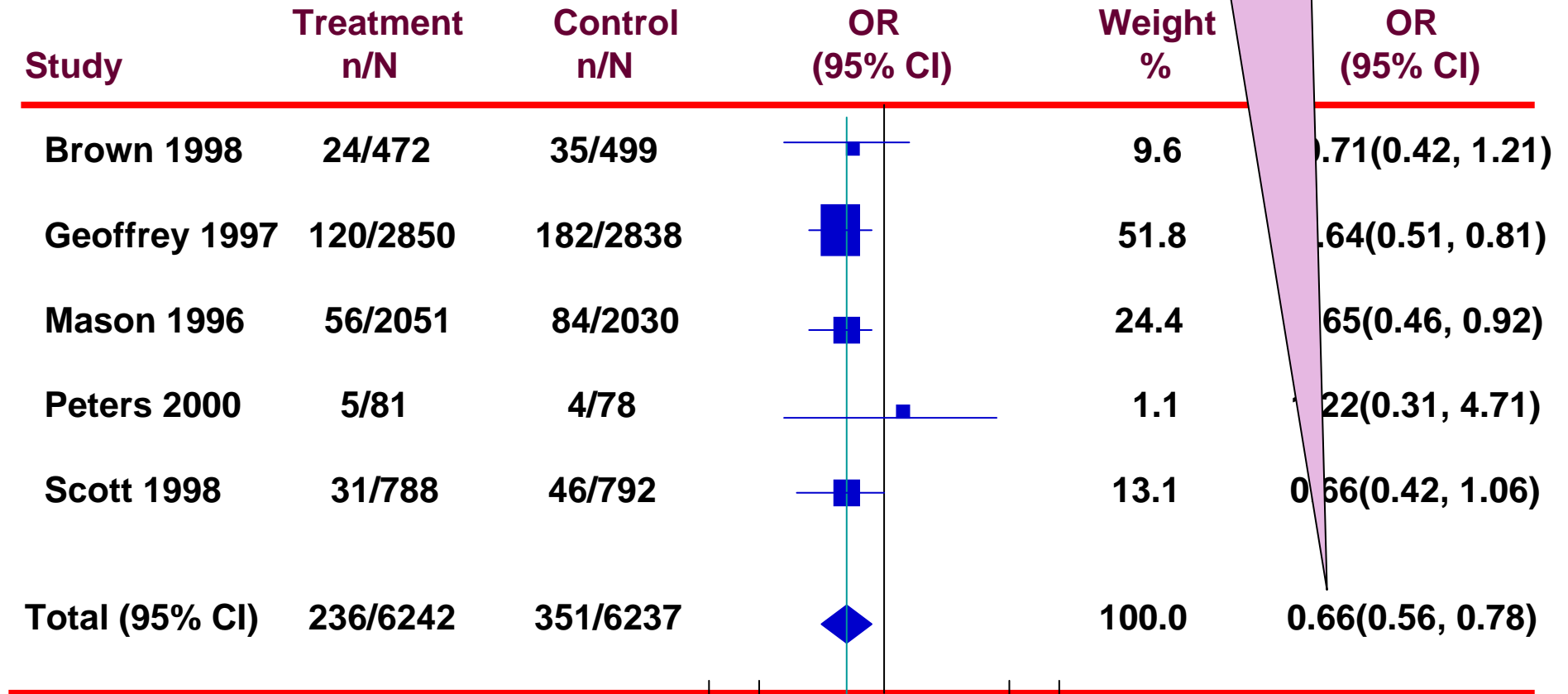
- **Meta-analysis (統合分析)**
 - If the results of the individual studies are similar
 - Gives weighted values to each of the individual studies according to their size
 - The individual results of the studies expressed in a standard way, eg relative risk, odds ratio or mean difference between groups
 - Results are displayed in a figure called **“forest plot”**
- **Exploring heterogeneity (檢驗差異性)**
 - **“Eyeball” test**
 - **Cochran chi-square (Cochran Q)**
 - **Definite heterogeneity (確定有差異)**
 - Cochran Q ($P < 0.1$)
 - **Possible heterogeneity (可能有差異)**
 - Cochran Q is not statistically significant
 - Cochran Q / degrees of freedom (Q/df) > 1
 - **Heterogeneity unlikely (有差異機會不大)**
 - Cochran Q is not statistically significant
 - Q/df < 1

Meta-analysis

Forest Plot

Comparison: Treatment VS Placebo
Outcome: Effect of treatment on mortality

Treatment reduces mortality by 34%



Test for heterogeneity chi-square=0.92 df=4 p=0.92

Test for overall effect z=-4.82 p<0.00001

.1 .2 1 Favors treatment

5 10 Favors control

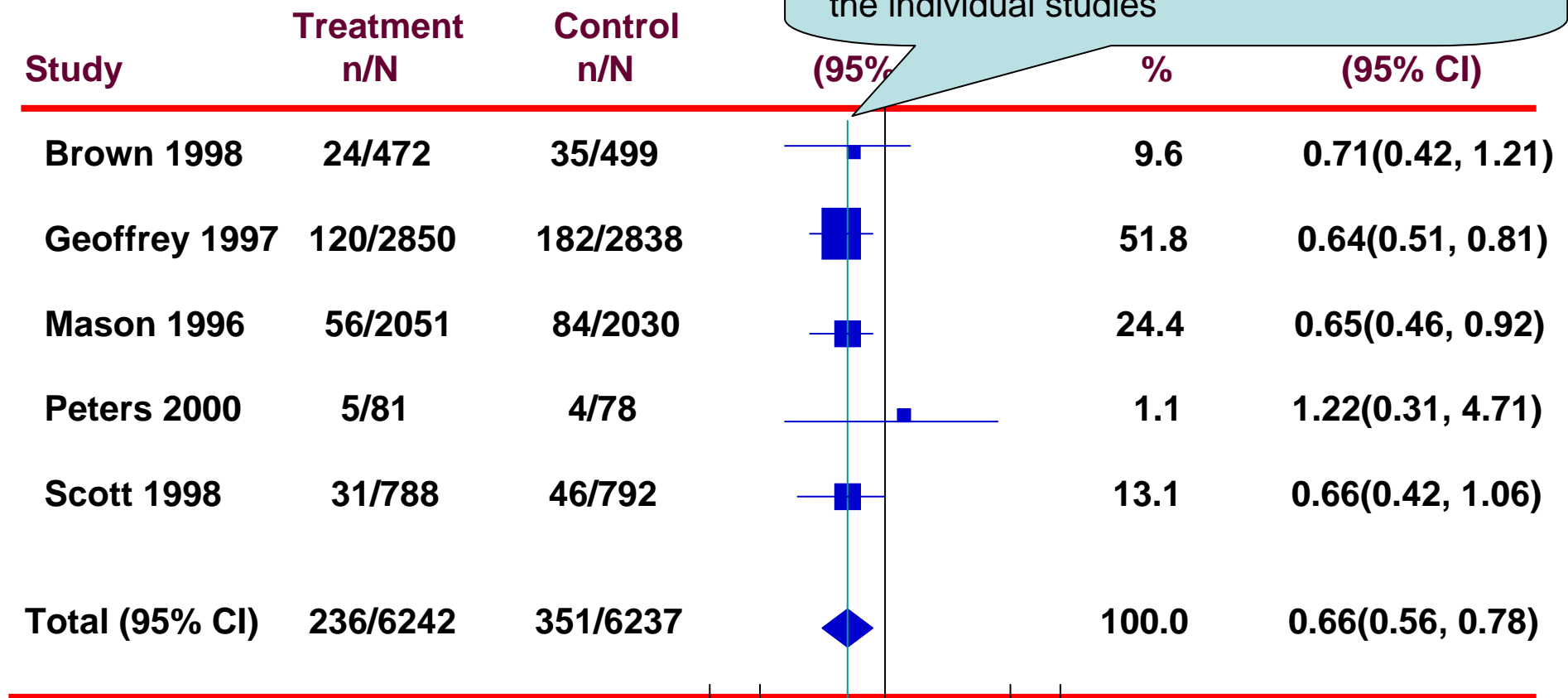
No effect of treatment

Explore Heterogeneity

Eyeball test – Overlap of the confidence intervals of the trials with the summary estimate

Cochran Q and Q / df

Vertical light blue line through the combined odds ratio crosses the horizontal lines of all the individual studies



Test for heterogeneity $\chi^2=0.92$ $df=4$ $p=0.92$
 Test for overall effect $z=-4.82$ $p<0.00001$

Favors treatment

Cochran Q $p=0.92$
 $Q / df = 0.92 / 4 = 0.23 (<1)$