

# 早期出院準備服務，整裝再發出！



日期：2017 年01月 17 日

引言人：林秀純

## ORIGINAL ARTICLE

# Effectiveness of nurse-led early discharge planning programmes for hospital inpatients with chronic disease or rehabilitation needs: a systematic review and meta-analysis

Qin-Mei Zhu, Jia Liu, Hong-Yi Hu and Su Wang

- ▶ Impact factor: 1.384

# 步驟 1：系統性文獻回顧探討的問題為何？

研究族群 / 問題  
(Population/ Problem)

- 慢性疾病及有康復需求的住院病人

介入措施(Intervention)

- 出院準備服務(Nurse-led early DPPs )

比較 (Comparison)

- 一般護理

結果 (Outcomes)

- 住院時間、再入院，再入院時間、死亡率及滿意度和整體生活質量

- Primary outcome: LoS, hospital readmission, readmission LoS, or all-cause mortality
- Secondary outcome: cost, readmission cost, quality of life, or satisfaction with DPPs



# Nurse-led early DPPs

## 文獻的DPPs

Nurse-led early DPPs was defined as delivery of a structured DP programmes by trained nurses to patients after the early initial visit of hospital admission (usually within 48 hours), either with additional support from physicians, multidisciplinary teams of medical experts, or family members. Standard care was defined as any care in which DP, if provided, was not identified as having been initiated early, within 48 hours of hospital admission.

## 我們的DPPs

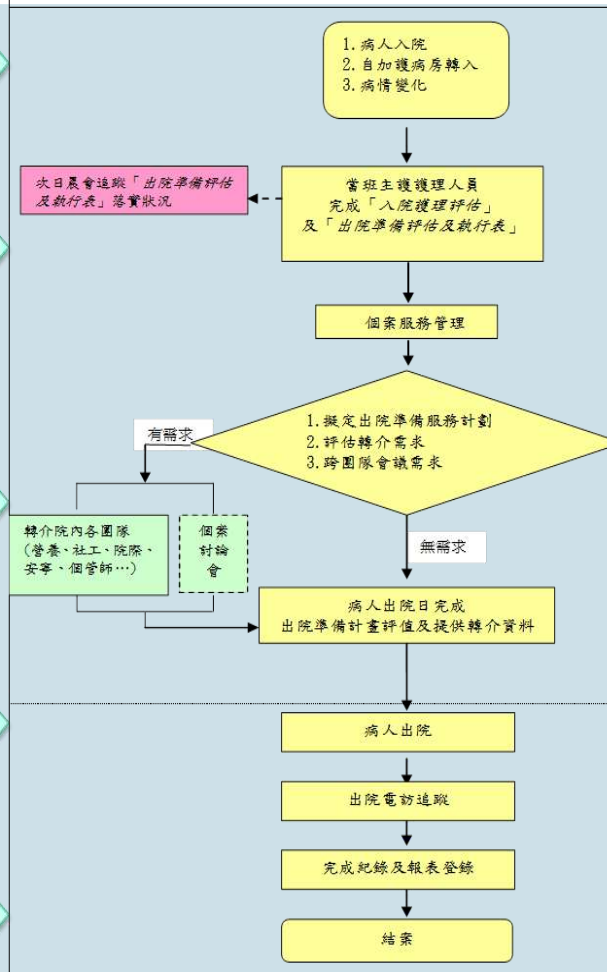
初篩  
(個案發現與通報)

複篩  
(收案評估)

收案管理  
(確認問題、  
擬訂計畫、  
服務安排與轉介、  
服務監控)

出院衛教  
(服務成效評價)

個案追蹤



# F - 研究是否找到 (Find) 所有的相關證據？

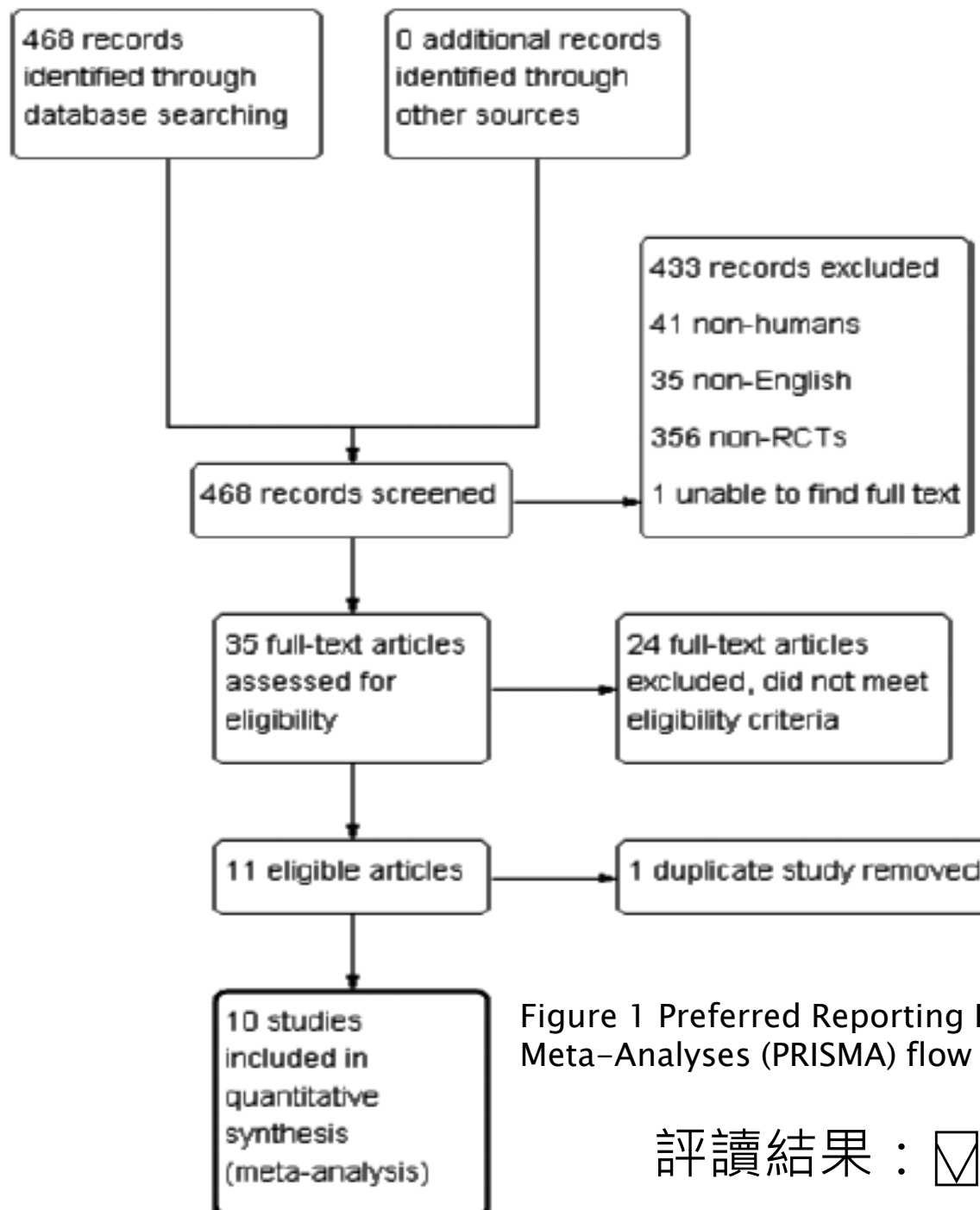
最好的狀況是？	我可以在哪裡找到這些資訊？
良好的文獻搜尋至少應包括二個主要的資料庫(如：Medline, Cochrane 考科藍實證醫學資料庫, EMBASE 等)，並且加上文獻引用檢索(參考文獻中相關研究、Web of Science, Scopus 或 Google Scholar)、試驗登錄資料等。文獻搜尋應不只限於英文，並且應同時使用 MeSH 字串及一般檢索詞彙(text words)。	在文章的方法(Methods)章節，可以找到詳細搜尋策略的說明，包括使用的名詞，結果(Results)章節中可以找到本篇系統性文獻回顧評估的摘要及全文文獻數目、文獻納入與排除的數量及原因。資料可能會以圖表或 PRISMA 的流程圖呈現。

We also searched MEDLINE (OvidSP, 1946 to March 2014), EMBASE (OvidSP, 1974 to March 2014), CINAHL (EBSCO, 1982 to March 2014), the Cochrane Library (all years) and reference lists of articles. Medical Subject Headings (MeSH) and text terms were used in the search including the following: 'discharge planning programmes', 'early discharge planning', 'discharge planning', 'hospital discharge', 'patient discharge', 'patient care planning', 'program', 'plan', 'project', 'protocol', 'scheme', 'continuity of care', 'nurse specialist', 'chronic disease' and 'rehabilitation'. The last search was conducted on 29th March 2014.

- **系統性文獻檢索**
  - ✓PubMed ( NLM · 1966年至2014年3月 )
  - ✓MEDLINE ( OvidSP · 1946年至2014年3月 )
  - ✓EMBASE ( OvidSP 1974年至2014年3月 )
  - ✓CINAHL ( EBSCO · 1982年至2014年3月 )
  - ✓Cochrane Library (all years)
- **搜索關鍵字：**使用 MeSH 包括以下內容 出院規劃程序、早期出院規劃、出院規劃、出院、病人出院計劃、計劃、協調、護理連續性、慢性病、復健

## 排除條件

Studies were rejected as ineligible if they were available only in languages other than English. We also excluded studies that assessed patients with acute, critical illness, or social admissions; those in which the programme was directed by non-nursing staff; those assessing the postdischarge care of patients transferred to a nursing home or a long-term care facility; and those where the intervention was initiated at the time of discharge from the index hospital admission. Studies focusing on postdischarge care were also excluded.



全文文獻數目、  
文獻納入數量

Figure 1 Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram (Moher et al. 2009).

評讀結果：☑不清楚(因限英文文獻)



**Table 1** Main characteristics of the ten included studies

Study ID	Location	Participants (IG/CG)	Interventions	Control	Duration	Outcomes	Study design
Altfeld 2013	USA	N: 360/360 Age (year): 74.1 (6.9)/75.0 (6.9) Men: unclear Hospitalised older adults	Telephone-based enhanced DP programme intervention that included biopsychosocial assessment and an individualised plan following programme protocols to address identified transitional care needs	Usual care	30 day	①②④	RCT
Atienza 2004	Spain	N: 164/174 Age (year): 69 (61–74)/67 (58–74) Men: 61.6%/58.6% Patients admitted with decompensated heart failure	Comprehensive hospital discharge and outpatient heart failure management programme consisting of a comprehensive hospital DP, easy availability for consultations and close follow-up at a heart failure clinic	Usual care	12 month	②④	RCT
Jack 2009	USA	N: 373/376 Age (year): 50.1 (15.1)/49.6 (15.3) Men: 52.3%/46.8% English-speaking hospitalised adults	Reengineered hospital discharge programme (A nurse discharge advocate worked with patients during their hospital stay to arrange follow-up appointments, confirm medication reconciliation, and conduct patient education with an individualised instruction booklet that was sent to their primary care provider)	Usual care	30 day	①②④	RCT

Table 1 (continued)

Study ID	Location	Participants (IG/CG)	Interventions	Control	Duration	Outcomes	Study design
Lin 2009	Taiwan	N: 26/24 Age (year): 78.75 (6.99) Men: 64% Hip fracture patients from a medical centre	DP programme including a structured assessment of DP needs, systematic individualised nursing instruction, monitoring services, coordinated resources, arranging of referral placements and two home visits after discharge	Routine discharge nursing care	3 month	①②	RCT
Naylor 1999	USA	N: 177/186 Age (year): 75.5 (6.3)/75.3 (6.0) Men: 30.5%/24.7% Hospitalised elders	Advanced practice nurse-centred comprehensive DP and home follow-up protocol: initial APN visit within 48 hours of hospital admission and at least every 48 hours during the hospitalisation; at least two home APN visits and at least weekly telephone contact with patients or caregivers	Routine DP	24 week	①②③④	RCT
Rawl 1998	USA	N: 49/51 Age (year): 69.9 (9.8)/68.5 (15.8) Men: 28.6%/31.4% Rehabilitation patients after discharge	Nurse-managed follow-up programme consists of four contacts (three in-person contacts and one telephone contact) with the advanced practice nurse at one or two days before discharge, discharge, 30 days, and four months	Usual care	4 months	②	RCT
Saleh 2012	Lebanon	N: 173/160 Age (year): 65–94 Men: 41.7%/39.9% Older Medicare recipients	Hospital-based discharge transition program: Individuals were approached during hospitalisation. The intervention included three home visits by the nurses who delivered the intervention and comprised five main elements or activities	Regular discharge process	12 months	②④	RCT



Table 1 (continued)

Study ID	Location	Participants (IG/CG)	Interventions	Control	Duration	Outcomes	Study design
Wong 2012	Hong Kong	N: 272/283 Age (year): 77 (62–97)/77 (61–94) Men: 46.3%/56.2% Postdischarge medical patients	Health-social partnership transitional care management program, which contains the predischARGE phase and postdischarge phase, delivered by the nurse case manager and trained volunteers supported by social workers	Usual discharge care	12 week	②③	RCT
Youssef 1987	USA	N: 15/15 Age (year): 38.26 (8.45)/36.40 (7.61) Men: 60% Hospitalised psychiatric patients	DP (a family-patient teaching programme prior to their discharge and followed up after discharge for a 12-month period): patient-family education sessions twice a week	Usual care	12 month	①②	RCT
Zhao 2009	China	N: 100/100 Age (year): 72.86 (6.43)/71.58 (4.14) Men: 51%/47% Patients with coronary heart disease	Postdischarge transitional care programme (nurse-led transitional care model) which consisted of predischARGE assessment, structured home visits and telephone follow-ups within four weeks after discharge	Routine care	12 week	②	RCT

RCT, randomized controlled trials; DP, discharge planning; IG, intervention group; CG, control group; N, sample number; ①: length of stay (LoS); ②: hospital readmission; ③: readmission LoS; ④: all-cause mortality.

Continuous Variables are given as mean (standard) deviation values, unless otherwise specified.

# A - 文獻是否經過嚴格評讀 (Appraisal) ?

最好的狀況是？

應根據不同臨床問題的文章類型，選擇適合的評讀工具，並說明每篇研究的品質(如針對治療型的臨床問題，選用隨機分配、盲法、及完整追蹤的研究類型)。

## risk of bias assessment

Standard techniques – based on the Cochrane Collaboration Handbook for Systematic Reviews of Interventions – were used to assess for the risk of bias, with independent assessment by two reviewers encompassing six previously defined domains: (1) random sequence generation (selection bias); (2) allocation concealment (selection bias); (3) blinding of participants and personnel (performance bias); (4) blinding of outcome assessment (detection bias); (5) incomplete outcome data (attrition bias); and (6) selective reporting (reporting bias). The methodological quality of these domains was assessed by using following scoring: (1) ‘low risk’, when plausible bias unlikely alter the results, (2) ‘unclear risk’ when plausible bias raises some doubt about the results and (3) ‘high risk’ when plausible bias seriously weakens confidence in the results (Higgins & Green 2011).

	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel (performance bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)
Altfield 2013	●	●	?	?	●	●
Atienza 2004	●	●	?	?	●	?
Jack 2009	●	●	●	●	?	●
Lin 2009	●	●	●	?	●	●
Naylor 1999	●	●	●	●	●	●
Rawl 1998	●	●	●	?	?	?
Saleh 2012	●	●	?	?	●	?
Wong 2012	●	●	●	?	●	●
Youssef 1987	●	●	?	?	●	?
Zhao 2009	●	●	?	?	●	?

Figure 2 Risk of bias summary: review authors' judgements on each 'risk of bias' item for included studies ('+' = low risk, '-' = high risk, '?' = unclear risk).

評讀結果：☑是

# I - 是否只納入 (included) 具良好效度的文章？

最好的狀況是？	我可以在哪裡找到這些資訊？
僅進行文獻判讀是不足夠，系統性文獻回顧只納入至少要有一項研究結果是極小偏誤的試驗。	在文章的 <u>方法</u> 章節，可以找到文章評估的方式，以及是由誰完成評估的，在 <u>結果</u> 章節則會提供審查者意見一致性的程度。

## Eligibility criteria

Eligible studies included published randomized controlled trials (RCTs) with parallel controls that compared nurse-led early DPPs to standard care for inpatients with chronic illness or rehabilitation in the general hospital setting.

評讀結果： ☒ 是



## T - 作者是否以表格和圖表「總結」 (total up) 試驗結果？

最好的狀況是？	我可以在哪裡找到這些資訊？
應該用至少 1 個摘要表格呈現所納入的試驗結果。若結果相近，可針對結果進行統合分析(meta-analysis)，並以「森林圖」(forest plot)呈現研究結果，最好再加上異質性分析（見後文）。	在文章的結果章節，可以找到摘要的圖表，以及作者對系統性文獻回顧結果的解釋。

- **Meta-analyses**：住院時間、再住院、再住院時間和死亡率。
- 敘述性分析：總成本、再入院費用、quality of life和對DP滿意度。

評讀結果：☒是

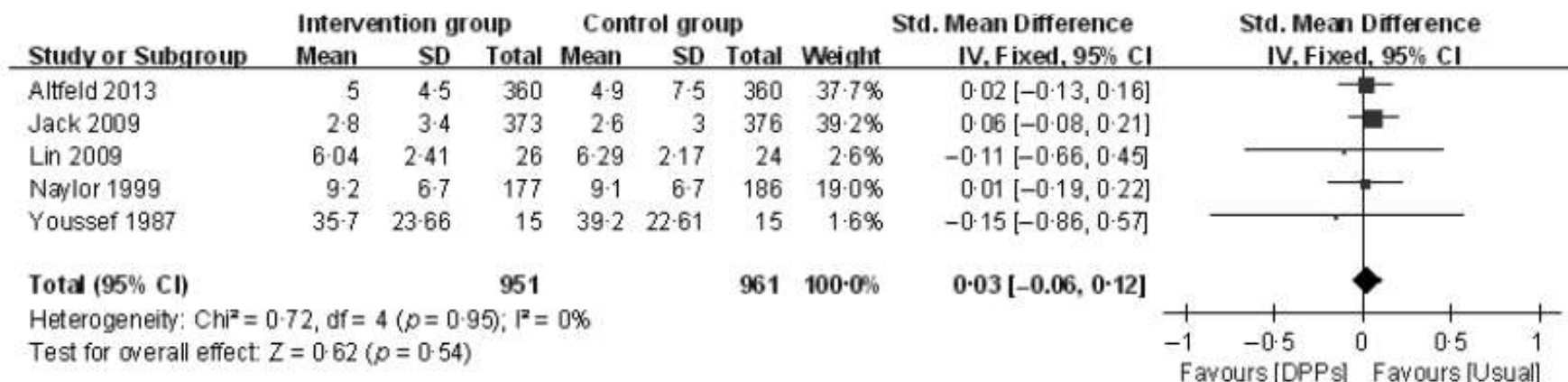
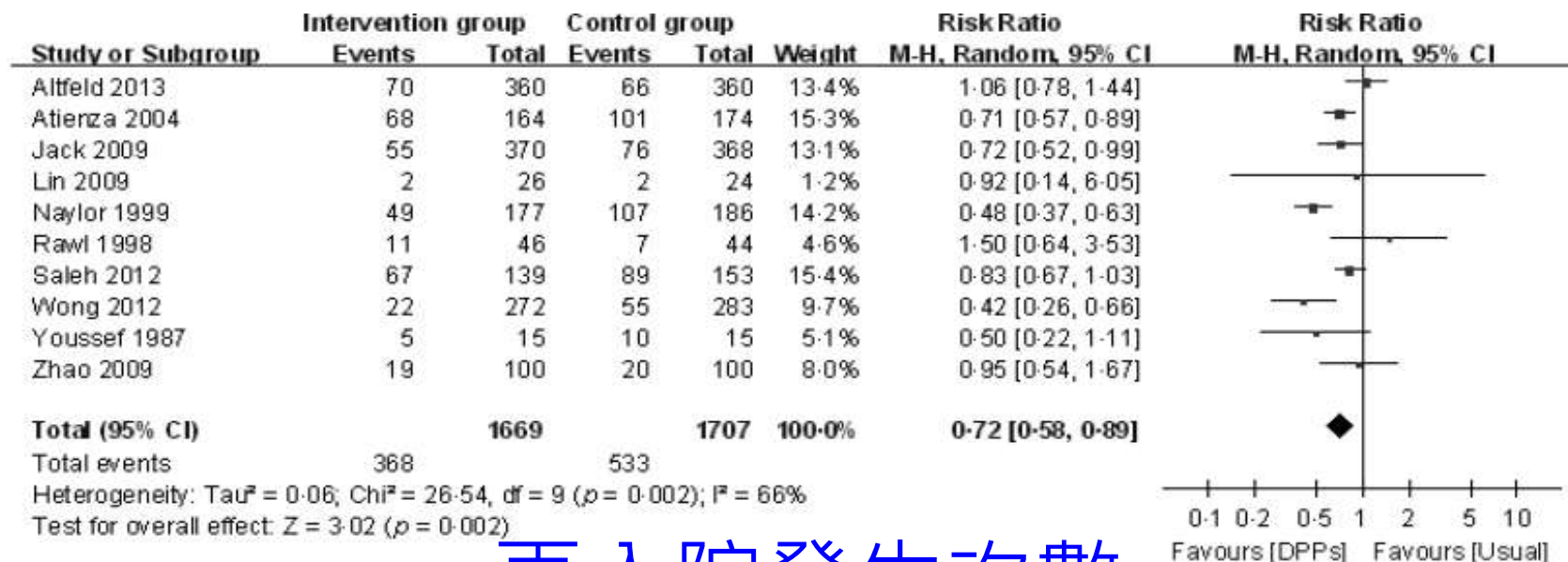


Figure 3 Forest plot: length of hospital stay (days).

住院時間



再入院發生次數

Figure 4 Forest plot: hospital readmission.

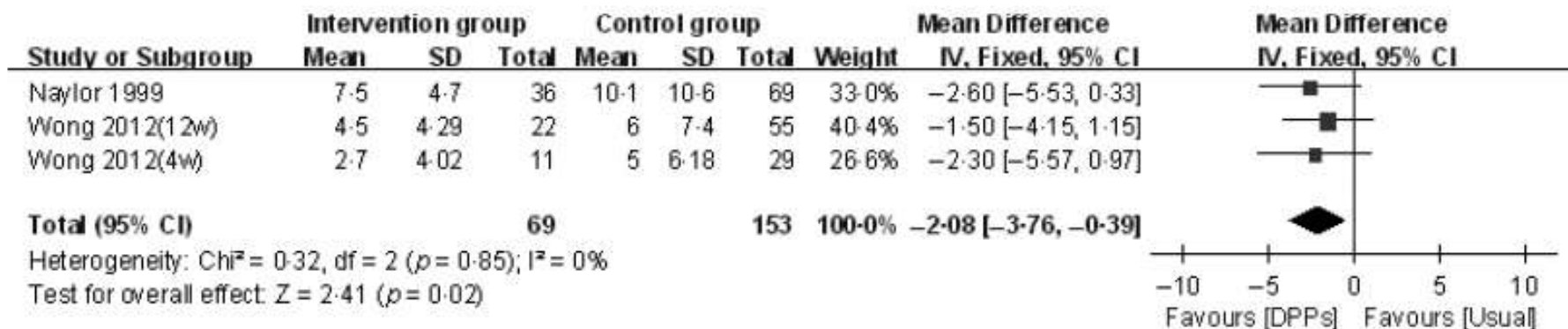


Figure 5 Forest plot: readmission length of hospital stay (days).

再入院時間

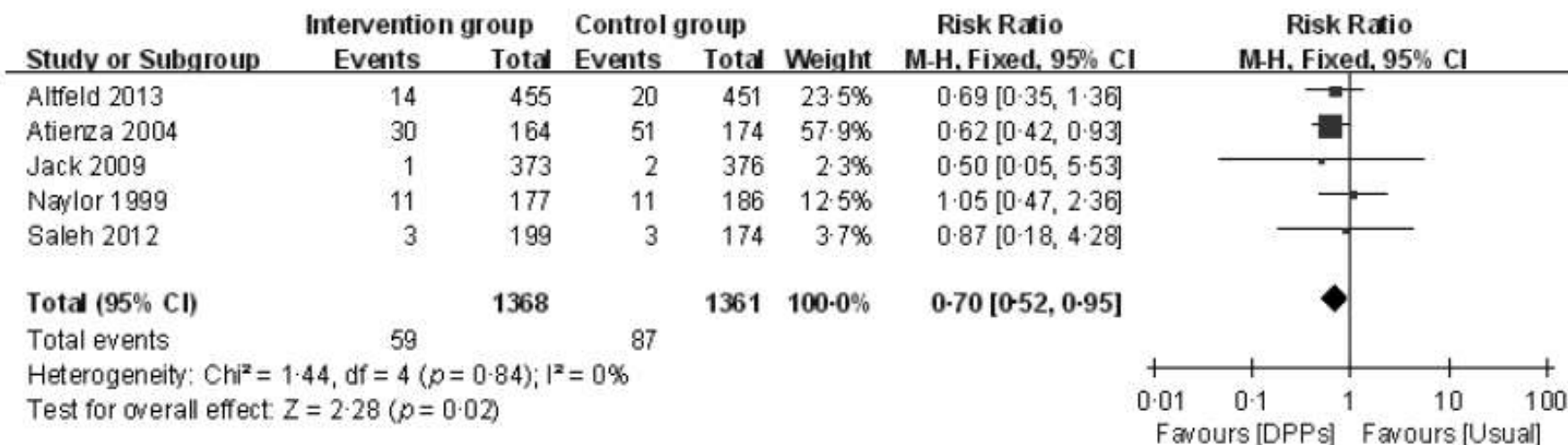


Figure 6 Forest plot: all-cause mortality.

死亡率



# 其他分析結果

## ► Total cost(n=3)

- 總醫療保險費用，24週時實驗組約為600萬美元，對照組為1200萬美元 (  $P < 0.001$  ) ( Naylor等人，1999 )
- 實驗組的平均成本，每名患者442歐元，總體護理費用減少2063歐元 ( Atienza等2004 )
- 在方案中醫療花費節省了109美元(Saleh et al. 2012)

## ► Readmission cost (n=2)

- 實驗組再入院費用降低，平均每個病人節省 2505 歐元 (實驗組2912歐元，對照組5417歐元 ) (Atienza et al., 2004)
- 研究組每位受試者的再入院費用降低了港幣 1505 元 (Wong et al., 2012)

# 其他分析結果

## ► Quality of life (n=2)

- 實驗組和對照組在返家一年內、健康相關生活品質均改善 ( $p = 0.01$ ) (Atienza et al., 2004)
- 實驗組得分明顯高於對照組 ( $p = 0.009$ )(Lin et al., 2009)

## ► Satisfaction (n=3)

- 實驗組及對照組滿意度都很高，沒有差異 (Naylor et al. 1999; Lin et al. 2009)
- 實驗組滿意度較高，但對於付費接受後續服務的意願，則與對照組沒有差異 (Zhao & Wong 2009).

# H - 試驗的結果是否相近-異質性 (Heterogeneity) ?

最好的狀況是？

在理想情況下，各個試驗的結果應相近或具同質性，若具有異質性，作者應評估差異是否顯著(卡方檢定)。根據每篇個別研究中不同的 PICO 及研究方法，探討造成異質性的原因。

我可以在哪裡找到這些資訊？

在文章的結果章節，可以找到研究結果是否具異質性，及造成異質性可能的原因探討。森林圖中可以找到異質性的卡方檢定結果。

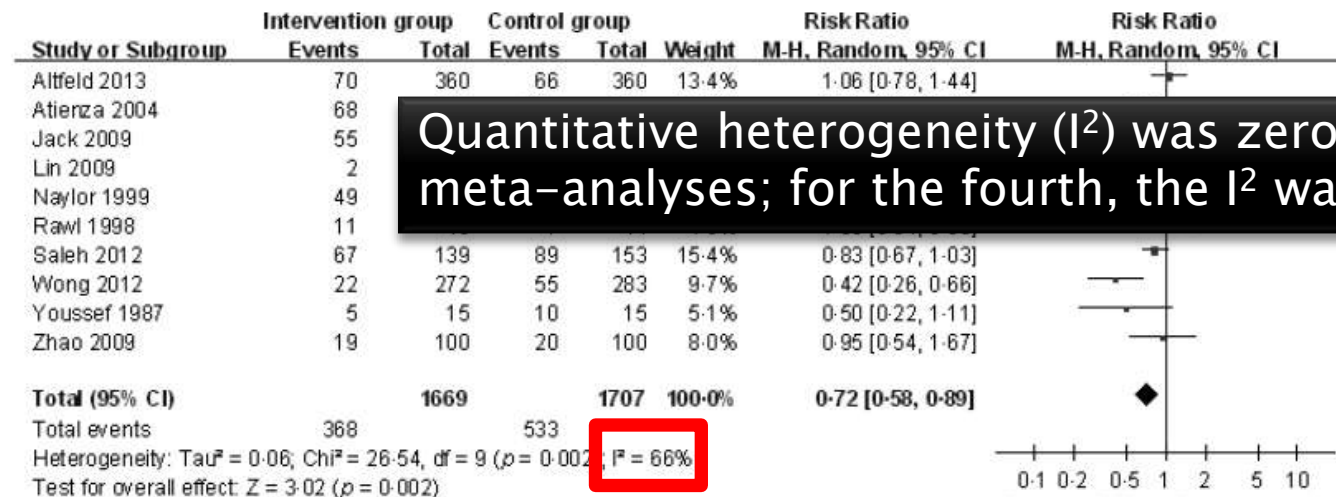


Figure 4 Forest plot: hospital readmission.

評讀結果： ☒ 是



# 結果

- ▶ 以系統性文獻回顧方式，評價早期出院準備服務對慢性疾病或康復需求的住院病人的影響。綜合分析結果顯示：與一般護理相比，出院準備服務的介入，能減少病人再入院，再入院時間和死亡率。但對住院時間無顯著差異。
- ▶ 敘述性分析顯示：**DPPs**可以降低住院和再入院費用的總成本，並有助於改善整體生活質量，和病人滿意度。

# 限制

- ▶ 10篇研究均為RCT，且大多數Bias為低風險。然而，每篇研究的數量，及樣本大小範圍為182–3376，可能影響審查數據的精準度，因此應謹慎對待結果。
- ▶ 研究對象為慢性疾病或有康復需求的住院病人，並非所有住院病人。



**Cochrane**  
**Library**

Cochrane Database of Systematic Reviews

## Discharge planning from hospital (Review)

Gonçalves-Bradley DC, Lannin NA, Clemson LM, Cameron ID, Shepperd S

**Citation:** Gonçalves-Bradley DC, Lannin NA, Clemson LM, Cameron ID, Shepperd S. Discharge planning from hospital. *Cochrane Database of Systematic Reviews* 2016, Issue 1. Art. No.: CD000313. DOI: 10.1002/14651858.CD000313.pub5.

- **Objectives:** To assess the effectiveness of planning the discharge of individual patients moving from hospital.





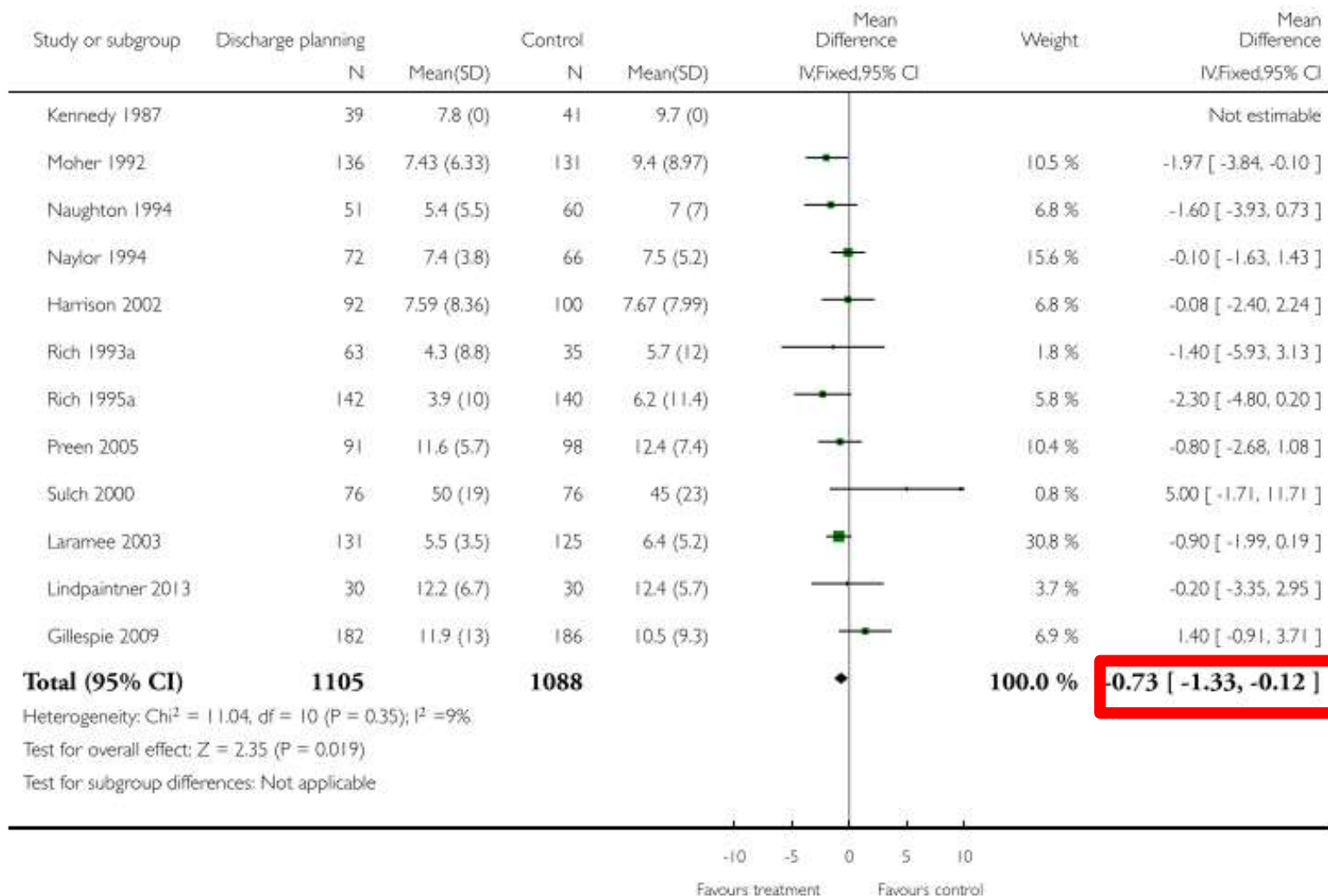
# Analysis 1.1. Comparison 1 Effect of discharge planning on hospital length of stay, Outcome 1 Hospital length of stay - older patients with a medical condition.

Review: Discharge planning from hospital

Comparison: 1 Effect of discharge planning on hospital length of stay

Outcome: 1 Hospital length of stay - older patients with a medical condition

Hospital length of stay were reduced (MD - 0.73, 95% CI - 1.33 to - 0.12, 12 trials, moderate certainty evidence).

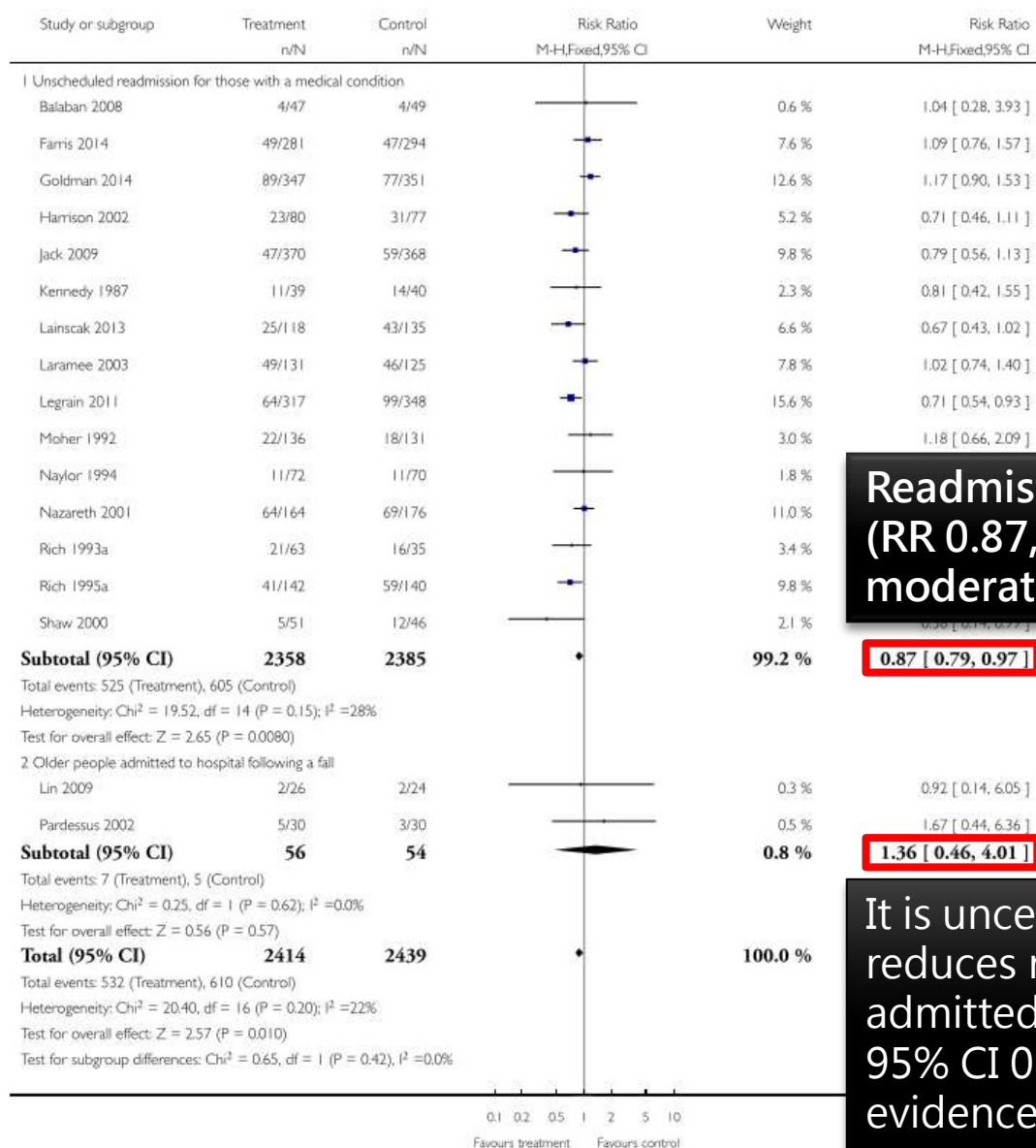


## Analysis 2.1. Comparison 2 Effect of discharge planning on unscheduled readmission rates, Outcome 1 Within 3 months of discharge from hospital.

Review: Discharge planning from hospital

Comparison: 2 Effect of discharge planning on unscheduled readmission rates

Outcome: 1 Within 3 months of discharge from hospital



Readmissions to hospital were reduced (RR 0.87, 95% CI 0.79 to 0.97, 15 trials, moderate certainty evidence).

0.87 [ 0.79, 0.97 ]

1.36 [ 0.46, 4.01 ]

It is uncertain whether discharge planning reduces readmission rates for patients admitted to hospital following a fall (RR 1.36, 95% CI 0.46 to 4.01, 2 trials, very low certainty evidence).

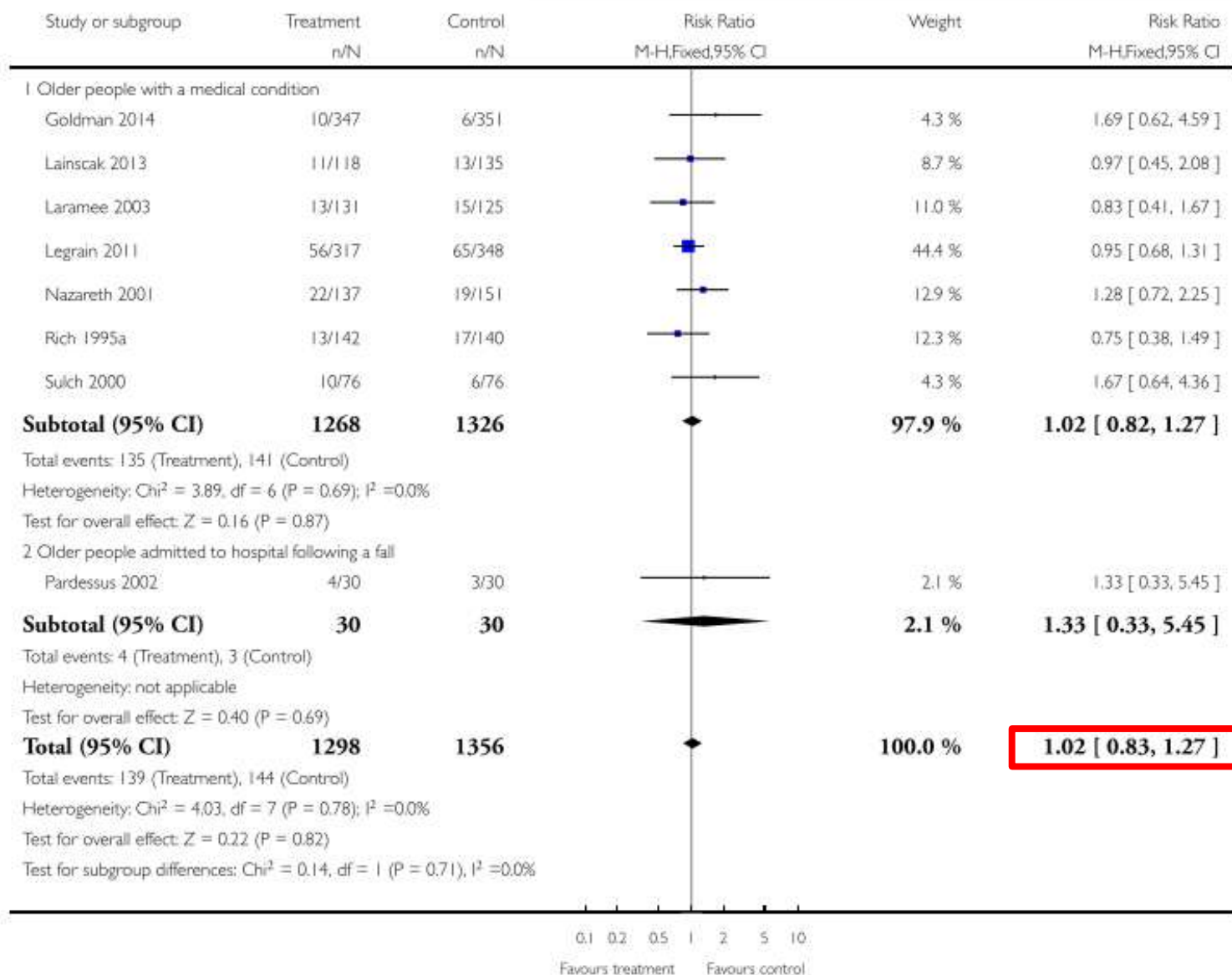
## Analysis 5.1. Comparison 5 Effect of discharge planning on mortality, Outcome 1 Mortality at 6 to 9 months.

Review: Discharge planning from hospital


Comparison: 5 Effect of discharge planning on mortality

Outcome: 1 Mortality at 6 to 9 months

There was no difference between groups for mortality (moderate certainty).



# Authors' conclusions

- ▶ ★ A discharge plan tailored to the individual patient probably brings about a **small reduction in hospital length of stay** and **reduces the risk of readmission to hospital at 3 months follow-up** for older people with a medical condition.
  - ▶ Discharge planning may lead to increased satisfaction with healthcare for patients and professionals. (low certainty evidence, 6 trials)
  - ▶ It is uncertain whether there is any difference in the cost of care when discharge planning is implemented with patients who have a medical condition (very low certainty evidence, 5 trials).
- 





**Thank  
You!!!**