Evidence-Based Nursing Practice

Day 2:

- What is a systematic review?
- Critically appraising a systematic review
- Levels of evidence
- Using critical appraisal to synthesize evidence for a P&P

Dec 18, 2015

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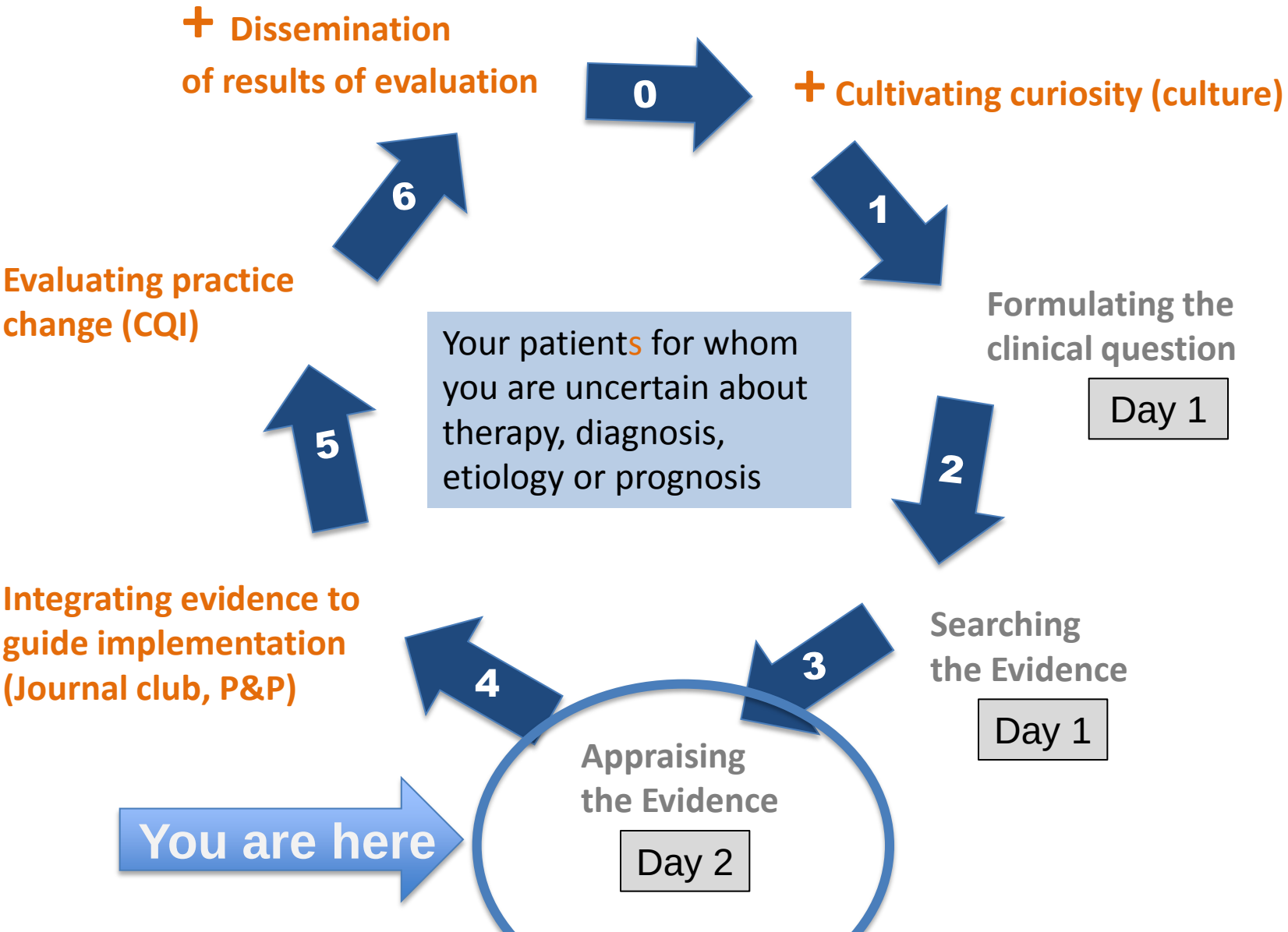
EBNP PROCESS: A METHOD0LOGY + A FRAMEWORK



KNOWLEDGE SYNTHESIS

And what are systematic reviews?

WHAT IS SYNTHESIS?

syn·the·sis
/ˈsinTHəsəs/

noun

combination or composition, in particular.

- the combination of ideas to form a theory or system.
  noun: **synthesis**; plural noun: **syntheses**
  "the synthesis of intellect and emotion in his work"
  synonyms: combination, union, amalgam, blend, mixture, compound, fusion, composite, alloy; More
- the production of chemical compounds by reaction from simpler materials.
  noun: **synthesis**
  "the synthesis of methanol from carbon monoxide and hydrogen"
- (in Hegelian philosophy) the final stage in the process of dialectical reasoning, in which a new idea resolves the conflict between thesis and antithesis.
- GRAMMAR
  the process of making compound and derivative words.
- LINGUISTICS
  the use of inflected forms rather than word order to express grammatical structure.

Origin

early 17th century: via Latin from Greek *sunthesis*, from *suntithenai* 'place together.'

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Definition found on Google

DIFFERENT TYPES OF KNOWLEDGE SYNTHESES

- Reviews of the literature
  - Narrative review (summary of studies on a topic- high chance of bias)
  - Systematic review
  - Systematic review with meta-analysis (statistical pooling)
  - Mixed methods review (quantitative and qualitative)
  - Scoping review (what kind of evidence is out there)
  - Realist review (examines the literature on complex interventions)
  - Practice guidelines
  - Policies and procedures…

WHAT IS A SYSTEMATIC REVIEW?

- A type of knowledge synthesis study that brings together all the current (published and unpublished) evidence to answer a clearly stated question.
- The evidence is collected in an explicit and systematic way using rigorous and exhaustive search methods.
- Gold standard is for a librarian to conduct the search and for a second librarian to peer review the search.
- Specific criteria are used to select studies for inclusion in the analysis.
- Included studies can be quantitative (traditionally), qualitative, or both.
- The included studies are appraised for quality and the findings are summarized.
- If it is a meta-analysis the data from the included studies is statistically pooled for a combined effect.
- The methodology is designed to remove bias as much as possible (of the authors and in the evidence).
- The quality of the studies that are found and included will determine the clinical importance of the results i.e. the strength of the evidence.

CRITICAL APPRAISAL

Appraising a systematic review

APPRAISING A SYSTEMATIC REVIEW

1. What question was addressed? Was it focused and clearly stated and?
2. Were all relevant studies identified? (published and unpublished). Was the search well reported/conducted? Can it be repeated with same results?
3. Were inclusion criteria predetermined, clearly stated and appropriate?
4. Were the included studies valid? Were the studies appraised?
5. Did 2 or more individuals select studies and extract data?
6. Were results similar from study to study? Ideally there would be homogeneity in the results. See forest plot.
7. Was conflict of interest reported?
8. What is the clinical importance of the results? Are the results precise? Does the authors' interpretation of results match the results themselves?
9. How are the results presented?

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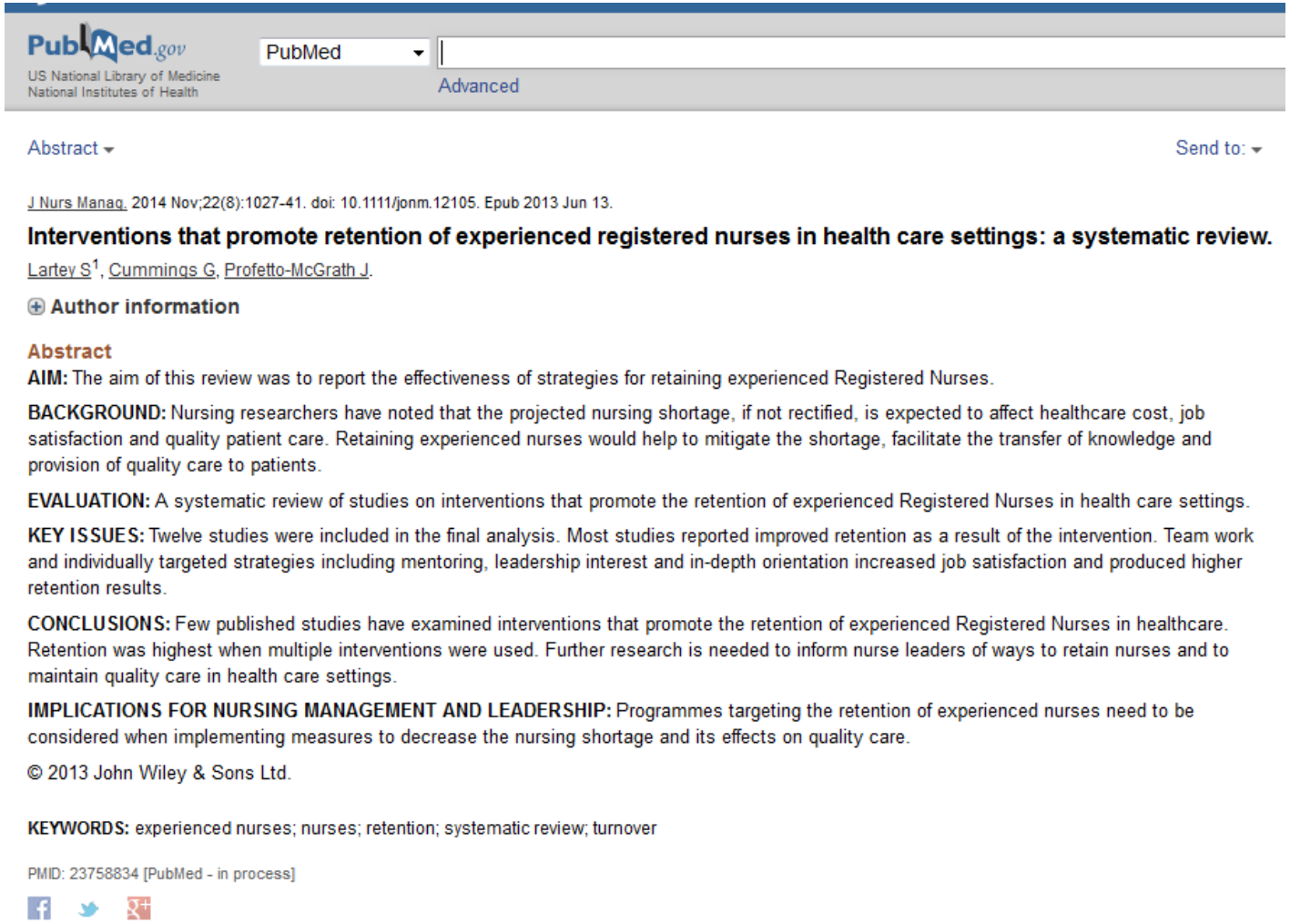
Critical Appraisal tools - Dartmouth College

APPRAISING A SYSTEMATIC REVIEW VIDEO

- Part 1 : 8 mins
  https://www.youtube.com/watch?v=NSUk5FLbJoY&list=PLM2dV1wp3vrunxm9S8ObFDkeX1_-g4wX6&index=8

- Part 2 : 5 mins
  https://www.youtube.com/watch?v=Ly__U-n4fiQ&list=PLM2dV1wp3vrunxm9S8ObFDkeX1_-g4wX6&index=9

HANDS ON APPRAISAL OF SYSTEMATIC REVIEW



PubMed.gov
US National Library of Medicine
National Institutes of Health

PubMed

Advanced

Abstract

Send to:

J Nurs Manag. 2014 Nov;22(8):1027-41. doi: 10.1111/jonm.12105. Epub 2013 Jun 13.

Interventions that promote retention of experienced registered nurses in health care settings: a systematic review.

Lartey S[1], Cummings G, Profetto-McGrath J.

Author information

Abstract

AIM: The aim of this review was to report the effectiveness of strategies for retaining experienced Registered Nurses.

BACKGROUND: Nursing researchers have noted that the projected nursing shortage, if not rectified, is expected to affect healthcare cost, job satisfaction and quality patient care. Retaining experienced nurses would help to mitigate the shortage, facilitate the transfer of knowledge and provision of quality care to patients.

EVALUATION: A systematic review of studies on interventions that promote the retention of experienced Registered Nurses in health care settings.

KEY ISSUES: Twelve studies were included in the final analysis. Most studies reported improved retention as a result of the intervention. Team work and individually targeted strategies including mentoring, leadership interest and in-depth orientation increased job satisfaction and produced higher retention results.

CONCLUSIONS: Few published studies have examined interventions that promote the retention of experienced Registered Nurses in healthcare. Retention was highest when multiple interventions were used. Further research is needed to inform nurse leaders of ways to retain nurses and to maintain quality care in health care settings.

IMPLICATIONS FOR NURSING MANAGEMENT AND LEADERSHIP: Programmes targeting the retention of experienced nurses need to be considered when implementing measures to decrease the nursing shortage and its effects on quality care.

KEYWORDS: experienced nurses; nurses; retention; systematic review; turnover

PMID: 23758834 [PubMed - in process]

INTRODUCTION TO LEVELS OF EVIDENCE

What are levels of evidence?

WHAT ARE LEVELS OF EVIDENCE?

- Remember: Critical appraisal is a systematic way of assessing the quality and relevance to practice of a given research article.
- Some evidence has been pre-appraised and assigned a “level of evidence”
  - You may wish to assign levels of evidence when doing a synthesis for a P&P

WHAT ARE LEVELS OF EVIDENCE?

- Applied to the evidence for type of study.
- Sometimes classified under question type.
- Not the same as the ~~evidence hierarchy pyramid~~.
- Over 100 different grading scales in use[1]!
- A few commonly used examples:
  - Centre for Evidence-Based Medicine, Oxford: 1a-5
  - GRADE: A-D combined with 1 or 2 (UpToDate uses this system)
  - SORT (Patient centered, used in family medicine since 2004): A-C

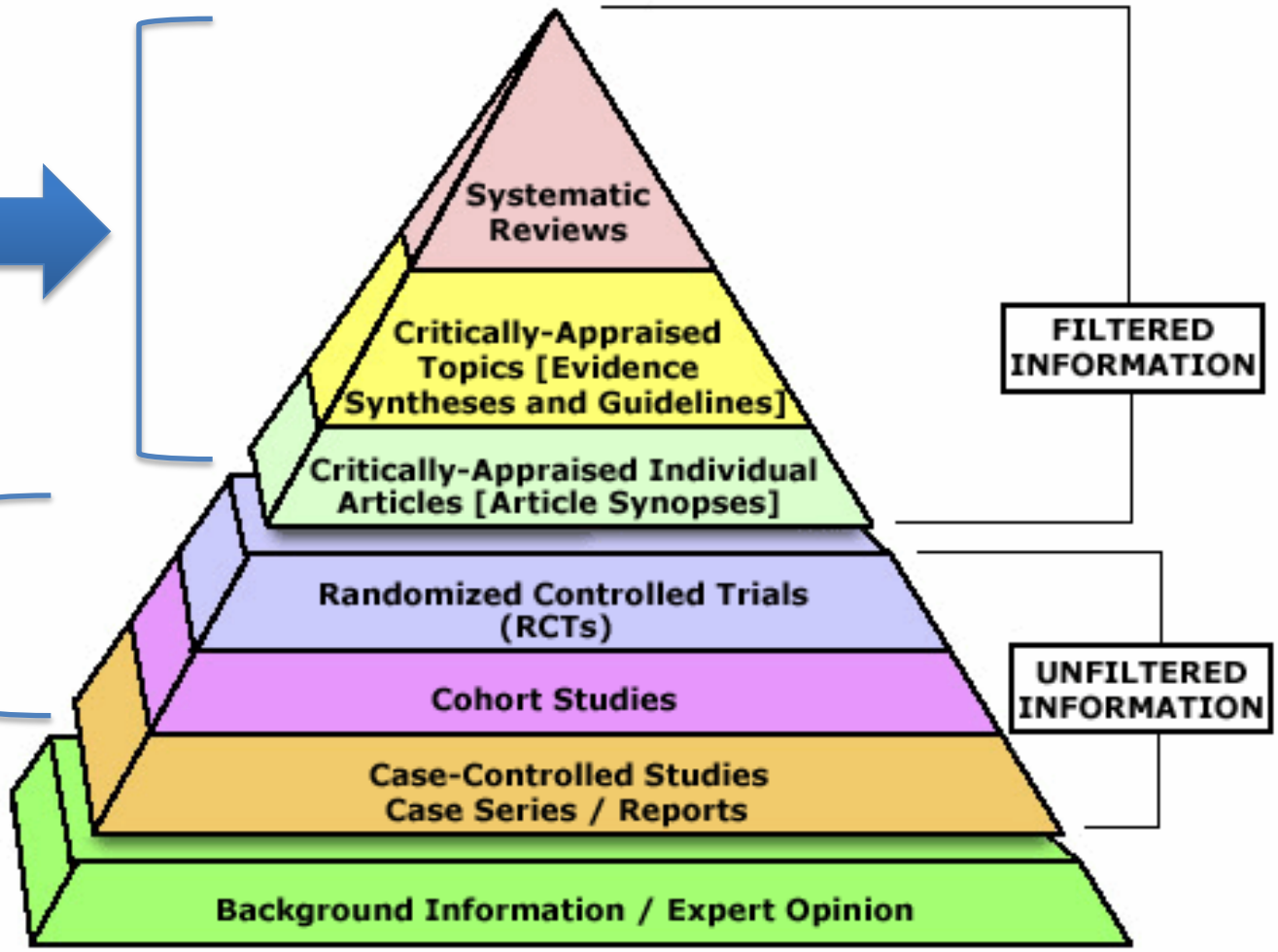
1 Ebell MH[1], Siwek J, Weiss BD, Woolf SH, Susman J, Ewigman B, Bowman M. Strength of recommendation taxonomy (SORT): a patient-centered approach to grading evidence in the medical literature. Am Fam Physician. 2004 Feb 1;69(3):548-56.

http://www.aafp.org/afp/2004/0201/p548.html
http://www.ncbi.nlm.nih.gov/pubmed/14971837?dopt=Abstract

JUST BECAUSE IT'S FILTERED, DOESN'T MEAN IT'S PRE-APPRAISED

May still need to be appraised by you

Needs to be appraised by you



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See course website for interactive version of this pyramid.

OXFORD CENTRE FOR EVIDENCE-BASED MEDICINE

Level	Therapy / Prevention, Aetiology / Harm	Prognosis	Diagnosis	Differential diagnosis / symptom prevalence study	Economic and decision analyses
1a	SR (with homogeneity*) of RCTs	SR (with homogeneity*) of inception cohort studies; CDR" validated in different populations	SR (with homogeneity*) of Level 1 diagnostic studies; CDR" with 1b studies from different clinical centres	SR (with homogeneity*) of prospective cohort studies	SR (with homogeneity*) of Level 1 economic studies
1b	Individual RCT (with narrow Confidence Interval"¡)	Individual inception cohort study with > 80% follow-up; CDR" validated in a single population	Validating** cohort study with good" " " reference standards; or CDR" tested within one clinical centre	Prospective cohort study with good follow-up****	Analysis based on clinically sensible costs or alternatives; systematic review(s) of the evidence; and including multi-way sensitivity analyses
1c	All or none§	All or none case-series	Absolute SpPins and SnNouts" "	All or none case-series	Absolute better-value or worse-value analyses " " " "
2a	SR (with homogeneity*) of cohort studies	SR (with homogeneity*) of either retrospective cohort studies or untreated control groups in RCTs	SR (with homogeneity*) of Level >2 diagnostic studies	SR (with homogeneity*) of 2b and better studies	SR (with homogeneity*) of Level >2 economic studies
2b	Individual cohort study (including low quality RCT; e.g., <80% follow-up)	Retrospective cohort study or follow-up of untreated control patients in an RCT; Derivation of CDR" or validated on split-sample§§§ only	Exploratory** cohort study with good" " " reference standards; CDR" after derivation, or validated only on split-sample§§§ or databases	Retrospective cohort study, or poor follow-up	Analysis based on clinically sensible costs or alternatives; limited review(s) of the evidence, or single studies; and including multi-way sensitivity analyses
2c	"Outcomes" Research; Ecological studies	"Outcomes" Research		Ecological studies	Audit or outcomes research
3a	SR (with homogeneity*) of case-control studies		SR (with homogeneity*) of 3b and better studies	SR (with homogeneity*) of 3b and better studies	SR (with homogeneity*) of 3b and better studies
3b	Individual Case-Control Study		Non-consecutive study; or without consistently applied reference standards	Non-consecutive cohort study, or very limited population	Analysis based on limited alternatives or costs, poor quality estimates of data, but including sensitivity analyses incorporating clinically sensible variations.
4	Case-series (and poor quality cohort and case-control studies§§)	Case-series (and poor quality prognostic cohort studies***)	Case-control study, poor or non-independent reference standard	Case-series or superseded reference standards	Analysis with no sensitivity analysis
5	Expert opinion without explicit critical appraisal, or based on physiology, bench research or "first principles"	Expert opinion without explicit critical appraisal, or based on physiology, bench research or "first principles"	Expert opinion without explicit critical appraisal, or based on physiology, bench research or "first principles"	Expert opinion without explicit critical appraisal, or based on physiology, bench research or "first principles"	Expert opinion without explicit critical appraisal, or based on economic theory or "first principles"

Produced by Bob Phillips, Chris Ball, Dave Sackett, Doug Badenoch, Sharon Straus, Brian Haynes, Martin Dawes since November 1998. Updated by Jeremy Howick March 2009.

GRADE EXAMPLE FROM UPTODATE

Print

Grade 2C recommendation

A Grade 2C recommendation is a very weak recommendation; other alternatives may be equally reasonable.
Explanation:
A Grade 2 recommendation is a weak recommendation. It means "this is our suggestion, but you may want to think about it." It is unlikely that you should follow the suggested approach in all your patients, and you might reasonably choose an alternative approach. For Grade 2 recommendations, benefits and risks may be finely balanced, or the benefits and risks may be uncertain. In deciding whether to follow a Grade 2 recommendation in an individual patient, you may want to think about your patient's values and preferences or about your patient's risk aversion.
Grade C means the evidence comes from observational studies, unsystematic clinical experience, or from randomized, controlled trials with serious flaws. Any estimate of effect is uncertain.

Recommendation grades

1. Strong recommendation: Benefits clearly outweigh the risks and burdens (or vice versa) for most, if not all, patients
2. Weak recommendation: Benefits and risks closely balanced and/or uncertain

Evidence grades

A. High-quality evidence: Consistent evidence from randomized trials, or overwhelming evidence of some other form
B. Moderate-quality evidence: Evidence from randomized trials with important limitations, or very strong evidence of some other form
C. Low-quality evidence: Evidence from observational studies, unsystematic clinical observations, or from randomized trials with serious flaws

For a complete description of our grading system, please see the UpToDate editorial policy.

SORT EXAMPLE FROM AMERICAN FAMILY PHYSICIAN

Identification and Management of Latent Tuberculosis Infection

SORT: KEY RECOMMENDATIONS FOR PRACTICE

CLINICAL RECOMMENDATION	*EVIDENCE RATING*	*REFERENCES*
High-risk populations should be screened and treated for tuberculosis.	C	14
Tuberculin skin tests should be performed in persons at high risk of latent tuberculosis infection or progression to active tuberculosis, even if they have received previous bacille Calmette-Guérin vaccination.	C	14
The QuantiFeron-TB Gold test can be used to screen for tuberculosis wherever tuberculin skin testing is currently used.	C	19
The treatment of choice for latent tuberculosis infection is daily isoniazid for nine months.	A	14, 21, 22
Short-course rifampin (Rifadin) plus isoniazid (three months) is equivalent to standard isoniazid therapy and may increase compliance in persons with latent tuberculosis infection.	B	25

A = consistent, good-quality patient-oriented evidence; B = inconsistent or limited-quality patient-oriented evidence; C = consensus, disease-oriented evidence, usual practice, expert opinion, or case series. For information about the SORT evidence rating system, go to http://www.aafp.org/afpsort.xml.

FR Hauck, BH Neese, AS Panchal, W El-Amin. Identification and Management of Latent Tuberculosis Am Fam Physician. 2009 May 15;79(10):879-86.

NURSING REFERENCE CENTRE CODING MATRIX

Question: is this a critical appraisal matrix?

Answer: Placing studies in a list or hierarchy is not the same as critically appraising each study since the *quality* of each study is not evaluated

Coding Matrix

References are rated using the following codes, listed in order of strength:

Code	Description
M	Published meta-analysis
SR	Published systematic or integrative literature review
RCT	Published research (randomized controlled trial)
R	Published research (not randomized controlled trial)
C	Case histories, case studies
G	Published guidelines
RV	Published review of the literature
RU	Published research utilization report
QI	Published quality improvement report
L	Legislation
PGR	Published government report
PFR	Published funded report
PP	Policies, procedures, protocols
X	Practice exemplars, stories, opinions
GI	General or background information/texts/reports
U	Unpublished research, reviews, poster presentations or other such materials
CP	Conference proceedings, abstracts, presentation

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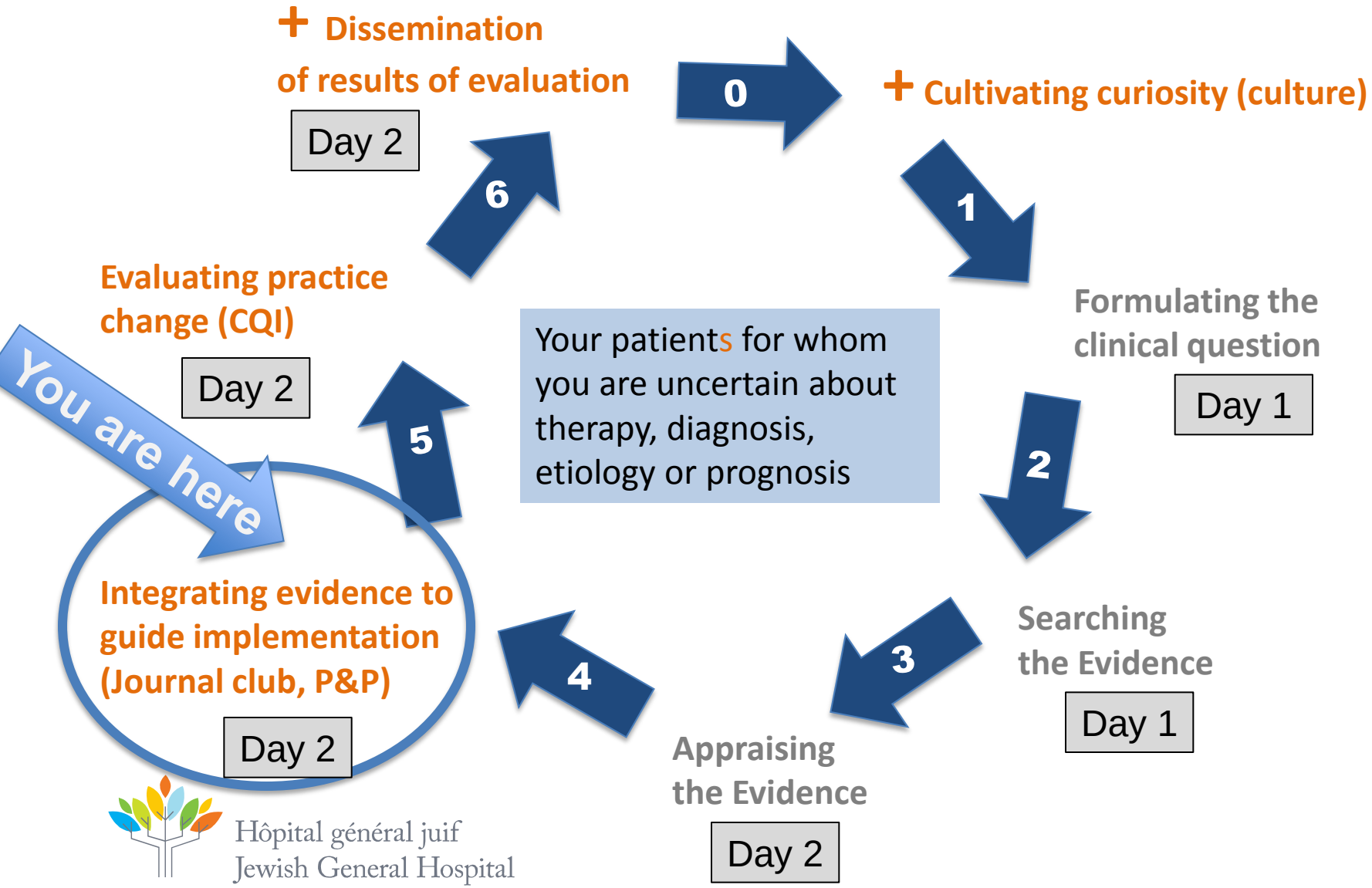
APPRAISAL AND SYNTHESIS

Putting it into context

EBNP PROCESS: A METHOD0LOGY + A FRAMEWORK



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APPRAISING & SYNTHESIZING THE EVIDENCE

- Developing a P&P requires synthesizing the evidence.
- To know what is the best evidence you need to appraise what is out there and select the best studies to support your P&P.
- You need to synthesis the evidence i.e. put it all together into a summary and recommendations
- You can use different tables to appraise and synthesize the studies that you have selected.
  - Use the Step-by-Step series of articles published in AJN to guide you in this process- see next slides for template and examples

WHAT DOES THIS MEAN FOR NURSES INVOLVED IN P&P AND CQI?

- Evidence is not only used to inform patient care by individual nurses.
- Often nurses need to use evidence to support P&P development and CQI.
- You want your P&P & CQI to be based on the best evidence.

EBNP STEP-BY-STEP ARTICLE SERIES

- Developed by a group of nurses at the Arizona State University College of Nursing and Health Innovation's Center for the Advancement of Evidence-Based Practice.
- 12 articles published every few months in AJN 2009-2011.
- "The purpose of this series is to give nurses the knowledge and skills they need to implement EBP consistently, one step at a time".
- At the time of publication "Chat with the Authors" phonecalls were scheduled to provide additional support.
- The articles are written in a narrative format following the 7 steps of EBNP ending in the implementation and evaluation of a Rapid Response Team initiative in a hospital.

SAMPLE CRITICAL APPRAISAL TABLE

Online-only content for "Critical Appraisal of the Evidence: Part I," by Fineout-Overholt and colleagues in the *American Journal of Nursing*, July 2010, p. 47-52.

Evaluation Table Template

A. The column headings for the evaluation table. Copy and paste this header into a text document.

Author (Year)	Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables Studied (and Their Definitions)	Measurement	Data Analysis	Findings	Appraisal: Worth to Practice

B. A description of each column's content. Put the data extracted from the studies in the correct column.

(Put citation here.)	(Theoretical basis for study goes here.)	(Describe design and how study was carried out.)	(This column contains number and characteristics of patients; attrition rate and why.)	(List and define independent and dependent variables.)	(Here go scales used to measure outcome variables, including name and author of scale and data on validity and reliability.)	(Put statistics used to answer clinical question here; but don't need to include all.)	(These are statistical or qualitative findings—there should be a finding for every statistical test in previous column.)	(Describe strengths and limitations of study; risk or harm if study intervention or findings are implemented; feasibility of use in your practice. Remember: level of evidence + quality of evidence = strength of evidence and confidence to act.)

Critical Appraisal of the Evidence: Part I

EXAMPLE SYNTHESIS TABLE

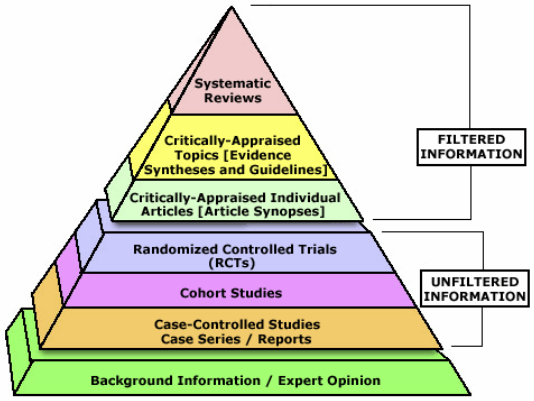

Table 2: The 15 Studies: Levels and Types of Evidence

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Level I: Systematic review or meta-analysis	X	X	X												
Level II: Randomized controlled trial				X											
Level III: Controlled trial without randomization															
Level IV: Case-control or cohort study					X	X									
Level V: Systematic review of qualitative or descriptive studies															
Level VI: Qualitative or descriptive study (includes evidence implementation projects)							X	X	X	X	X	X	X	X	X
Level VII: Expert opinion or consensus															

Adapted with permission from Melnyk BM, Fineout-Overholt E, editors. Evidence-based practice in nursing and healthcare: a guide to best practice. 2nd ed. Philadelphia: Wolters Kluwer Health / Lippincott Williams and Wilkins; 2010.

1 = Chan PS, et al. (2010); 2 = McGaughey J, et al.; 3 = Winters BD, et al.; 4 = Hillman K, et al.; 5 = Sharek PJ, et al.; 6 = Chan PS, et al. (2009); 7 = DeVita MA, et al.; 8 = Mailey J, et al.; 9 = Dacey MJ, et al.; 10 = McFarlan SJ, Hensley S.; 11 = Offner PJ, et al.; 12 = Bertaut Y, et al.; 13 = Benson L, et al.; 14 = Hatler C, et al.; 15 = Bader MK, et al.

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EXAMPLE CRITERIA SYNTHESIS

Table 4. Defined Criteria for Initiating an RRT Consult

	4	8	9	13	15
Respiratory distress (breaths/min)	Airway threatened Respiratory arrest RR < 5 or > 36	RR < 10 or > 30	RR < 8 or > 30 Unexplained dyspnea	RR < 8 or > 28 New-onset difficulty breathing	RR < 10 or > 30 Shortness of breath
Change in mental status	Change in LOC Decrease in Glasgow Coma Scale of > 2 points	ND	Unexplained change	Sudden decrease in LOC with normal blood glucose	Decreased LOC
Tachycardia (beats/min)	>140	> 130	Unexplained > 130 for 15 min	> 120	> 130
Bradycardia (beats/min)	< 40	< 60	Unexplained < 50 for 15 min	< 40	< 40
Blood pressure (mmHg)	SBP < 90	SBP < 90 or > 180	Hypotension (unexplained)	SBP > 200 or < 90	SBP < 90
Chest pain	Cardiac arrest	ND	ND	Complaint of nontraumatic chest pain	Complaint of nontraumatic chest pain
Seizures	Sudden or extended	ND	ND	Repeated or prolonged	ND
Concern/worry about patient	Serious concern about a patient who doesn't fit the above criteria	NE	Nurse concern about overall deterioration in patients' condition without any of the above criteria (p. 2077)	Nurse concern	• Uncontrolled pain • Failure to respond to treatment • Unable to obtain prompt assistance for unstable patient
Pulse oximetry (SpO_2)	NE	NE	NE	< 92%	< 92%
Other				• Color change of patient • Unexplained agitation for > 10 min • CIWA > 15 points	• UOP < 50 cc/4 hr • Color change of patient (pale, dusky, gray, or blue) • New-onset limb weakness or smile droop • Sepsis: ≥ 2 SIRS criteria

4 – Hillman K, et al.; 8 – Mailey J, et al.; 9 – Dacey MJ, et al.; 13 – Benson L, et al.; 15 – Bader MK, et al.

cc – cubic centimeters; CIWA – Clinical Institute Withdrawal Assessment; hr – hour; LOC – level of consciousness; min – minute; mmHg – millimeters of mercury; ND – not defined; NE – not evaluated; RR – respiratory rate; SBP – systolic blood pressure; SIRS – systemic inflammatory response syndrome; SpO_2 – arterial oxygen saturation; UOP – urine output

EXAMPLE CRITERIA FOR P&P

Table 5. Defined Criteria for Initiating an RRT Consult at Our Hospital

Pulmonary	
Ventilation	Color change of patient (pale, dusky, gray, or blue)
Respiratory distress	RR < 10 or > 30 breaths/min or unexplained dyspnea or new-onset difficulty breathing or shortness of breath
Cardiovascular	
Tachycardia	Unexplained > 130 beats/min for 15 min
Bradycardia	Unexplained < 50 beats/min for 15 min
Blood pressure	Unexplained SBP < 90 or > 200 mmHg
Chest pain	Complaint of nontraumatic chest pain
Pulse oximetry	< 92% SpO_2
Perfusion	UOP < 50 cc/4 hr
Neurologic	
Seizures	Initial, repeated, or prolonged
Change in mental status	• Sudden decrease in LOC with normal blood glucose • Unexplained agitation for > 10 min • New-onset limb weakness or smile droop
Concern/worry about patient	Nurse concern about overall deterioration in patients' condition without any of the above criteria
Sepsis	
	• Temp, > 38°C • HR, > 90 beats/min • RR, > 20 breaths/min • WBC, > 12,000, < 4,000, or > 10% bands

cc – cubic centimeters; hr – hours; HR – heart rate; LOC – level of consciousness; min – minute; mmHg – millimeters of mercury; RR – respiratory rate; SBP – systolic blood pressure; SpO_2 – arterial oxygen saturation; Temp – temperature; UOP – urine output; WBC – white blood count

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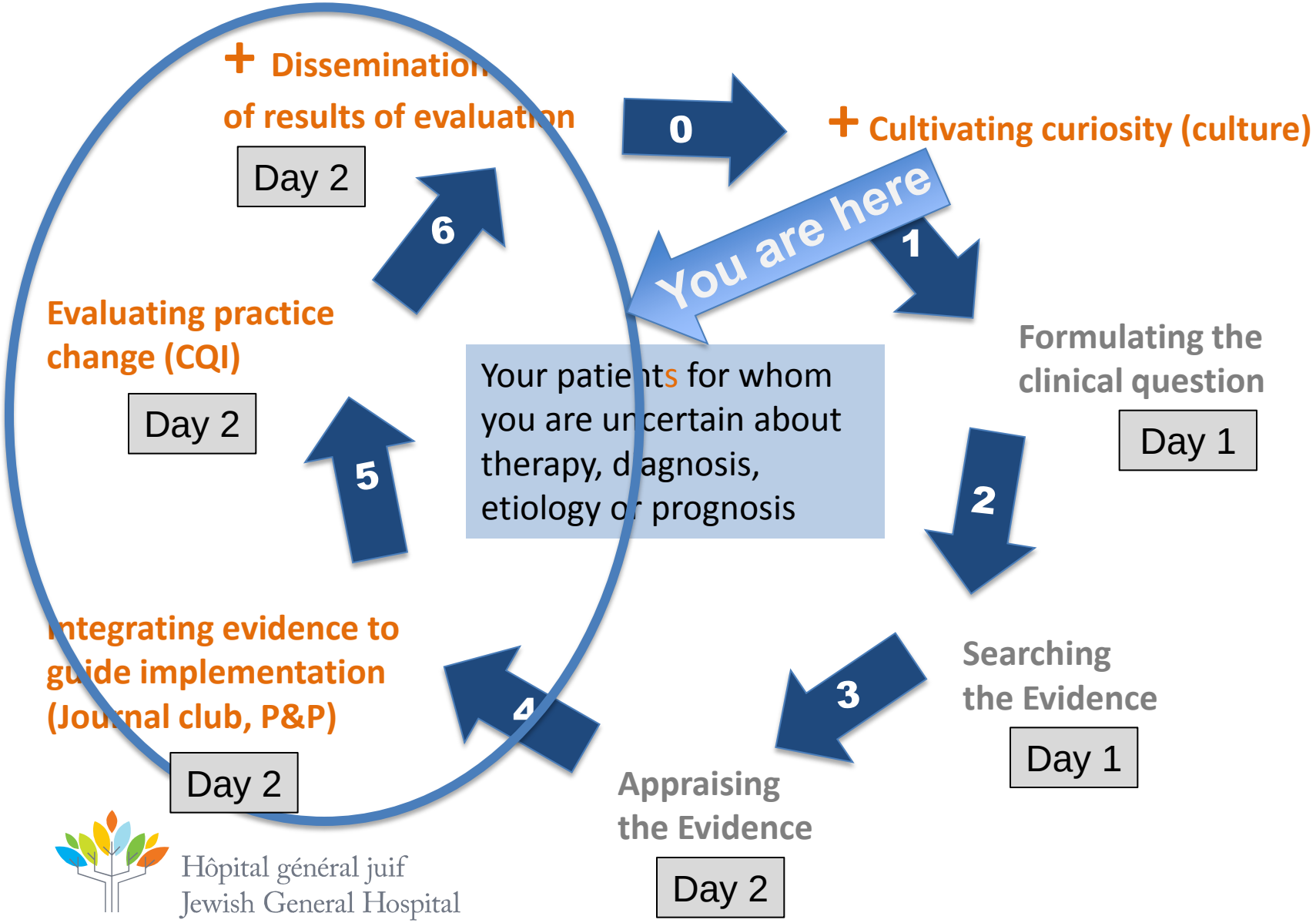
IMPLEMENTING & EVALUATING YOUR INTERVENTION

EBNP PROCESS: A METHODOLOGY + A FRAMEWORK



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THE PROCESS

Scenario –> PICO –> Search –> Access evidence –> Appraise evidence –> Synthesize evidence –> Plan/implement pilot –> Measure outcomes –> Change practice

REQUIREMENTS FOR IMPLEMENTATION

- Clearly stated purpose
- Key stakeholders
- Measurable outcomes
- IRB proposal- protocol

IMPLEMENTATION PLAN TEMPLATE- CHECKPOINTS 1-5

Figure 1. EBP Implementation Plan Template

ARCC EBP Implementation Plan		
PICOT Question:		
Team Members:		
EBP Mentor and Contact Info:		
Preliminary Checkpoint	• Who are the stakeholders for your project ○ Active (on the implementation team) and Supportive (not on the team, but essential to success) • Identify project team roles and leadership • Begin acquisition of any necessary approvals for project implementation and dissemination (for example, system and unit leadership, internal review board [IRB]) • ***Begin relationship with EBP Mentor***	Notes:
Checkpoint One	• Hone PICOT question and assure team is prepared • Build EBP knowledge and skills • ***Begin relationship with EBP Mentor***	Notes:
Checkpoint Two	• Conduct literature search and retain studies that meet criteria for inclusion • Connect with librarian • Meet with implementation group – TEAM BUILD • ***Begin relationship with EBP Mentor***	Notes:
Checkpoint Three	• Critically appraise literature • Meet with group to discuss how completely evidence answers question; pose follow-up questions and re-review the literature as necessary • ***Begin relationship with EBP Mentor***	Notes:
Checkpoint Four	• Meet with group • Summarize evidence with focus on implications for practice and conduct interviews with content experts as necessary to benchmark • Begin formulating detailed plan for implementation of evidence • Include who must know about the project, when they will know, how they will know • ***Begin relationship with EBP Mentor***	Notes:
Checkpoint Five	• Define project purpose—connect the evidence and the project • Define baseline data collection source(s) (for example, existing datasets, electronic health record), methods, and measures • Define postproject outcome indicators of a successful project • Gather outcome measures • Write data collection protocol • Write the project protocol (data collection fits in this document) • Finalize any necessary approvals for project implementation and dissemination (for example, system leadership, unit leadership, IRB) • ***Begin relationship with EBP Mentor***	Notes:

- Stakeholder analysis
- Define team roles & responsibilities
- Get approvals from leadership

Day 1
- PICO
- Searching

Day 2
- Critical appraisal
- Evidence synthesis

Define:
- Purpose
- Indicators

Gather data- current state
Write protocol

Fineout-Overholt, E., Williamson, K. M., Gallagher-Ford, L., Melnyk, B. M., & Stillwell, S. B. (2011). Evidence-Based Practice, Step By Step: Following the Evidence: Planning for Sustainable Change. AJN, American Journal of Nursing, 111(1), 54-60.

CHECKPOINTS TWO-FOUR

- Don’t forget! We are available to conduct the search for you and help you access the full-text of the articles!

CHECKPOINT FIVE

Outcome measures can include:

- Quality indicators
- Incident reporting
- Satisfaction/complaints
- Return on investment data
- Data from patient records (test results etc.)
- Benchmark data etc
- Other?

(see “Evidence-Based Practice, Step By Step: Following the Evidence: Planning for Sustainable Change” for more about outcome measures)

IMPLEMENTATION PLAN TEMPLATE-CHECKPOINTS 6-11

Checkpoint Six (about midway)	• Meet with implementation group • Discuss known barriers and facilitators of project • Discuss strategies for minimizing barriers and maximizing facilitators • Finalize protocol for implementation of evidence • Identify resources (human, fiscal, and other) necessary to complete project • Supply EBP Mentor with written IRB approval and managerial support • Begin work on poster for dissemination of initiation of project and progress to date to educate stakeholders about project—get help from support staff • Include specific plan for how evaluation will take place: who, what, when, where, and how, and communication mechanisms to stakeholders • ***Begin relationship with EBP Mentor***	Notes:
Checkpoint Seven	• Meet with implementation group to review proposed poster • Make final adjustment to poster with support staff • Inform stakeholders of start date of implementation and poster presentation • Address any concerns or questions of stakeholders (active and supportive) • ***Begin relationship with EBP Mentor***	Notes:
Checkpoint Eight	• Poster presentation (preferred event is a system-wide recognition of quality, research, or innovation) • LAUNCH EBP implementation project • ***Begin relationship with EBP Mentor***	Notes:
Checkpoint Nine	• Midproject meet with all key stakeholders to review progress and provide outcomes to date • Review issues, successes, aha's, and triumphs of project to date • ***Begin relationship with EBP Mentor***	Notes:
Checkpoint Ten	• Complete final data collection for project evaluation • Present project results via poster presentation—locally and nationally • ***Celebrate with EBP Mentor and Agency Leadership***	Notes:
Checkpoint Eleven	• Review project progress, lessons learned, new questions generated from process • ***Consult with EBP Mentor about new questions***	Notes:

Halfway point
- Barriers & facilitators
- Finalize protocol
- Poster

Address concerns of stakeholders
Poster presentation
LAUNCH!

Review progress
- Data collected to date

Finalize data collection
- Present results

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CHECKPOINT SIX- MAKING YOUR CASE

- What data will you need and what outcomes will you measure for the following?
  - Strategic- what will the impact be? How does this fit in with strategic plan, accreditation etc?
  - Business- what is the potential return on investment?
  - Resources- what is needed to achieve the desired outcome?
    - Infrastructure
    - Supplies
    - Human resources

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CHECKPOINT SEVEN- LAUNCHING THE PILOT

'To Do' List for RRT Pilot Rollout

- Attend pilot unit staff meetings
- Create poster and/or flyer to inform staff of rollout date
- Order "RRT Launch" buttons
- Meet with Quality/Performance Improvement Department director and unit-based quality council representative
- Meet with Clinical Informatics Department to develop electronic data documentation tool
- Make sure collecting outcomes measures is possible
  - o Finance Department follow-up
  - o Health Information Management Systems/Medical Records Department follow-up
- Check with RRT members to make sure they're ready to go

Gallagher-Ford, L., Fineout-Overholt, E., Melnyk, B. M., & Stillwell, S. B. (2011). Evidence-Based Practice, Step by Step: Rolling Out the Rapid Response Team. AJN The American Journal of Nursing, 111(5), 42-47.

EVALUATION

- Analyze data collected for pilot project- get help from a statistician?
  - Was there a statistical or clinical significance pre and post-intervention?
- Make changes based on analysis for hospital-wide implementation
- Think about how to disseminate the results
  - Present?
  - Publish?

Fineout-Overholt, E., Gallagher-Ford, L., Melnyk, B., & Stillwell, S. B. (2011). Evidence-based practice, step by step: evaluating and disseminating the impact of an evidence-based intervention: show and tell. Am J Nurs, 111(7), 56-59. doi: 10.1097/01.naj.0000399317.21279.47