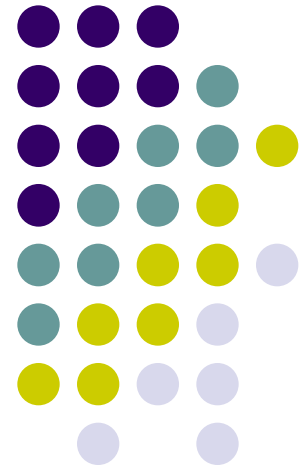


# 臨床應用與評值

## Application and evaluation

李玲玲 Ling-Ling Lee RN MPH PhD

慈濟科技大學 護理系 副教授



# 學習目標

- 能瞭解臨床應用的概念
- 能瞭解臨床應用的方法
- 能瞭解7 As 的意涵
- 能瞭解評值的不同層次
- 能瞭解評值的內涵

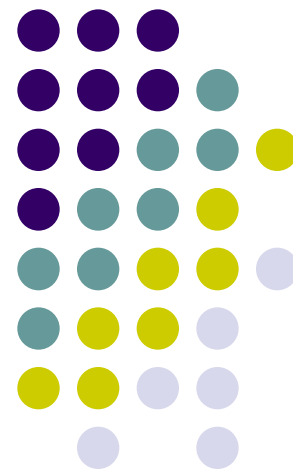


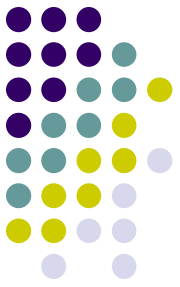


Figure 1-1 Triad of Evidence-Based Practice



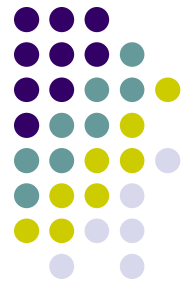
Source: Houser, 2008

# Evidence-based practice 實證實務

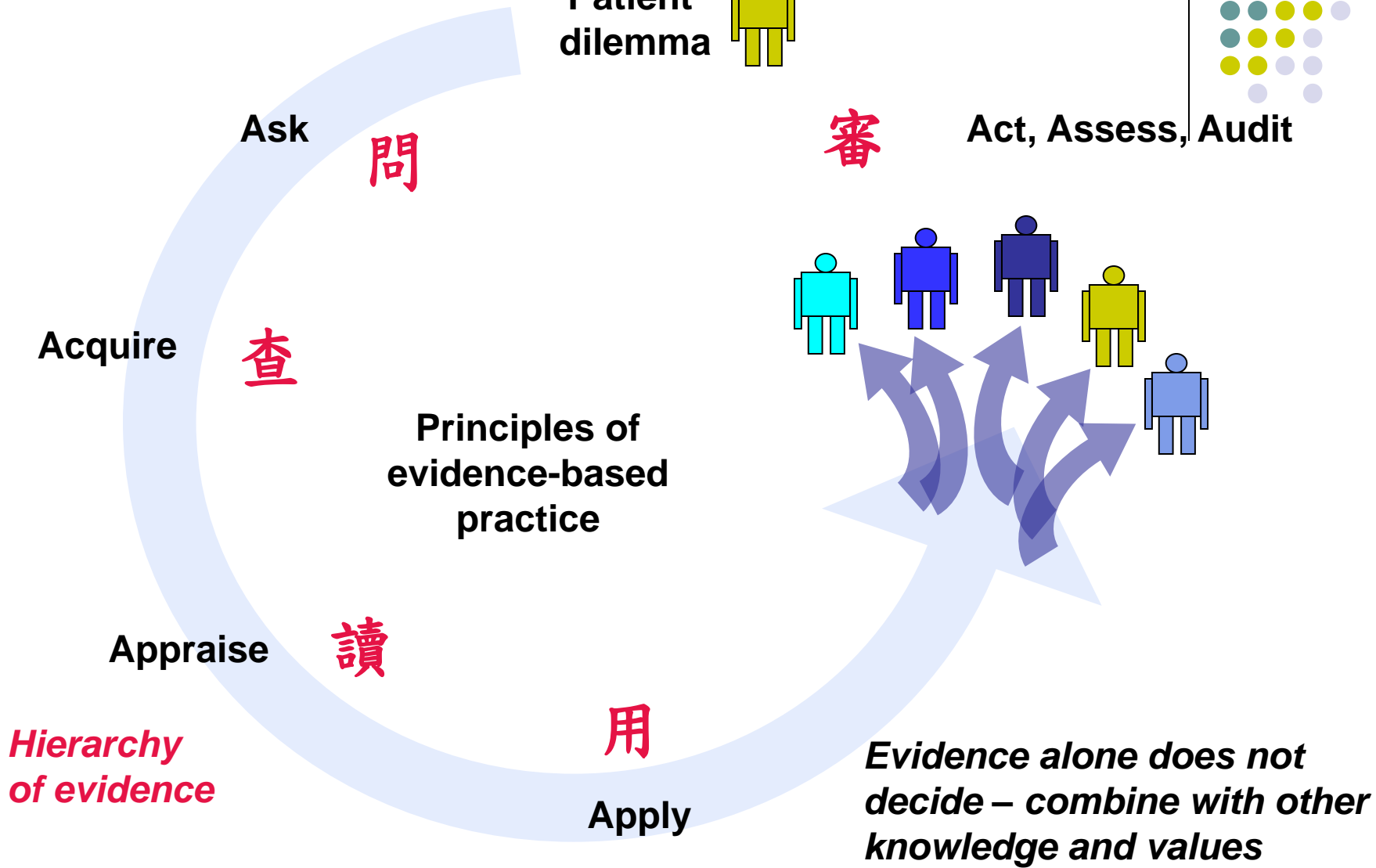


- Question formulation 形成問題
- Evidence search 搜尋證據
- Critical appraisal 嚴格評讀
- Evidence application 實務應用
- Outcome evaluation 結果評值

# Process of EBP



Patient dilemma 



# Process of EBP



Patient dilemma 

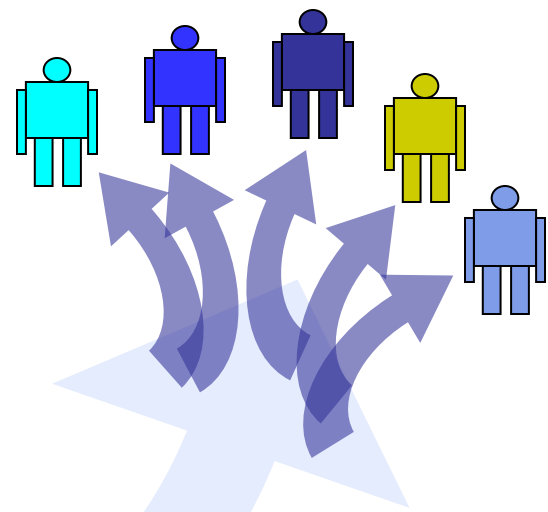
Act, Assess, Audit

Ask

Acquire

Appraise

Principles of evidence-based practice



*Hierarchy of evidence*

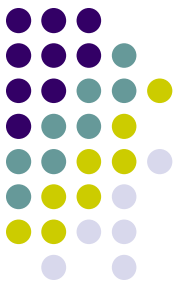
用  
**Apply**

*Evidence alone does not decide – combine with other knowledge and values*

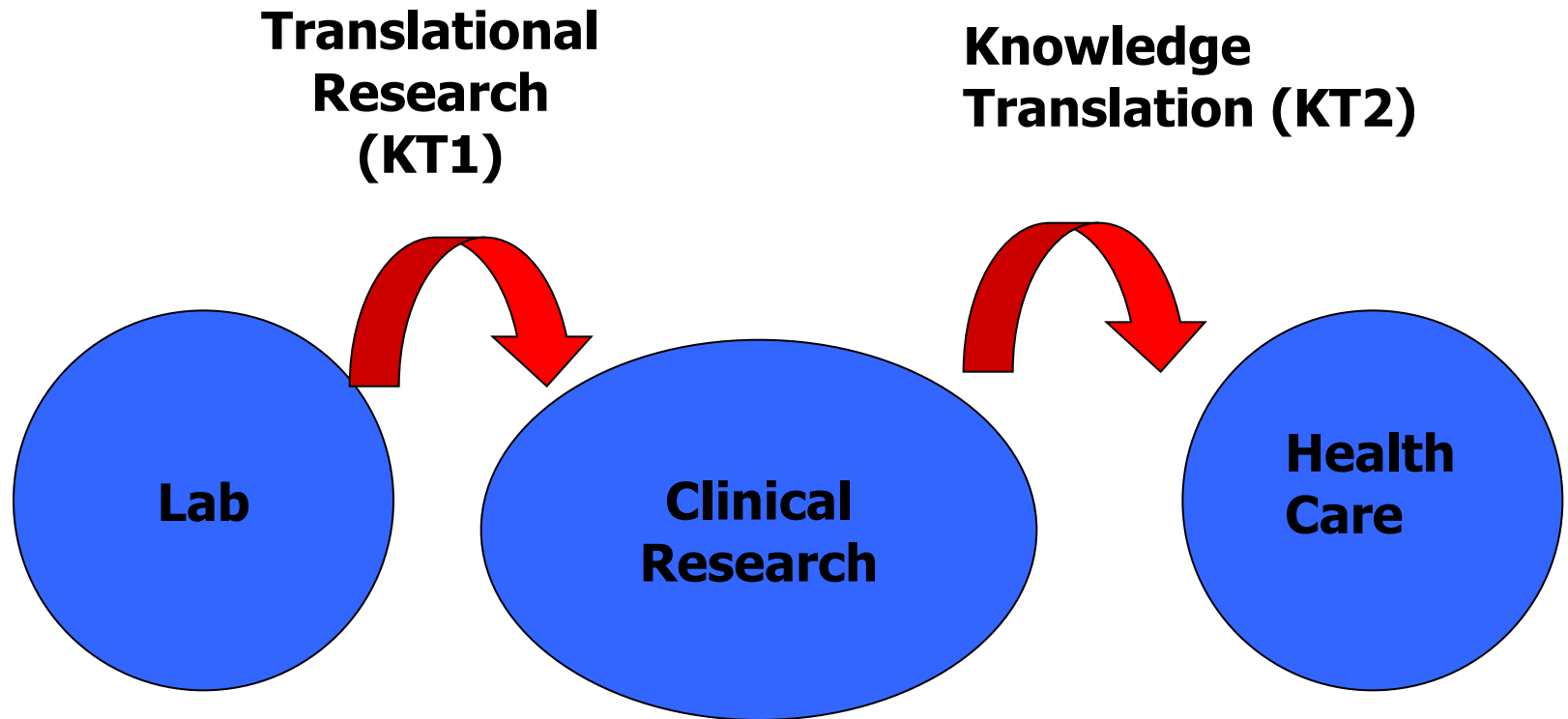


# Knowledge Translation (KT)

知識轉譯



# What is KT?





# 不同名詞 概念相似 ...

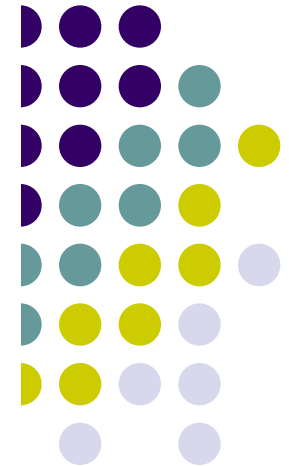
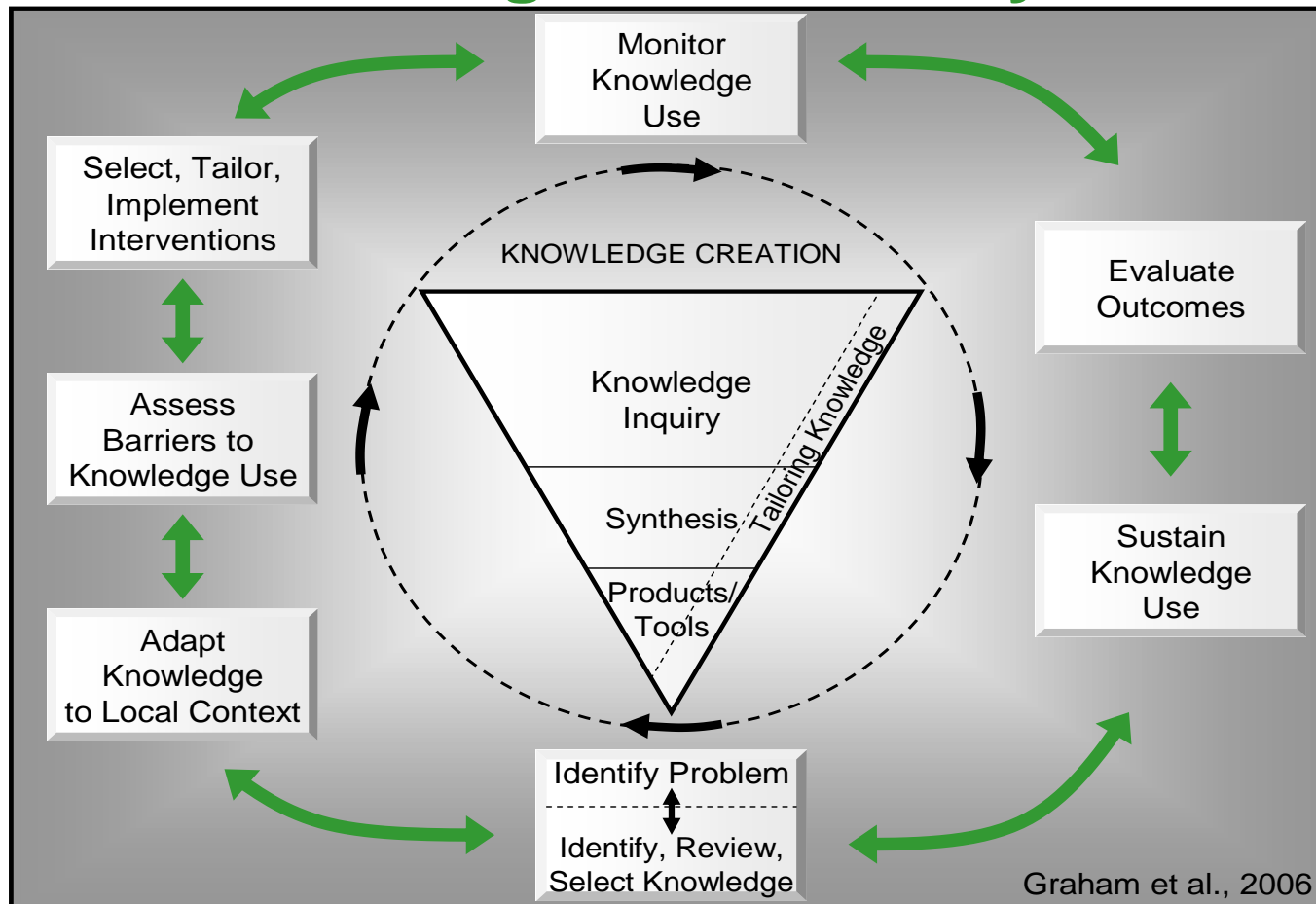


**Applied health research  
Diffusion  
Dissemination  
Getting knowledge into practice  
Impact  
Implementation  
Knowledge communication  
Knowledge cycle  
Knowledge exchange  
Knowledge management  
Knowledge translation**

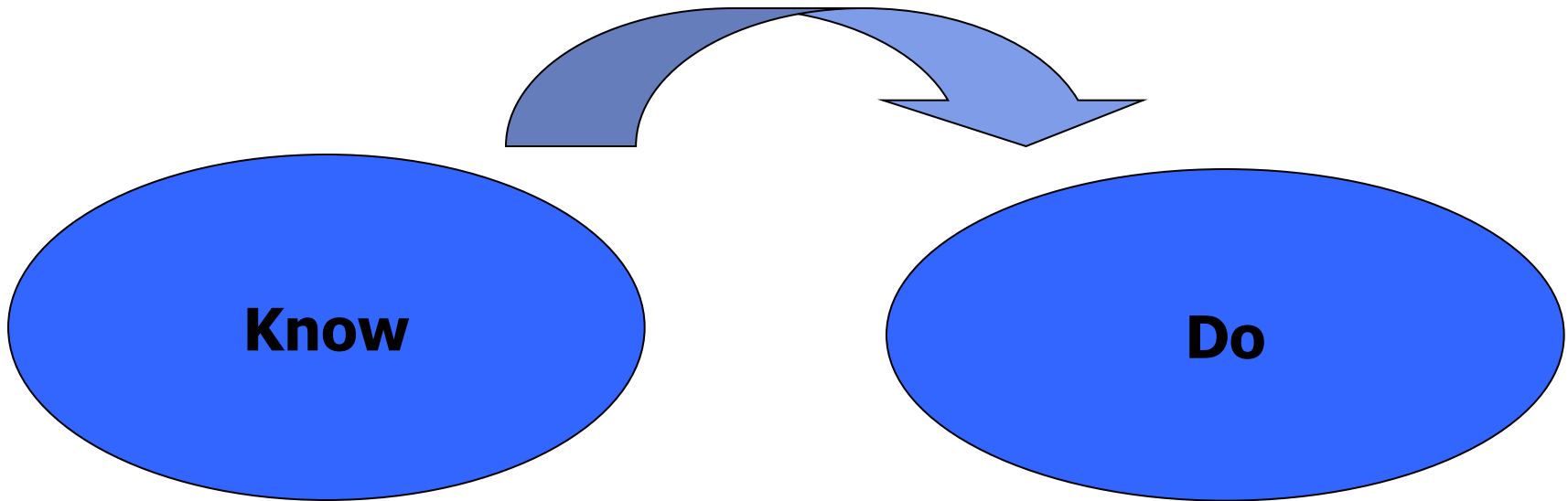
**Knowledge to action  
Knowledge mobilization  
Knowledge transfer  
Linkage and exchange  
Participatory research  
Research into practice  
Research transfer  
Research translation  
Transmission  
Utilization**

# KT framework

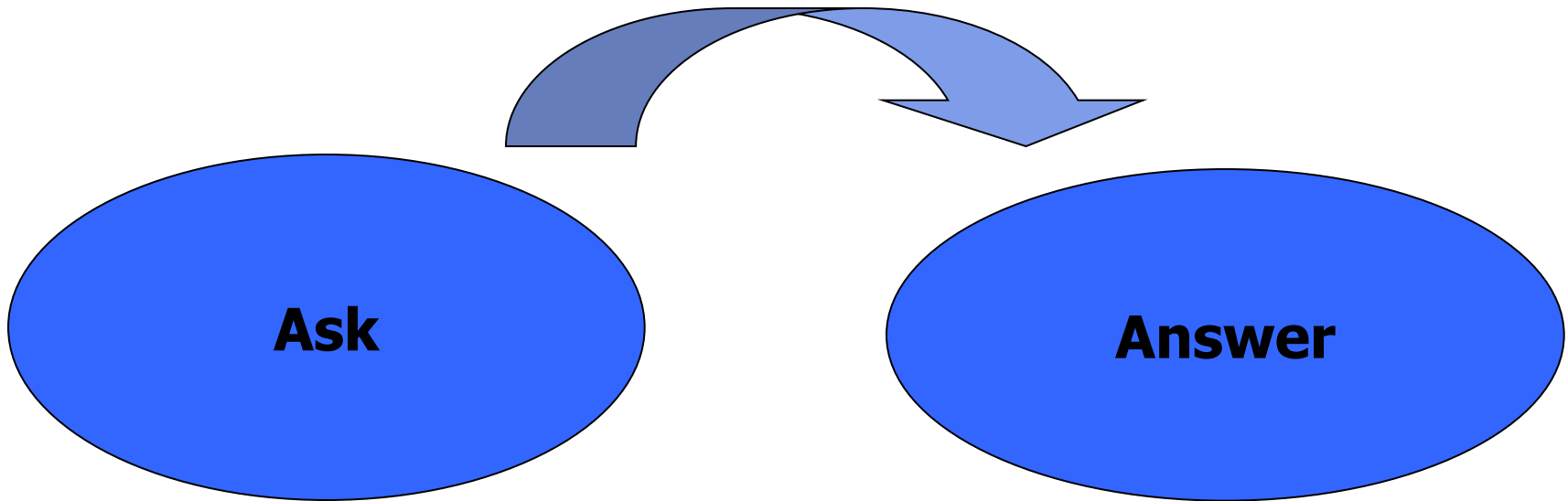
## Knowledge-to-Action Cycle



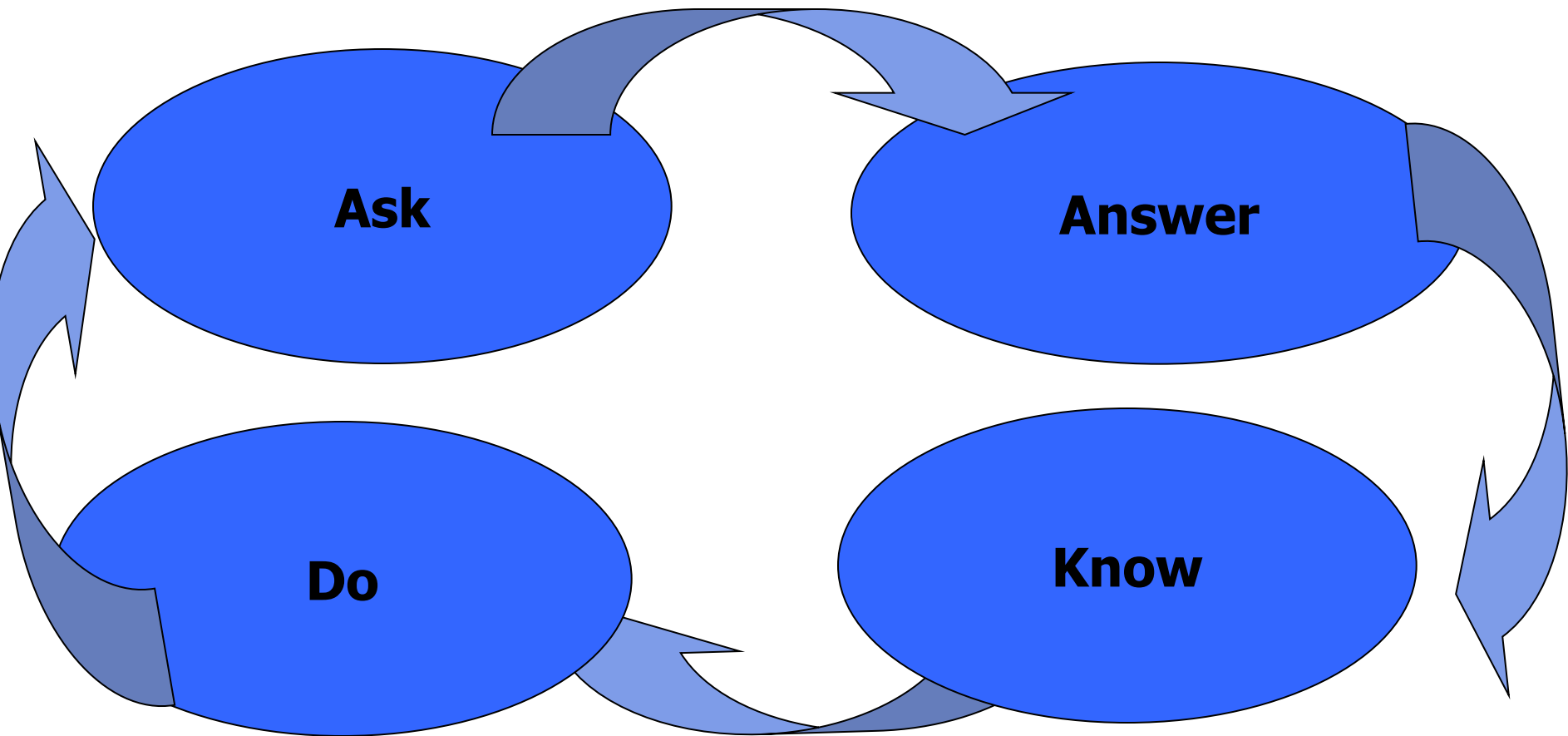
# KT “closing the know-do gap”

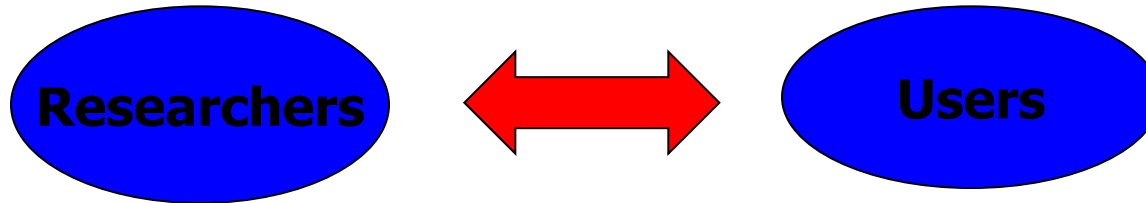


**But, fails to account for ...**

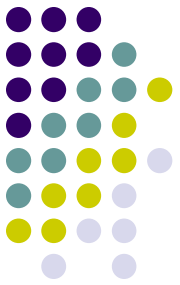


# KT key concepts





- **Knowledge translation is about ensuring that:**
  - **'users' are aware of and use research evidence to inform their decision making**
  - **Research is informed by current available evidence and the experiences and information needs of 'end users'**

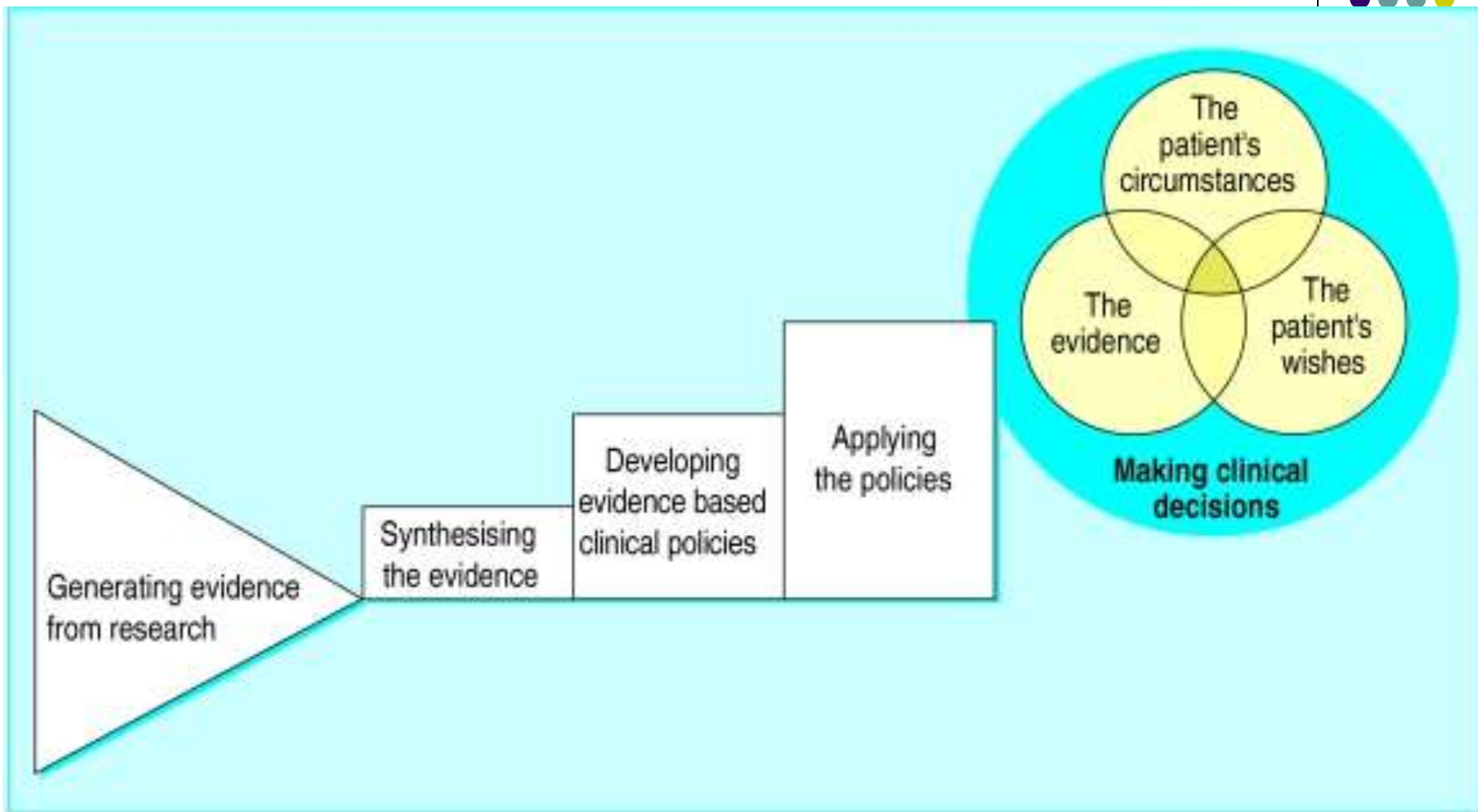


# BARRIERS

- I had considerable freedom of clinical choice of therapy: my trouble was that I did not know which to use and when.
- I would gladly have sacrificed my freedom for a little knowledge.

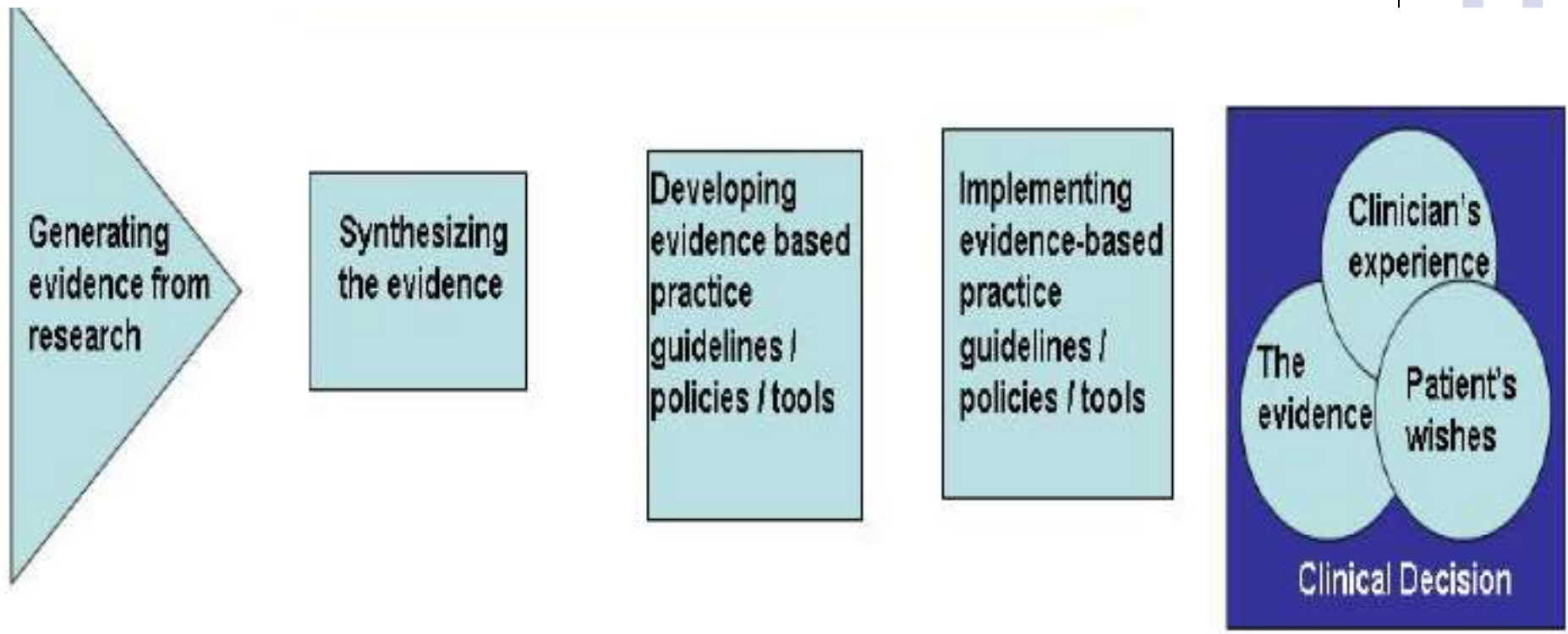
Sir Archie Cochrane. *Effectiveness and Efficiency: Random Reflections on Health Services*

<http://community.cochrane.org/about-us/history/archie-cochrane>



Haynes B and Haines A. Barriers and bridges to evidence based clinical practice. BMJ 1998; 317:273-276.



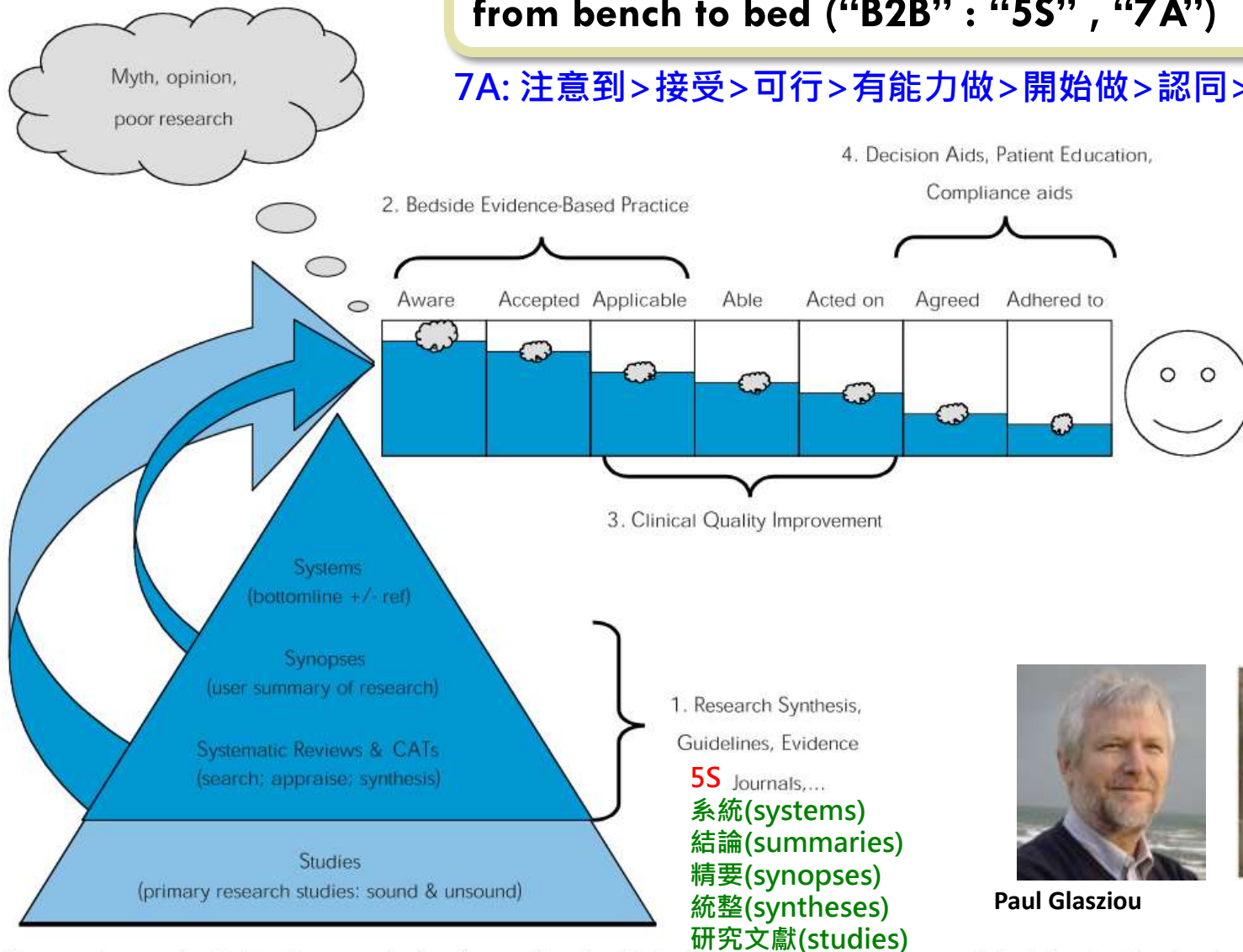


**KNOWLEDGE TRANSLATION**

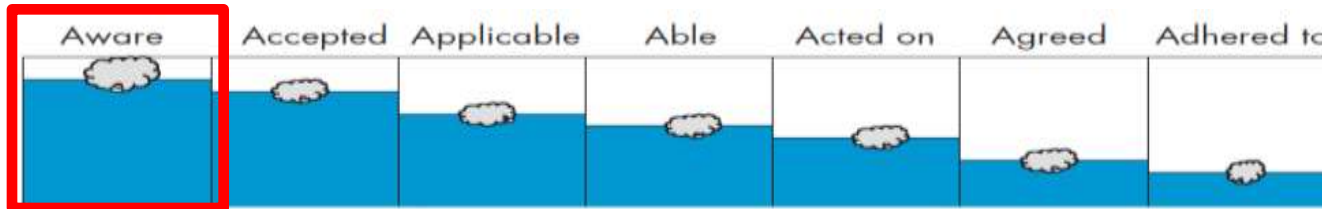
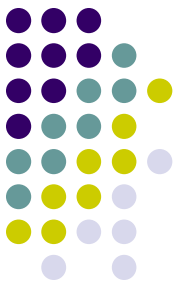
# 實證醫學之知識轉譯地圖

from bench to bed (“B2B” : “5S” , “7A”)

7A: 注意到 > 接受 > 可行 > 有能力做 > 開始做 > 認同 > 養成習慣

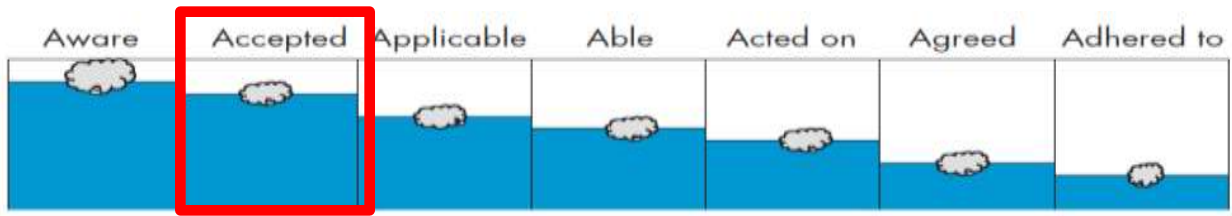
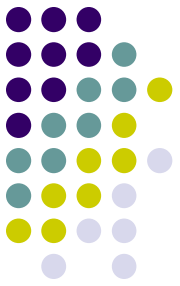


The research-to-practice pipeline. New research, of varying soundness, is added to the expanding pool and enters practice both directly or is reviewed, summarised, and systematised (delay) before entering practice, with leakage occurring at each of several stages between awareness and patient outcome. Different knowledge translation disciplines focus on different parts of the pipeline (1-4).

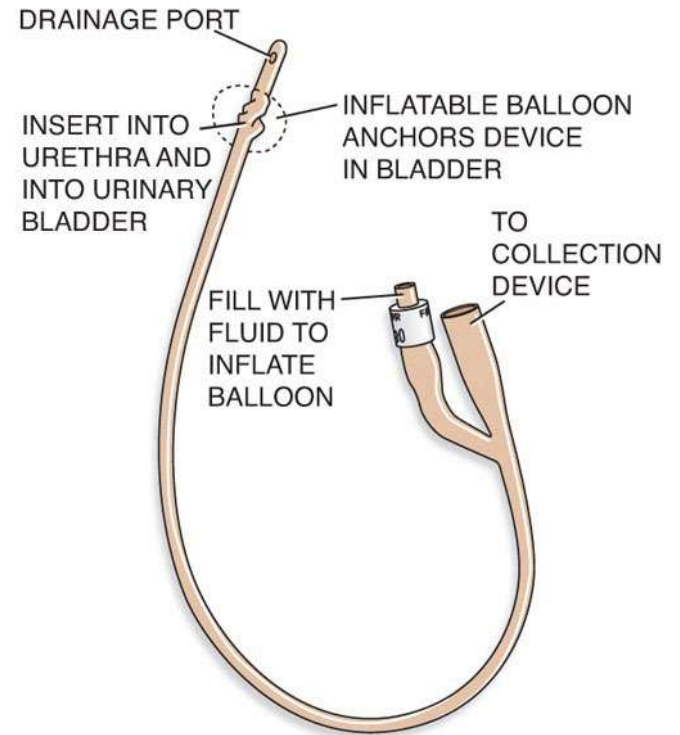


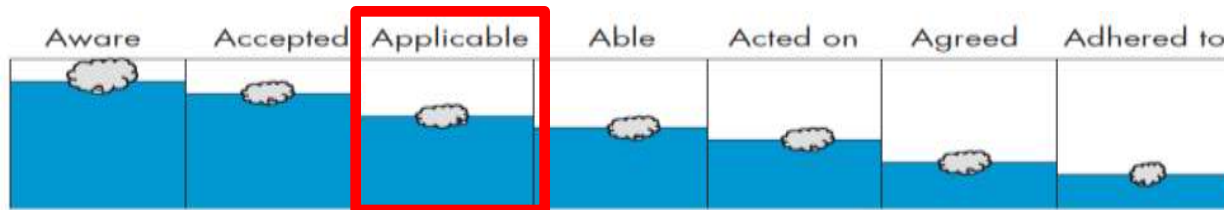
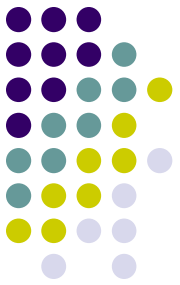
# 1.注意到 (Aware)

- My NCBI, McMaster PLUS
- Social Network
- Journal Club
- The translated Chinese Abstracts of CDSR (CACDSR)

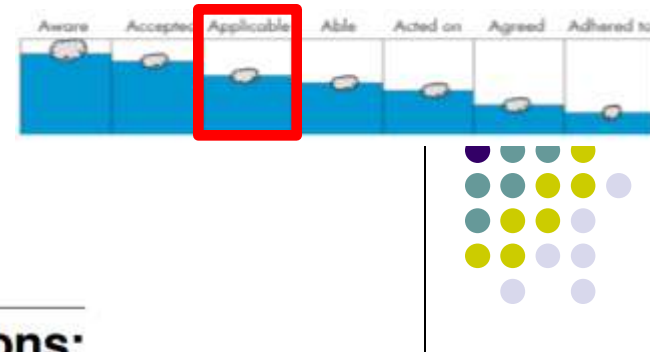


## 2.接受 (Accepted)





### 3.可行 (Applicable)

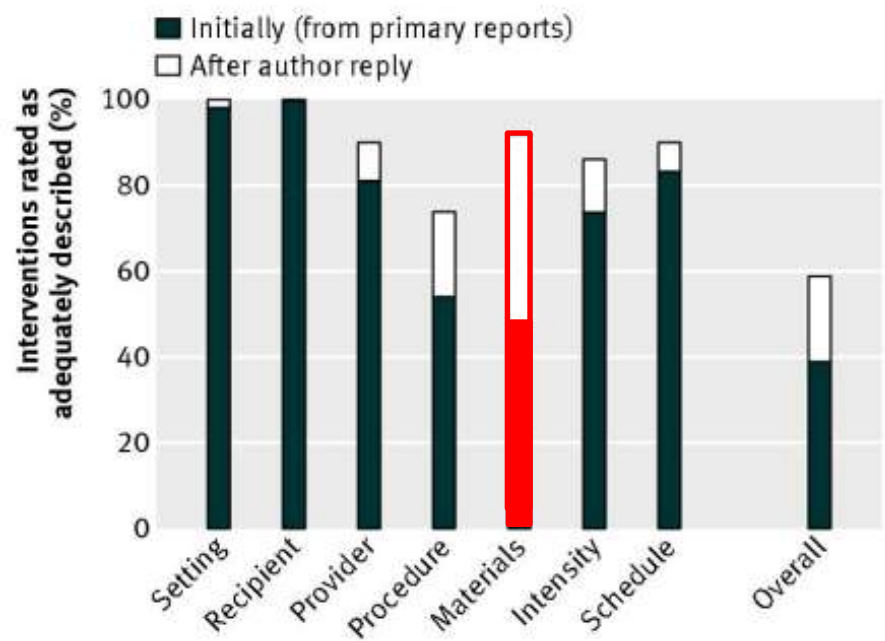


# 研究結果為何不「可行」?

## Poor description of non-pharmacological interventions: analysis of consecutive sample of randomised trials

OPEN ACCESS

Tammy C Hoffmann *associate professor of clinical epidemiology*, Chrissy Erueti *assistant professor*, Paul P Glasziou *professor of evidence-based medicine*



Of 137 interventions, only 53 (39%) were adequately described; this was increased to 81 (59%) by using 63 responses from 88 contacted authors.

The most frequently missing item was the "intervention materials" (47% complete), but it also improved the most after author response (92% complete).

**Improving description of health interventions in clinical trials!**

# 到底要如何「運動」？



**Exercise:** Total duration: 24 wk

*Aerobic/resistance/mix:* aerobic endurance training and low resistance training/high repetitive muscular strength work

*Frequency:* 2 sessions/wk (for 8 wk), 1 session/wk (16 wk) plus 3 sessions/wk at home

*Duration:* 2.5 hr class (8 wk) and 1 hr class (next 16 wk)

*Intensity:* not reported

*Modality:* not reported

*Setting:* hospital and home

*Other:* none

(Austin 2005)

**Exercise:** Total duration: 6 months

*Aerobic/resistance/mix:* aerobic

*Frequency:* 3 sessions/wk

*Duration:* 90 min

*Intensity:* target HR (50% of work in the max HR)

*Modality:* walking on a treadmill

*Setting:* not reported

(Bocalini 2008)

**Exercise:** Total duration: 6-months

*Aerobic/resistance/mix:* aerobic

*Frequency:* 6 or 7 sessions/wk

*Duration:* 10-20/session

*Intensity:* 70% of peak  $\text{VO}_2$

*Modality:* cycle ergometer (Hambrecht 2000)

*Setting:* first 2 wk in hospital, remainder home based

**Exercise:** Total duration: 2 wk inpatient followed by 6 months as outpatient

*Aerobic/resistance/mix:* aerobic

*Frequency:* 7 sessions/wk

*Duration:* 20 min/session

*Intensity:* 70% symptom limited  $\text{VO}_2$  max

*Modality:* cycle ergometers

*Setting:* supervised sessions at hospital and home-based unsupervised sessions

(Gielen 2003)

**Exercise:** Total duration: 12 wk

*Aerobic/resistance/mix:* aerobic

*Frequency:* 1 session/wk

*Duration:* 30-50 min

*Intensity:* not reported

*Modality:* gymnasium: treadmills, stationary cycles, recumbent cycles

Home-based: hall walks, stairs and sporting activities such as lawn bowls

*Setting:* supervised gymnasium, home-based programme tailored to participant's need

(Davidson 2010)

**Exercise:** Total duration: 5 months

*Aerobic/resistance/mix:* mix

*Frequency:* 2 sessions/wk

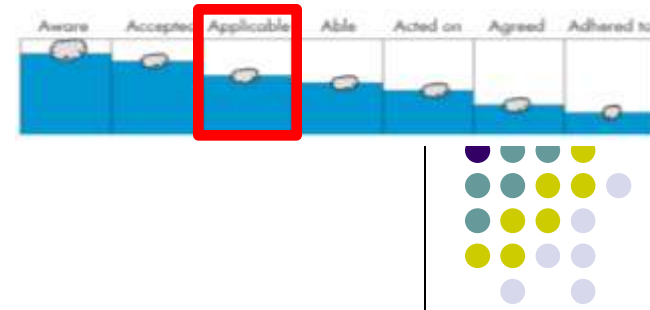
*Duration:* 45 min

*Intensity:* not reported

*Modality:* cycling, free weights and elastic rubber-bands (Thera-bands)

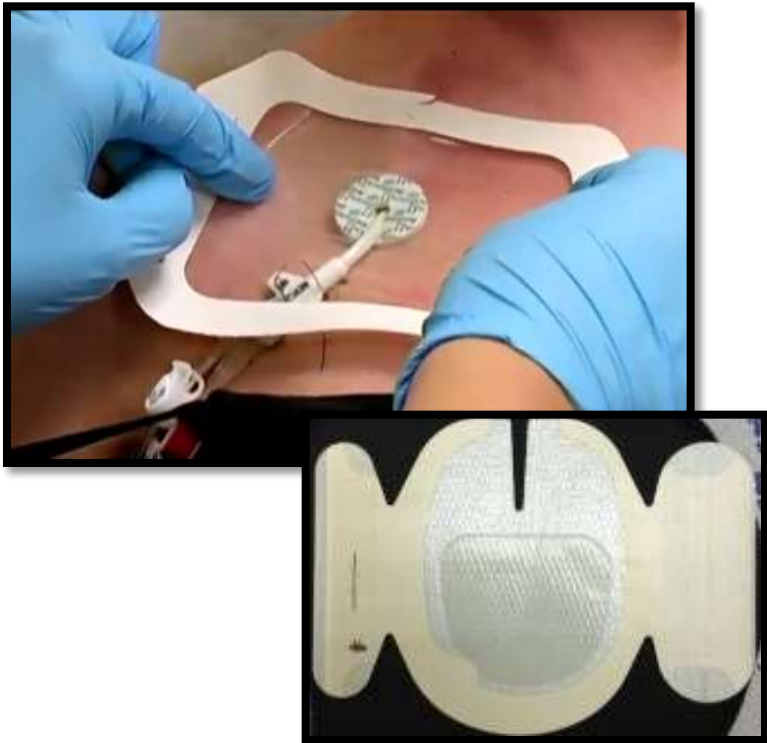
*Setting:* hospital outpatients, supervised by physiotherapists

(Jónsdóttir 2006)



# 研究結果為何不「可行」？

使用Chlorhexidine Dressing可降低在重症加護病房內使用血管內導管病人導管相關性感染的發生率

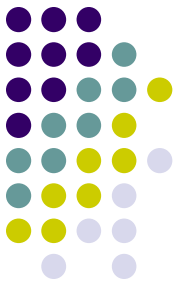


highly adhesive dressing (45元)



**Chlorhexidine Dressing** (200元)  
 醫院沒有進？  
 病人無法自費負擔？





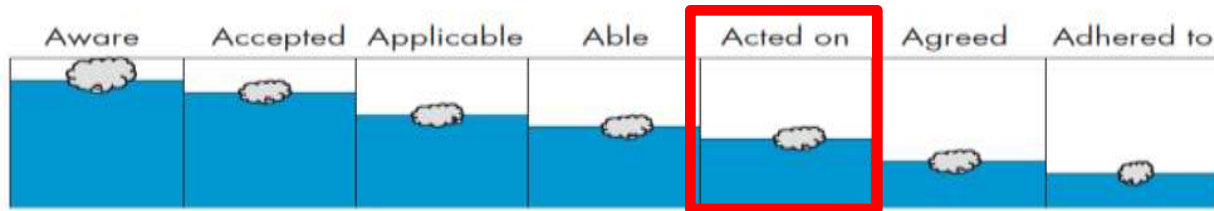
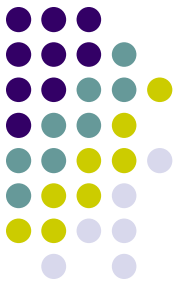
## 4.有能力做 (Able)



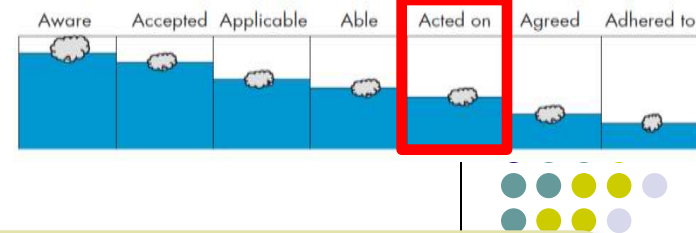
# 教育訓練

讓臨床工作人員在  
臨床實務操作前，  
有足夠的養成時間

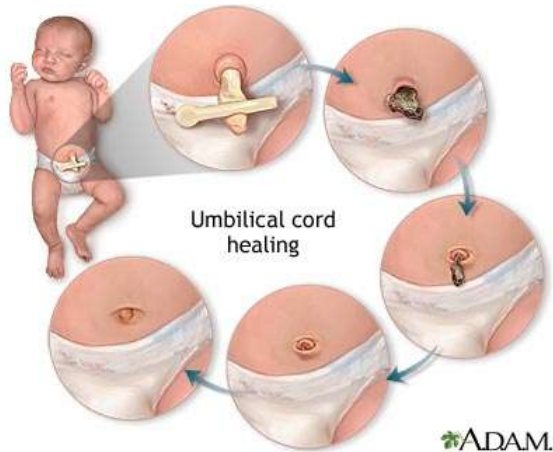




## 5.開始做 (Acted On)



# 為什麼不「開始做」？



臍帶護理：採自然風乾？



腰椎穿刺：不須平躺6-8小時？



待產期間 NPO？



# 如何於臨床「開始做」？

**EBHC** 系統性文獻回顧/統合分析  
找出最佳臨床決策



+

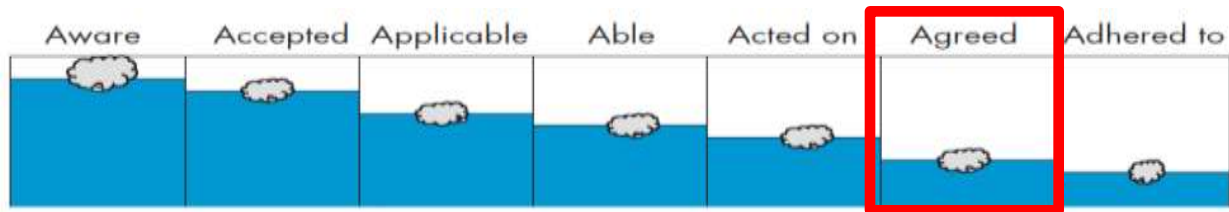
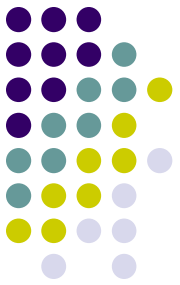
**TRM** 主要決策者參與  
跨團隊合作  
病人參與  
組織內外系統化改變



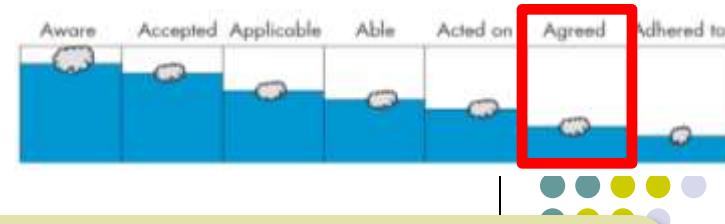
# 成效追蹤

ISO, indicators...  
Patient outcomes





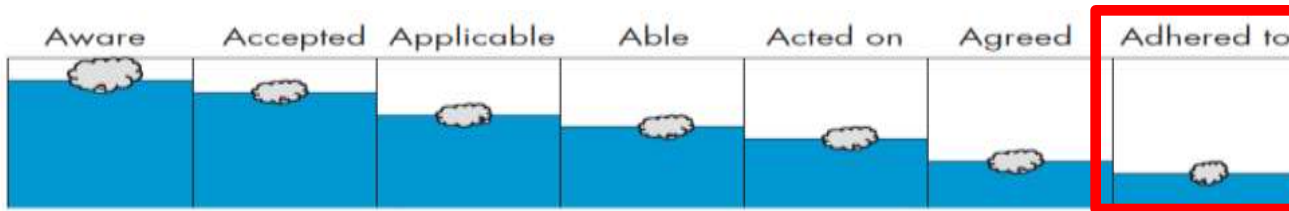
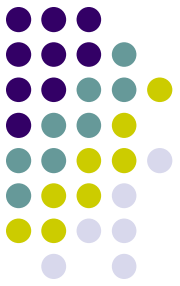
## 6. 認同 (Agreed)



## Patient-Centered Communication: Shared Decision Making (SDM)

- *A wise decision isn't dictated by science and clinical expertise alone, but requires consideration of the patient's perspective*
- “Shared decision-making is a process in which *clinicians and patients work together* to select tests, treatments, management or support packages, based on clinical evidence and the patient's informed preferences.
- *It involves the provision of evidence based information about options, outcomes and uncertainties, together with decision support counselling and a system for recording and implementing patients' informed preferences.*”

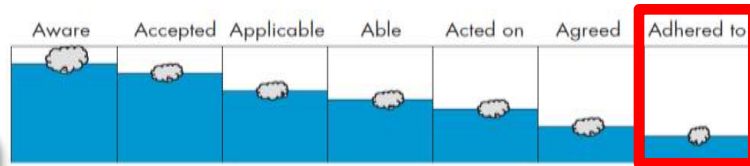




## 7. 養成習慣 (Adhered To)



讓病人養成習慣，持續遵從實證醫學的治療方式，最主要還是「提醒」！



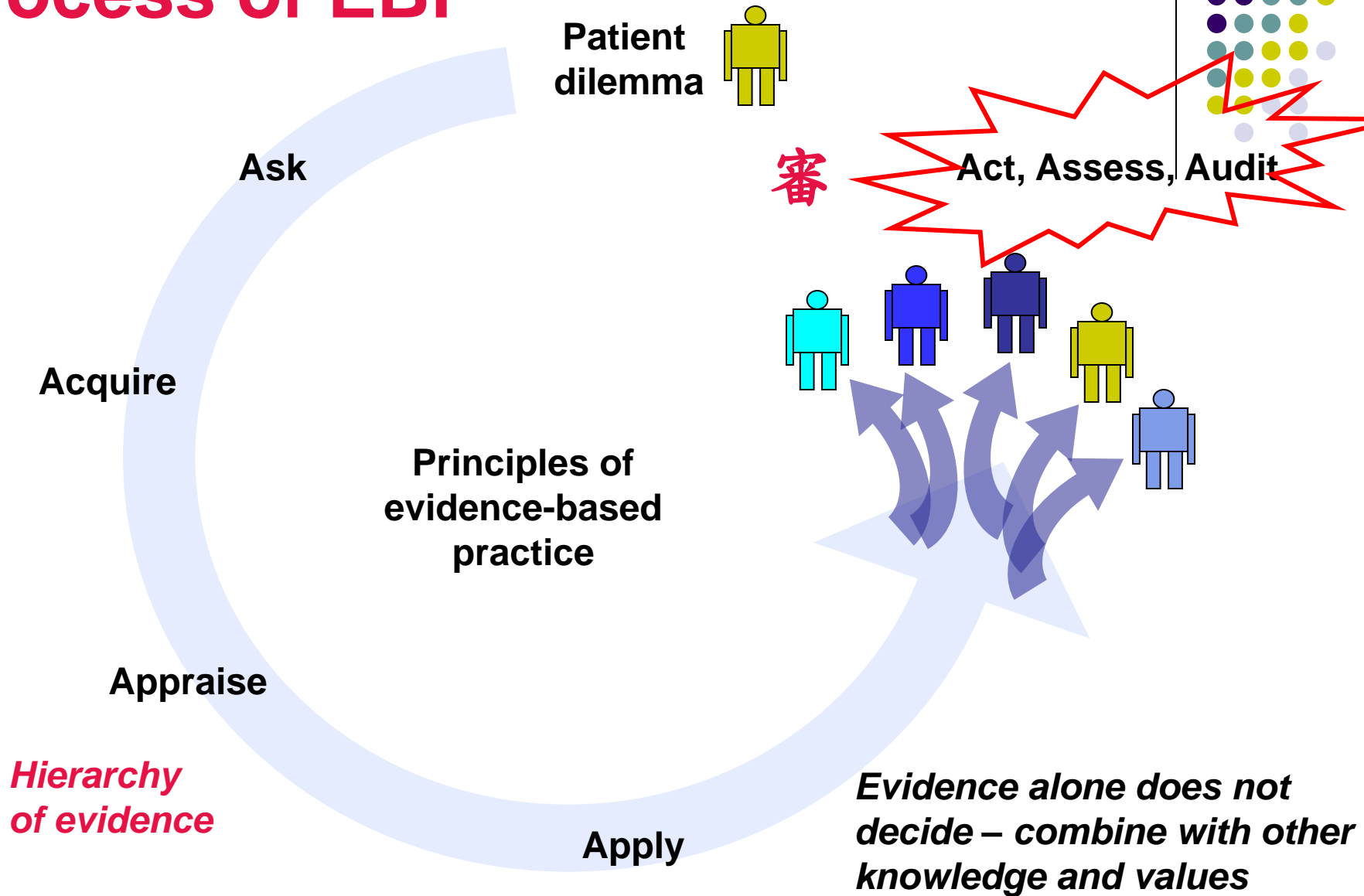
吃藥提醒

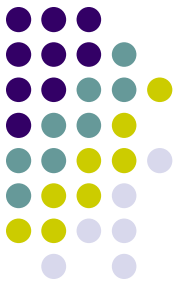


JoiUp 運動雲



# Process of EBP





# Evaluation

評值

# What are the Outcomes?



- Clinical Outcomes
- Skills
- Attitudes
- Knowledge
- Behaviours

# Evaluation of EBP performance



- 2 levels -1

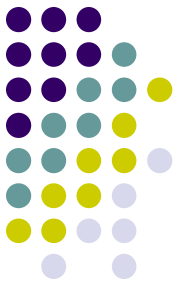
Do **we/staff** follow the 5 EBP steps in carrying out patient care?

- Acquire (the evidence by adequate searching)
- Ask (the clinical question needing solution)
- Appraise (the evidence for level and quality)
- Apply (the evidence to healthcare practice)
- Assess (the effectiveness of the healthcare)

(Green et al. 2006)

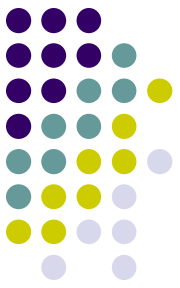
➔ **self evaluation** (Straus SE, 2010)

# Ask



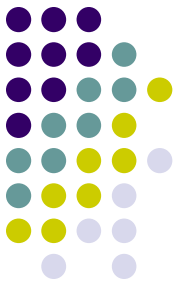
- Am I asking any **clinical questions** at all?
- Am I asking **focused** questions?
- Am I using a "**map**" to locate my knowledge gaps and articulate questions?
- Can I get myself **unstuck** when asking questions?
- Do I have a working method to **save** my questions for later answering?

# Acquire



- Am I **searching** at all?
- Do I know the **best sources** of current evidence for my clinical discipline?
- Do I have **easy access** to the best evidence for my clinical discipline?
- Am I becoming **more efficient** in my searching?
- Am I using truncations, **Booleans, MeSH headings, thesaurus, limiters**, and intelligent **free text** when searching MEDLINE?
- How do my searches **compare with** those of research **librarians or other** respected colleagues who have a passion for providing best current patient care?

# Appraise



- Am I **critically** appraising external evidence at all?
- Are the critical appraisal guides **becoming easier** for me to apply?
- Am I becoming more accurate and efficient in applying some of the **critical appraisal measures**? (such as likelihood ratios, and NNTs and the like)
- Am I creating any appraisal **summaries**?

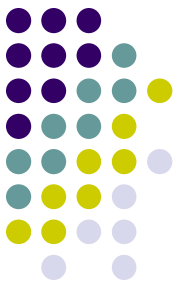


# Apply



- Am I **integrating** my critical appraisals into my practice at all?
- Am I becoming more accurate and efficient in **adjusting** some of the critical appraisal measures to fit my individual patients (pretest probabilities, NNTs etc.)?
- Can I explain (and resolve) **disagreements** about management decisions in terms of this integration?

# Audit



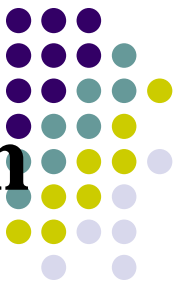
- When evidence suggests a change in practice, am I identifying **barriers and facilitations** to this change?
- Have I identified a **strategy** to implement this change, targeted to the barriers I've identified?
- Have I carried out any check, such as audits of my diagnostic, therapeutic, or other EBM performance including **evidence use as well as impact on clinical outcomes**?
- Am I considering **sustainability** of this change?

# Evaluation of evidence-based practice performance

(Green et al. 2006)



- 2 levels -2
  - The data from clinical practice can determine whether the health professional has:
    - Influenced desirable patient **outcomes**



# Formative and Summative Evaluation

- **Formative evaluation 型式評值**
  - Ongoing evaluation; process evaluation, e.g.:
    - regularly checking one's own care of patients
    - Evaluating practice short time periods (e.g. monthly)
- **Summative evaluation 總結評值**
  - When evaluation is at the end of a project
  - Checking whether the care provided was performed in the best way possible and whether the patients had the best outcomes possible

# Prevention and management of pressure sore



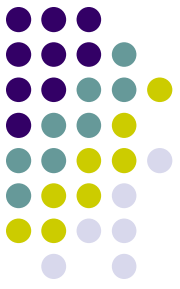
- **Formative evaluation 型式評值**
  - Adherence to care procedure: mattress, change position
- **Summative evaluation 總結評值**
  - Reduction of incidence of pressure sore

# 成本



- Cost of preventing an event (COPE) =
  - NNT x number of years treated x 365 days x the daily cost of the treatment (元)

# 成本



- 直接成本
  - 例如: 購買藥物的花費
- 間接成本
  - 例如: 工作人員所花費的時間



團體會員名冊

申請資格

申請辦法

應繳會費

會員權益

## 應繳會費

會員

說明：

1. 入會費需於會員入會時繳納
2. 常年會費需於各年度繳納
3. 台灣實證護理學會會員申請入會時，入會費給予八折優惠。(請同時提供您於TEBNA的會員編號)

各類會員之費用如下：

- |             |       |      |       |
|-------------|-------|------|-------|
| 1. 個人會員：入會費 | 2000元 | 常年會費 | 1000元 |
| 2. 團體會員：入會費 | 5000元 | 常年會費 | 5000元 |
| 3. 贊助會員：入會費 | 2000元 | 常年會費 | 2000元 |
| 4. 學生會員：入會費 | 500元  | 常年會費 | 500元  |

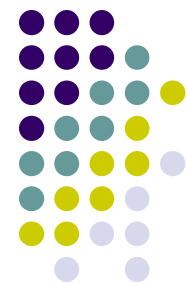
# 台灣實證醫學學會粉絲頁 (去學術化的實證醫學)



歡迎加入~  
台灣實證醫學學會







# 感謝

萬芳醫院陳可欣副主任7As講義提供

感謝聆聽!

