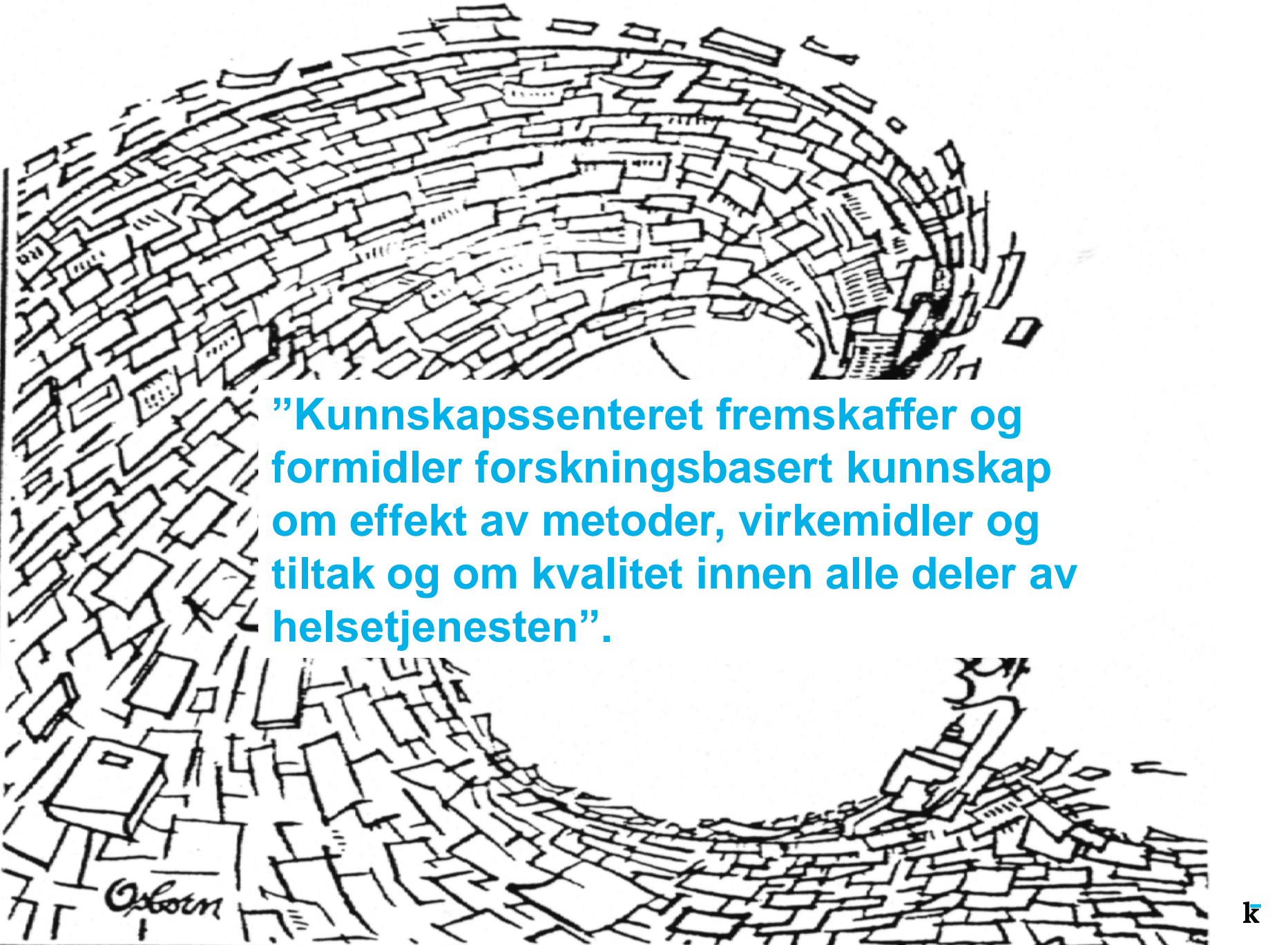


Systematiske oversikter  
Meta-analyser  
Cochrane collaboration  
Internettressurser


# Plan

|      |                |
|------|----------------|
| 1300 | Forelesning    |
| 1400 | Øvelse + pause |
| 1515 | Gjennomgang    |
| 1600 | Takk for i dag |





**”Kunnskapscenteret fremskaffer og formidler forskningsbasert kunnskap om effekt av metoder, virkemidler og tiltak og om kvalitet innen alle deler av helsetjenesten”.**



“The medical literature can be compared to a jungle. It is fast growing, full of dead wood, sprinkled with hidden treasure and infested with spiders and snakes.”

*Peter Morgan, Scientific Editor,  
Canadian Medical Association*

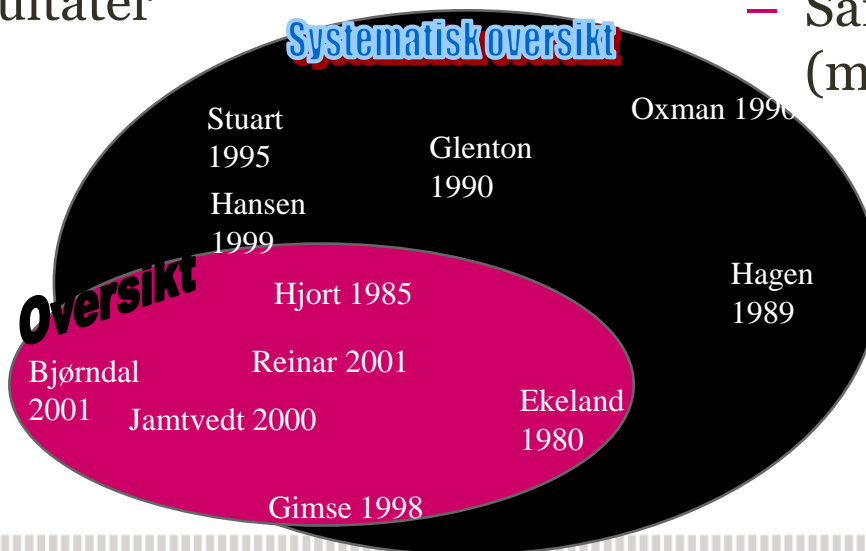
# Oversiktsartikkel versus systematisk oversikt

## ■ Oversiktsartikkel

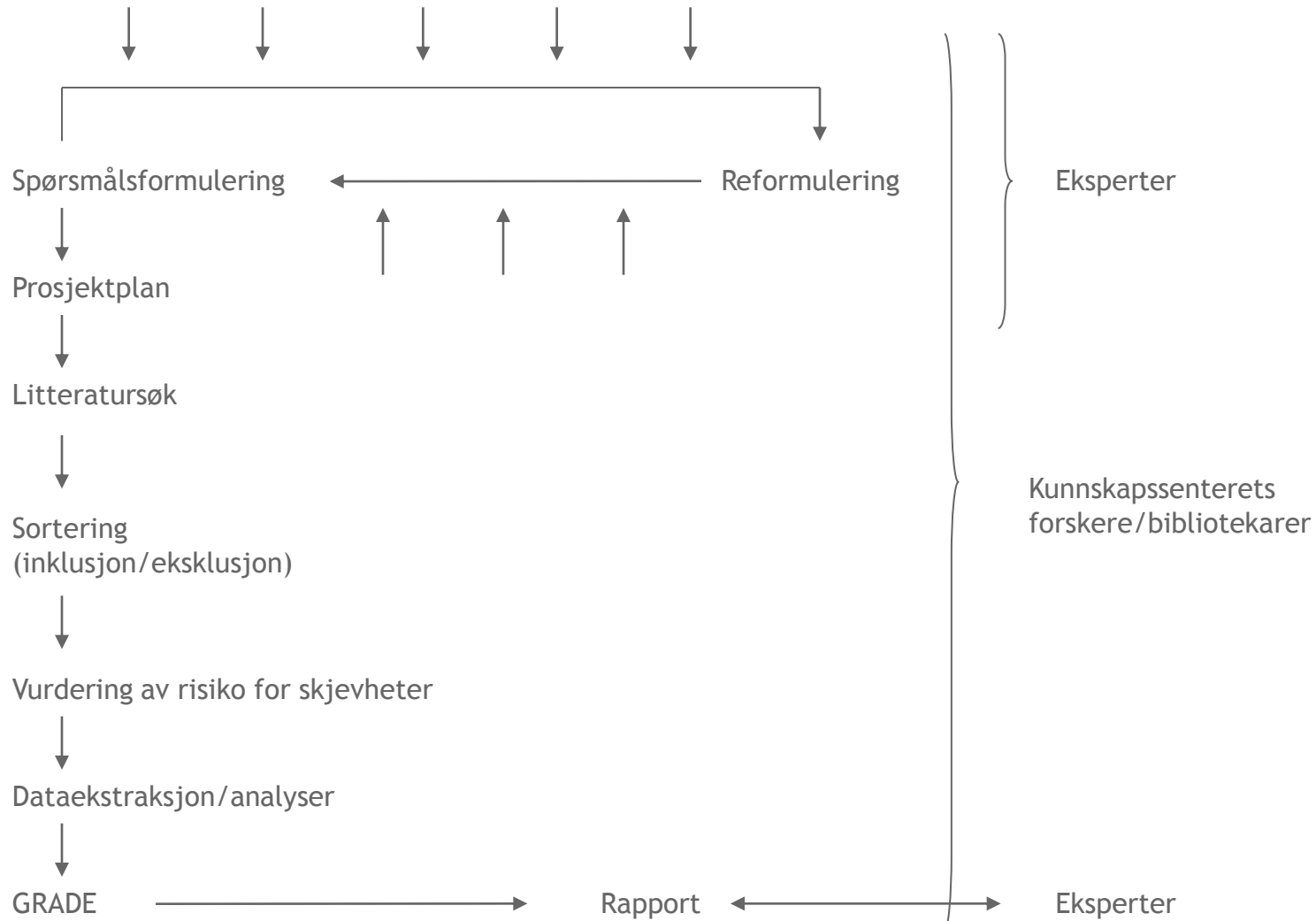
- Flere spørsmål
- Ingen søkestrategi
- Ingen inklusjonskriterier
- Ingen sammenlagte resultater

## ■ Systematisk oversikt

- Ett spørsmål
- Eksplisitt søk
- Eksplisitte inklusjonskriterier
- Sammenlagte resultater (meta-analyse)



# Trinn i systematiske oversikter



# Spørsmålsformulering

1. Hva er problemstillingen?
2. Har noen gjort det før oss?
3. Hva slags kunnskap ønsker vi utover den som foreligger?



# Komponenter i en klart formulert problemstilling: PICO



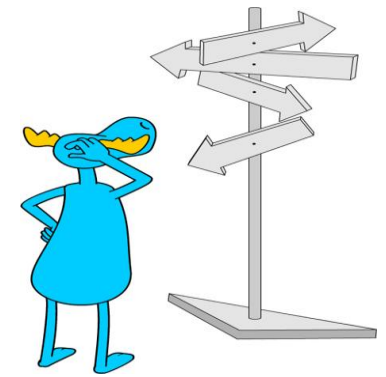
**P** Hvordan kan man beskrive **pasientgruppen**?

**I** Hvilken type **intervensjons** skal vurderes?

**C** Hva er den viktigste alternative intervensjonen/ instrumentet (**comparator**)?

**O** Hvilke utfall (**outcomes**) er viktige?

# Forskningsspørsmål og studiedesign



Hvor mange har en spesiell plage?

Utbredelse/forekomst

*Tverrsnittstudier*

Hvorfor får noen...?

Etiologi (årsaksforhold)

*Kasus-kontroll/  
kohortstudier*

Hvordan kan vi avgjøre om noen har...?

Måleinstrumenter, tester og diagnostikk

*Studier av diagnostisk  
nøyaktighet*

Hva kan vi gjøre?

Effekt av forebygging, behandling

*Randomisert kontrollert  
forsøk*

Hvordan går det?

Prognose

*Kohortstudier*

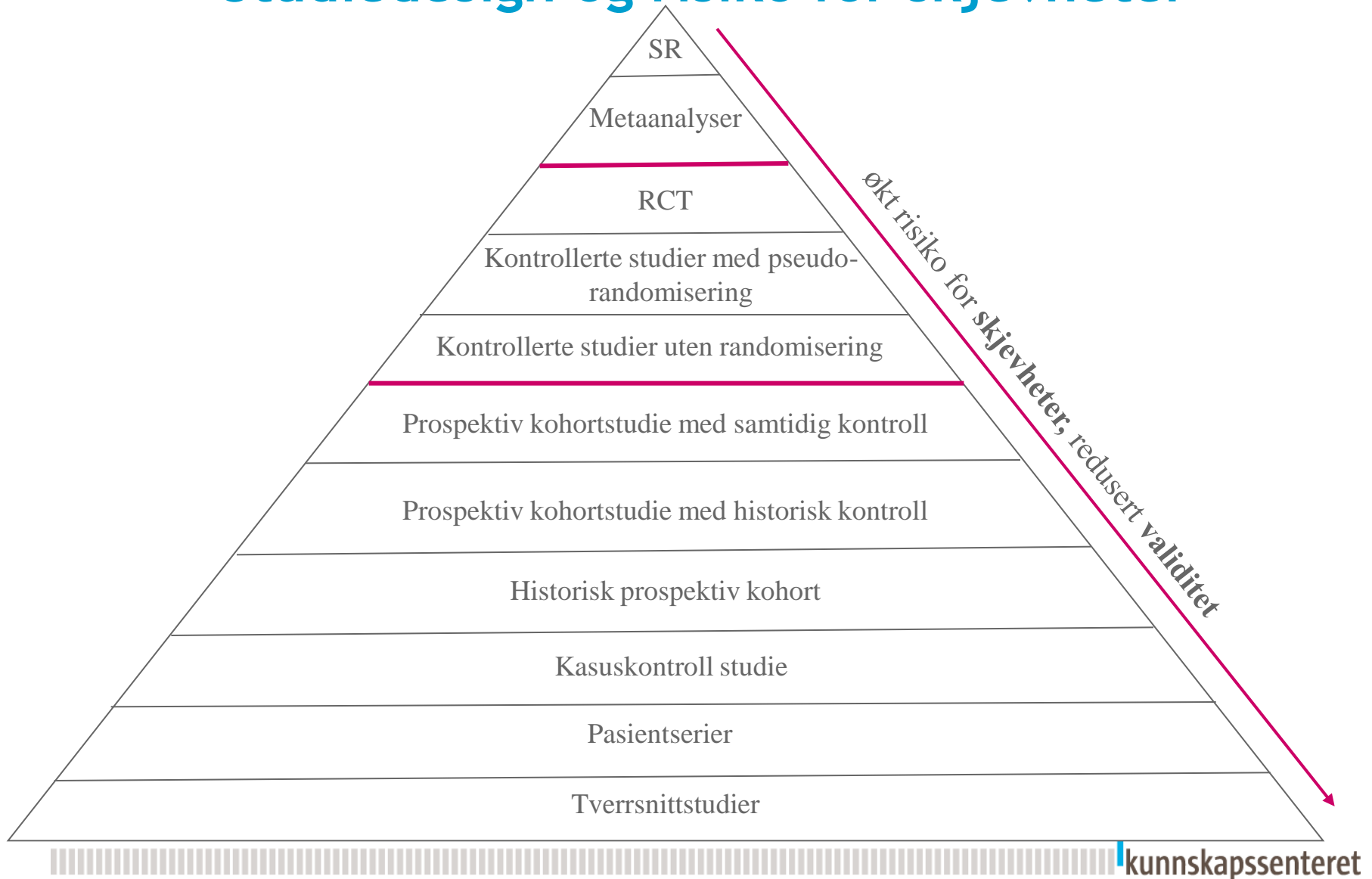
Hvordan oppleves det?

Erfaringer, opplevelser og holdninger

*Kvalitative studier*



# Studiedesign og risiko for skjevheter



# Har noen gjort det før oss?



**NHS**  
National Institute for  
Health and Clinical Excellence

**ClinicalEvidence**





- Grunnlagt 1993, oppkalt etter epidemiolog Archie Cochrane
- Internasjonal not-for-profit organisasjon
- Styringsgruppe, subgrupper og sekretariat
- Enheter: sentre, review groups, methods groups, fields/networks
- Utgiver av bl a the Cochrane database of Systematic Reviews





# The Cochrane Collaboration

The reliable source of evidence in health care

Latest: [s: development of the new Cochrane Register of Controlled Studies](#) <more ...>

## Our Product:

### The Cochrane Library



[Click for full text reviews & more](#)



Regularly updated evidence-based healthcare databases

**New!** Important [changes](#) to The Cochrane Library on Wiley Interscience

- [Promoted reviews](#)
- [User guides](#)
- [Access options](#)

## Independent, reliable

The Cochrane Collaboration is a [global network](#) of dedicated volunteers, supported by a [small staff](#). We rely on grants and donations, and don't accept [conflicted funding](#). You can help too. [Work with us](#) or [help financially](#) or [be a consumer representative](#) in the [Consumer Network](#) (ccnet)

## Browse by topic:

--Select topic (Review Group)--

[deutsch](#) [español](#)

This week's featured reviews ([What's this?](#)):

[Acupuncture for tension-type](#)

Versions: printable



english

## Search

whole site

Search

[A-Z index](#) [Help](#)

## Cochrane in the News



The BBC News discusses new Cochrane evidence on acupuncture for headaches.

## Cochrane for ...

- [First-time visitors](#)
- [Practitioners](#)
- [Researchers & authors](#)
- [Cochrane entity staff](#)

- » [Home](#)
- » [Cochrane reviews](#)
- » [The Cochrane Library](#)
- » [News](#)
- » [Events](#)
- » [Training resources](#)
- » [About us](#)



## Intervention review

- [-] Title
- [-] Protocol information
- [-] Main text
  - [-] Abstract
  - [-] Plain language summary
  - [-] Background
    - [-] Objectives
  - [-] Methods
  - [-] Results
  - [-] Discussion
  - [-] Authors' conclusions
  - [-] Acknowledgements
  - [-] Contributions of authors
  - [-] Declarations of interest
  - [-] Differences between protocol and review
  - [-] Published notes
- [-] Tables
- [-] Studies and references
- [-] Data and analyses
- [-] Figures
- [-] Sources of support
- [-] Feedback
- [-] Appendices

# [Intervention] for [health problem]

## [-] Protocol information

### [-] Authors

[Empty name]<sup>1</sup>

<sup>1</sup>[Empty affiliation]

Citation example: [Empty name]. [Intervention] for [health problem] [Protocol]. Cochrane Database of Systematic Reviews [Year], Issue [Issue].

**Add Author**

### [-] Contact person

*[Empty name]*

### [-] Dates

**Assessed as Up-to-date:**

**Date of Search:**

**Next Stage Expected:**

**Protocol First Published:** Not specified

**Review First Published:** Not specified




# The Cochrane Library

Evidence for healthcare decision-making



## BROWSE

Cochrane Reviews: [By Topic](#) | [New Reviews](#) | [Updated Reviews](#) | [A-Z](#) | [By Review Group](#)  
Other Resources: [Other Reviews](#) | [Clinical Trials](#) | [Methods Studies](#) | [Technology Assessments](#) | [Economic Evaluations](#)

 [More Info](#)

## SEARCH

[Advanced Search](#) | [MeSH Search](#) | [Search History](#) | [Saved Searches](#)



## Welcome to The Cochrane Library

The Cochrane Library contains high-quality, independent evidence to inform healthcare decision-making. It includes reliable evidence from Cochrane and other systematic reviews, clinical trials, and more. Cochrane reviews bring you the combined results of the world's best medical research studies, and are recognised as the gold standard in evidence-based health care.

### More About The Cochrane Library

[What are Systematic Reviews & Protocols?](#) | [Product Descriptions](#) | [About the CD-ROM](#)

## Help! New Users Start Here

As a new user we recommend you use the following resources to help you navigate through the evidence and get the most out of The Cochrane Library. [More](#)

## For Clinicians

As a clinician you are under constant pressure to have high-quality, up-to-date evidence at your fingertips. [More](#)

## For Researchers

The internet has given us instant access to a huge amount of research, but the large volume of available information is a problem in itself. [More](#)

## For Patients

Healthcare consumers and patients need high-quality evidence about the effectiveness of treatments. [More](#)

## For Policy Makers

As a policy maker or healthcare manager you are a generalist in search of high-quality information across a broad range of issues. [More](#)

## What's New in Issue 1, 2009?

[Highlights of new and updated Reviews \(PDF\)](#)

### [Cochrane Reviews of Diagnostic Test Accuracy](#)

[Street lighting for preventing road traffic injuries](#)

[Acupuncture for tension-type headache](#)

[Acupuncture for migraine prophylaxis](#)

[Kinship care for the safety, permanency, and well-being of children removed from the home for maltreatment](#)

[Interventions for preventing weight gain after smoking cessation](#)

[Publication bias in clinical trials due to statistical significance or direction of trial results](#)

[Interventions for treating obesity in children](#)

[School-based physical activity programs for promoting physical activity and fitness in](#)

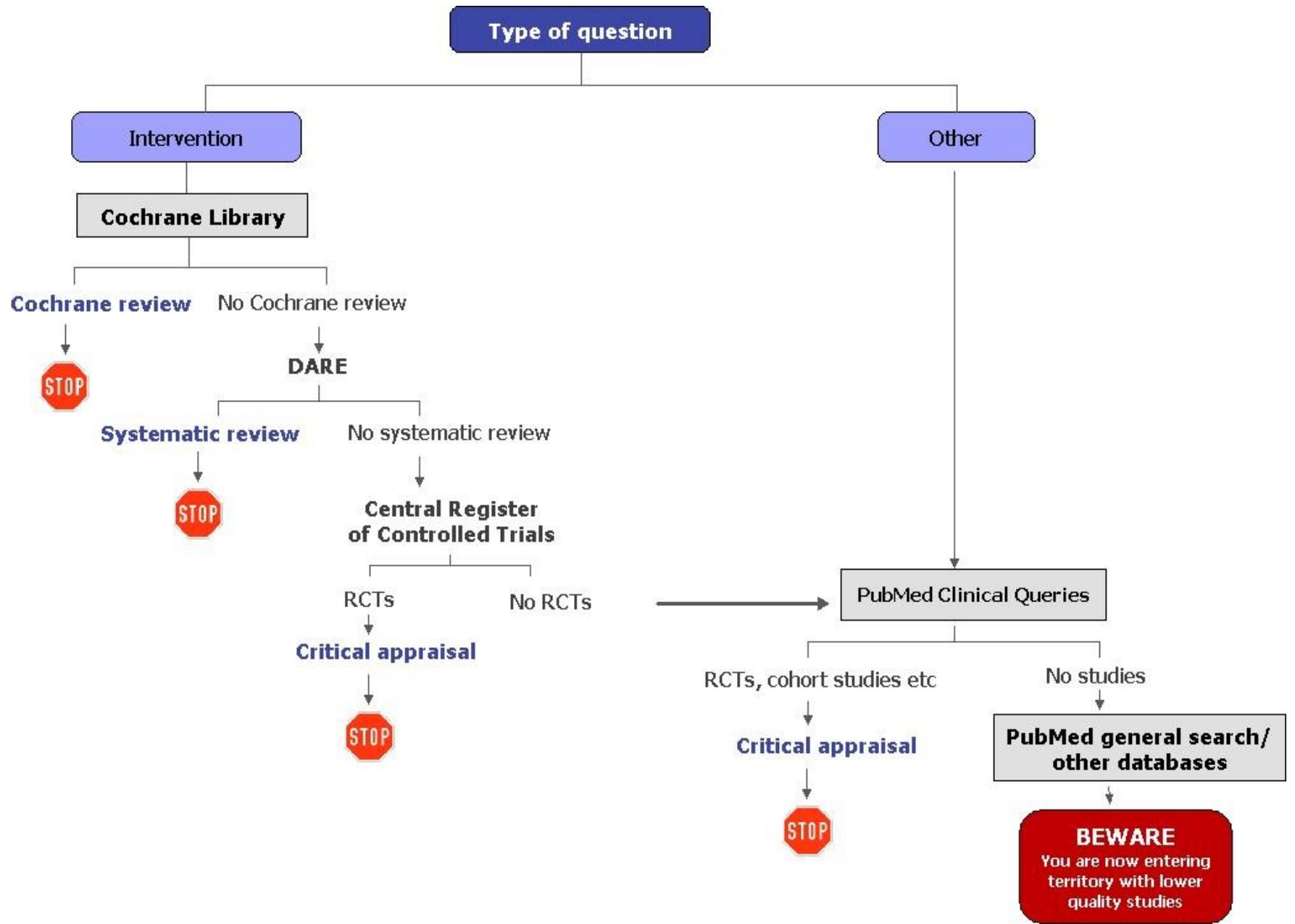
## Access to The Cochrane Library

The Cochrane Library is available online through Wiley InterScience.

[More About Access to Cochrane](#)





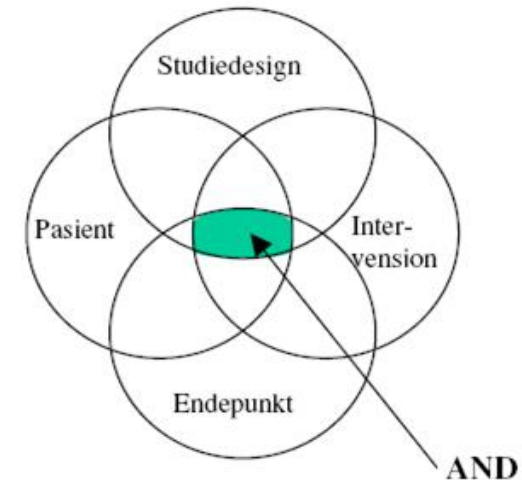


# Litteratursøk

## - en spesialistoppgave

Draft MEDLINE search strategy

- 1 methadone.mp.
- 2 buprenorphine.mp.
- 3 or/1-2
- 4 Exp Opioid-Related Disorders/
- 5 Substance Withdrawal Syndrome/
- 6 Substance related disorders/
- 7 Heroin dependence/
- 8 (substance abuse OR substance misuse OR substance dependen\$).mp.
- 9 (opioid abuse OR opioid misuse OR opioid dependen\$).mp.
- 10 (heroin abuse OR heroin misuse OR heroin dependen\$).mp.
- 11 (opiate abuse OR opiate misuse OR opioid dependen\$).mp.
- 12 or/4-11
- 13 3 and 12



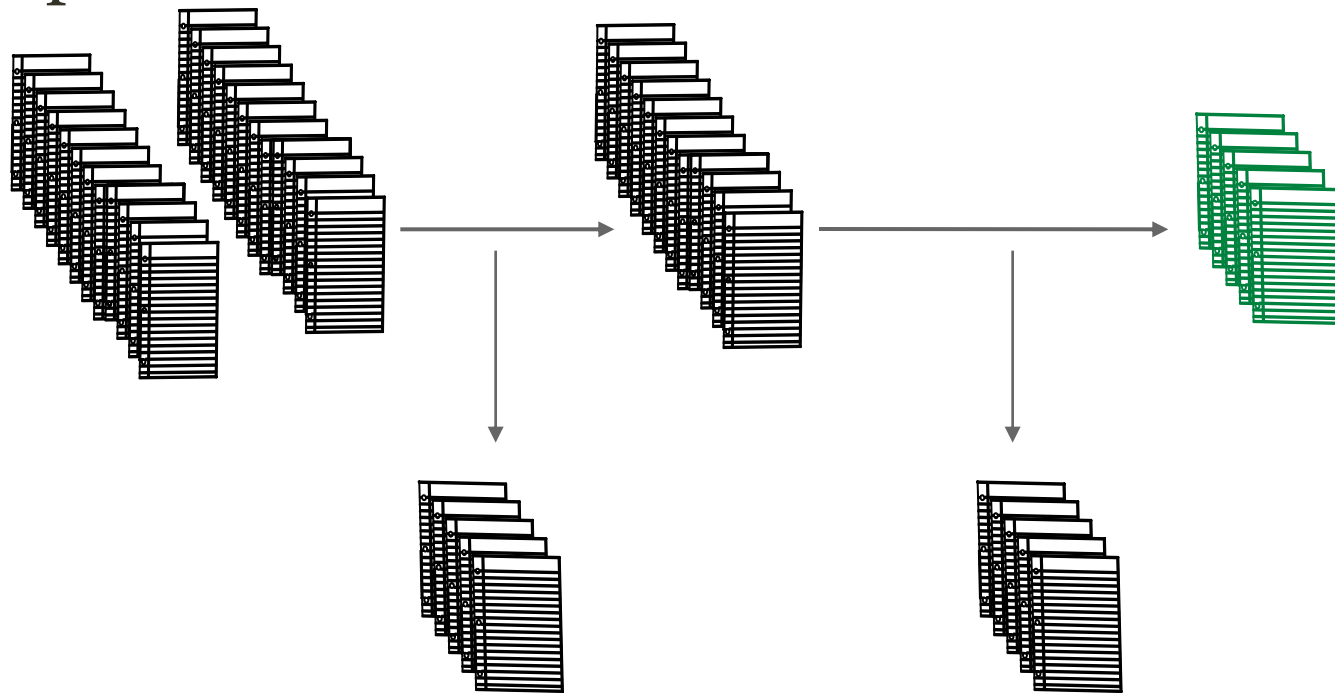
# Publikasjonsskjevhet

- databaser
- tidsrom
- “grey literature”
- referanselister
- ressurspersoner



# Sortering (inkludasjon/eksklusjon)

- Oppfyller studien alle inkludjonskriteriene?
- Oppfyller studien noen av eksklusjonskriteriene?
- Leseapar



# Sjekkliste for vurdering av risiko for systematiske feil i RCTer

- **Generering av fordelingssekvens?**
- **Skjult allokering?**
- **Blinding av deltagere, personell og de som målte utfallene?**
- **Ufullstendig oppfølging av utfallsdata?**
- **Selektiv rapportering?**
- **Andre typer systematiske feil?**

# Dataekstraksjon

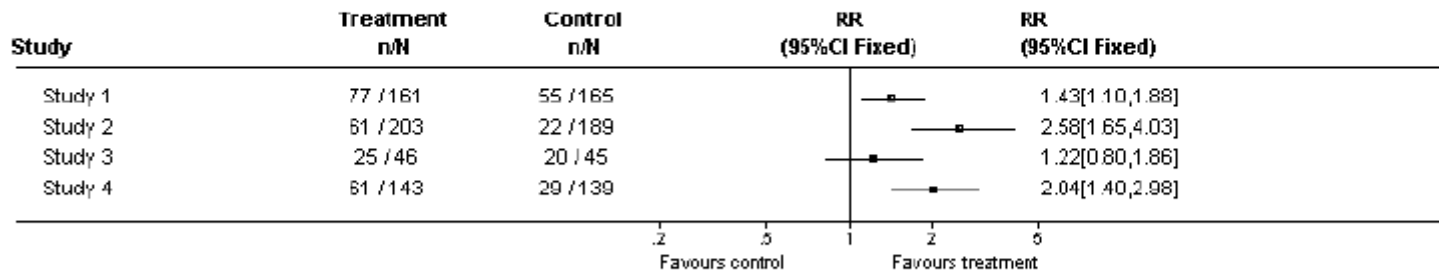
| Baseline characteristics   |  | <i>[control]</i> | <i>[study drug]</i> |
|--|--|------------------|---------------------|
| Number randomised  |  |                  |                     |
| Number analysed  |  |                  |                     |
| Age (wks, mos, yrs)<br>(mean, SD; median, range)                       |  |                  |                     |
| Male:female n : n  |  |                  |                     |
|  |  |                  |                     |
| Duration of dependence<br>(wks, mos, yrs) (mean, SD;<br>median, range) |  |                  |                     |
| Age at diagnosis (wks,<br>mos, yrs) (mean, SD;<br>median, range)       |  |                  |                     |
| Newly treated with study<br>intervention, n (%)                        |  |                  |                     |
| Previously treated with study<br>intervention, n (%)                   |  |                  |                     |
| Frequency of opioid<br>use (/dy, wk, mo) (mean, SD;<br>median, range)  |  |                  |                     |
| N <sup>o</sup> : (1,2,3 etc)<br>concomitant<br>drugs, n (%)            |  |                  |                     |
| Concomitant non-drug<br>treatments, n (%)                              |  |                  |                     |
| Previous treatments, n (%)<br>(please specify)                         |  |                  |                     |
| Alcohol, n (%) / additional<br>illicit drug use, n (%)                 |  |                  |                     |
| HIV positive n (%) / Hepatitis<br>positive n (%)                       |  |                  |                     |



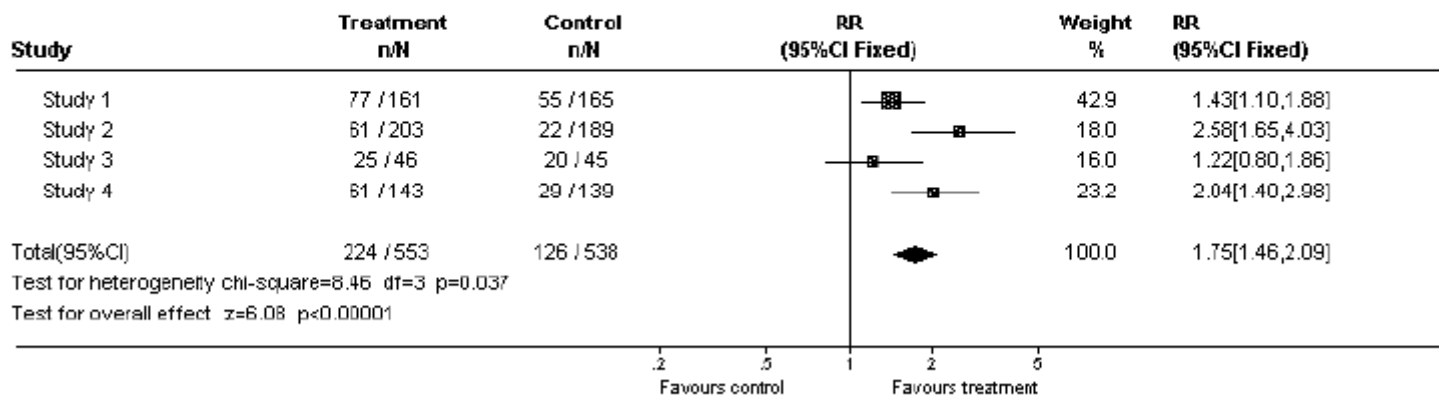
# Sammenstilling av data

- Syntese
  - n
  - PICO
  - Risiko for systematiske feil
  - Hovedfunn
- Metaanalyse
  - Relativ risiko, odds ratio, gjennomsnittsdifferanse
  - Forrest plot
  - Heterogenitet
  - Metaregresjon

## a) Presented without meta-analysis



## b) Presented with meta-analysis (fixed effect model)





# Type utfall

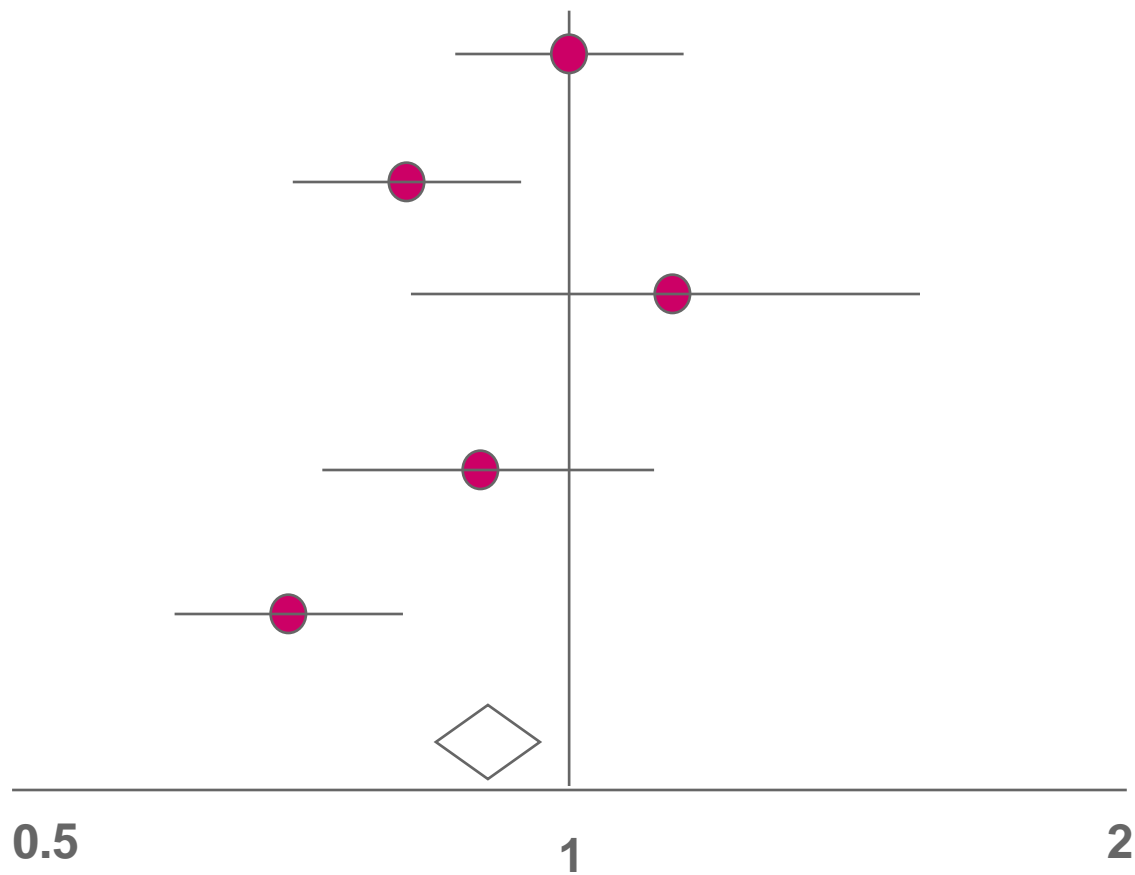
- Dikotome
  - relativ risiko (RR), odds ratio (OR)
- Kontinuerlige
  - standardisert gjennomsnittsdifferanse (SMD), vektet gjennomsnittsdifferanse (WMD)

# Dikotome utfall

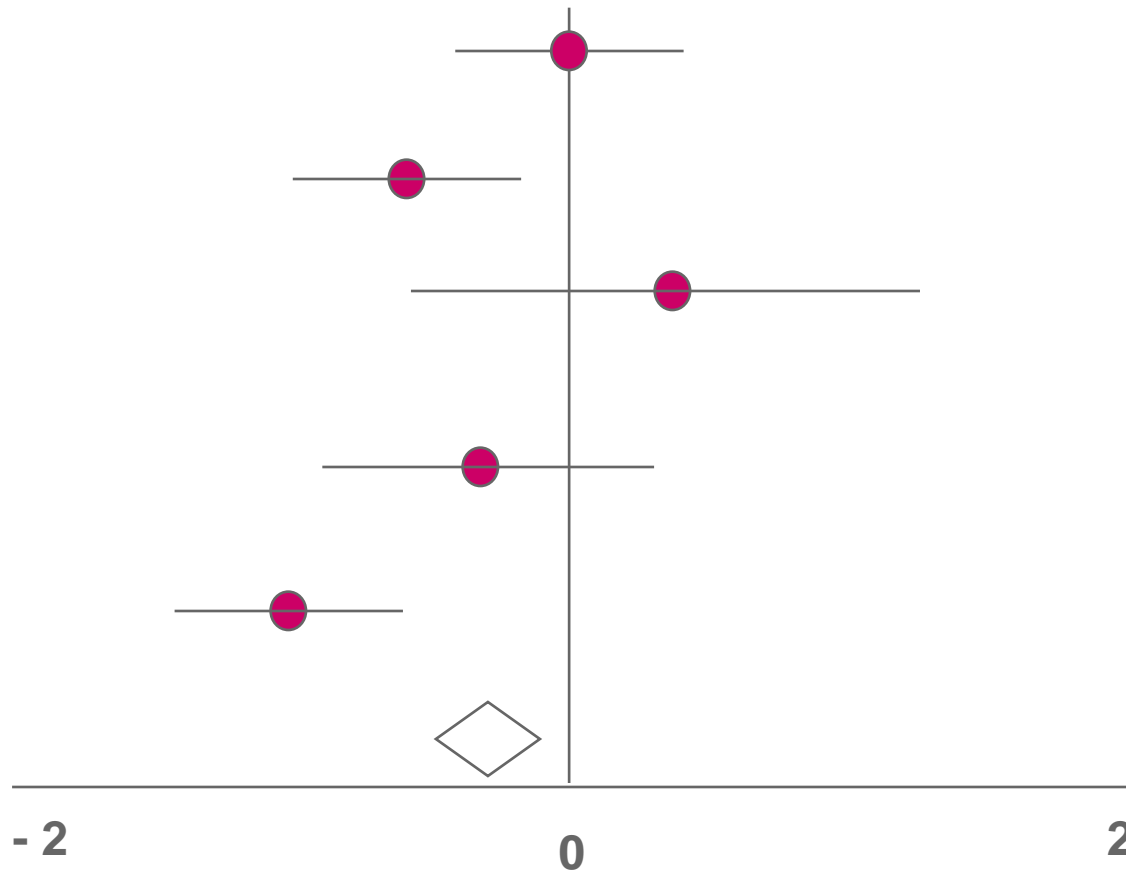
|            | Syk        | Frisk      |            |
|------------|------------|------------|------------|
| Behandling | <b>a</b>   | <b>b</b>   | <b>a+b</b> |
| Kontroll   | <b>c</b>   | <b>d</b>   | <b>c+d</b> |
|            | <b>a+c</b> | <b>b+d</b> | <b>n</b>   |

$$RR(\text{syk}) = [a/a+b] / [c/c+d]$$

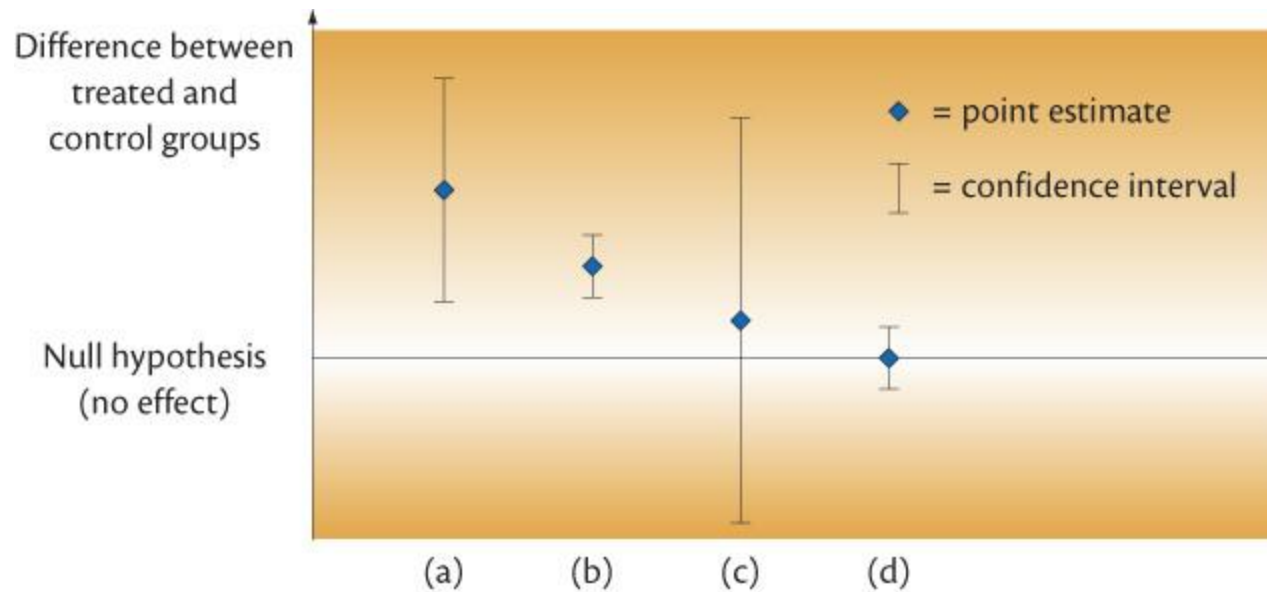
# Meta-analyse: relativ risiko (RR)



# Meta-analyse: standardisert gjennomsnittsdifferanse (SMD)



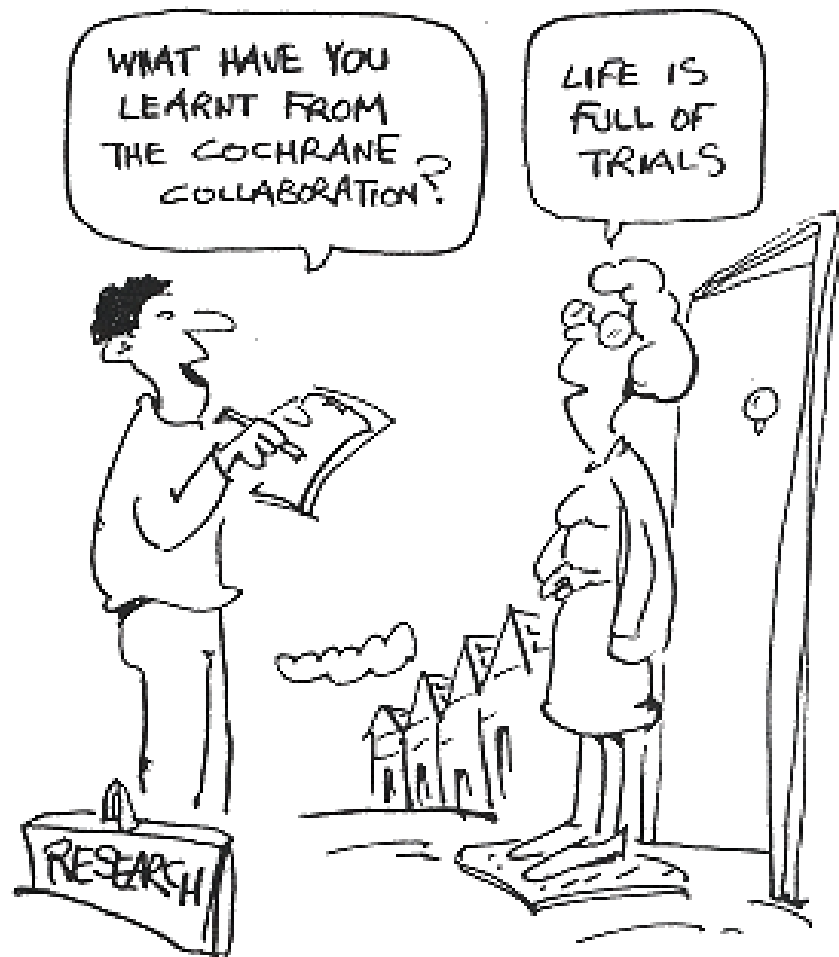
# Reading confidence intervals



- (a) Statistically significant result ( $P < 0.05$ ) but low precision
- (b) Statistically significant result ( $P < 0.05$ ) with high precision
- (c) Not statistically significant result ( $P > 0.05$ ) with low precision
- (d) Not statistically significant result (no effect) with high precision

# Homogenitet

- For studier
  - sammenliknbare utvalg, intervensjoner og utfall
- For resultater
  - sammenliknbare effektmål
- Test for heterogenitet
  - $\chi^2/I^2$  (lav p-verdi/ $I^2 \geq 75$  % betyr heterogene resultater)



# Øvelse: kritisk vurdering av systematisk oversikt

## Journal of Experimental & Clinical Cancer Research

Research

### Traditional Chinese medicines in the treatment of hepatocellular cancers: a systematic review and meta-analysis

Ping Wu<sup>1</sup>, Jean Jacques Dugoua<sup>2</sup>, Oghenowede Eyawo<sup>3</sup> and Edward J Mills<sup>\*3,4</sup>

Address: <sup>1</sup>Shanghai Hospital #4, Shanghai, PR China, <sup>2</sup>Graduate Department of Pharmaceutical Sciences, Leslie Dan Faculty of Pharmacy, University of Toronto, Toronto, Canada, <sup>3</sup>Faculty of Health Sciences, Simon Fraser University, Burnaby, Canada and <sup>4</sup>Faculty of Health Sciences, University of Ottawa, Ottawa, Canada

Email: Ping Wu - pwu@ccnm.edu; Jean Jacques Dugoua - drjj@askdrjj.com; Oghenowede Eyawo - oea1@sfu.ca; Edward J Mills\* - erj@askdrjj.com

Published: 12 August 2009

Received: 6 July 2009

Journal of Experimental & Clinical Cancer Research 2009, 28:112 doi:10.1186/1756-9966-28-112

Accepted: 12 August 2009

This article is available from: <http://www.jeccr.com/content/28/1/112>

© 2009 Wu et al; licensee BioMed Central Ltd.

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/2.0/>) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

#### Abstract

**Background:** Liver cancer is a common malignancy with a high mortality rate. Given the poor prognosis associated with this cancer, many patients seek additional therapies that may improve quality of life or survival. Several Traditional Chinese Medicines (TCM) have been evaluated in clinical trials, but little is known about them outside of China.

**Methods:** We searched independently and in duplicate 8 electronic databases, including 2 Chinese language databases, until February 2009. We included any randomized clinical trials (RCT) evaluating a TCM oral preparation for the treatment of hepatocellular cancers. We abstracted data on survival, tumor response, and performance scores. We conducted a random-effects meta-analysis and applied a meta-regression analysis.

**Results:** We included 45 RCTs (n = 3,236). All studies employed an active control group. In general, the reporting of methodological issues was poor. We analyzed data from 37 trials

## Sjekkliste for systematiske oversikter

| Sjekkliste for systematiske oversikter* |   | Ja | Uklart | Nei |
|---|---|----|--------|-----|
| 1                                       | Beskriver forfatterne klart hvilke metoder de brukte for å finne primærstudiene?  |    |        |     |
| Kommentar                               |   |    |        |     |
| 2                                       | Ble det utført et tilfredsstillende litteratursøk? (bruk hjelpespørsmål på neste side for å besvare dette spørsmålet)   |    |        |     |
| Kommentar                               |   |    |        |     |
| 3                                       | Beskriver forfatterne hvilke kriterier som ble brukt for å bestemme hvilke studier som skulle inkluderes (studiedesign, deltakere, tiltak, ev. endepunkter)?                  |    |        |     |
| Kommentar                               |   |    |        |     |
| 4                                       | Ble det sikret mot systematiske skjevheter (bias) ved seleksjon av studier (eksplisitte seleksjonskriterier brukt, vurdering gjort av flere personer uavhengig av hverandre)? |    |        |     |
| Kommentar                               |   |    |        |     |
| 5                                       | Er det klart beskrevet et sett av kriterier for å vurdere intern validitet?   |    |        |     |
| Kommentar                               |   |    |        |     |
| 6                                       | Er validiteten til studiene vurdert (enten ved inklusjon av primærstudier eller i analysen av primærstudier) ved bruk av relevante kriterier?                                 |    |        |     |
| Kommentar                               |   |    |        |     |
| 7                                       | Er metodene som ble brukt da resultatene ble sammenfattet, klart beskrevet?   |    |        |     |