Evidence Based Practice & Keeping Up-to-date with the Literature

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Evidence Based Practice (EBP)

Keeping Up-to-date with the Literature

1. Objectives
2. WHY and WHAT
3. The 5 Steps of EBP
4. Keeping Up-to-date with the Literature
5. Reminder & References

1. Objectives

OBJECTIVES

At the end of this workshop you should:

- Understand the importance of EBP
- Be able to describe the five stages of the EBP process
- Understand how to formulate an answerable clinical question using PICO
- Know how PICO questions are categorized and be able to identify the best studies to answer each question type
- Be able to select an appropriate source to search for evidence to best answer your PICO questions
- Be able to select an appropriate strategy for yourself to keep up-to-date with the literature

2. WHY and WHAT

Why Use Evidence Based Practice?

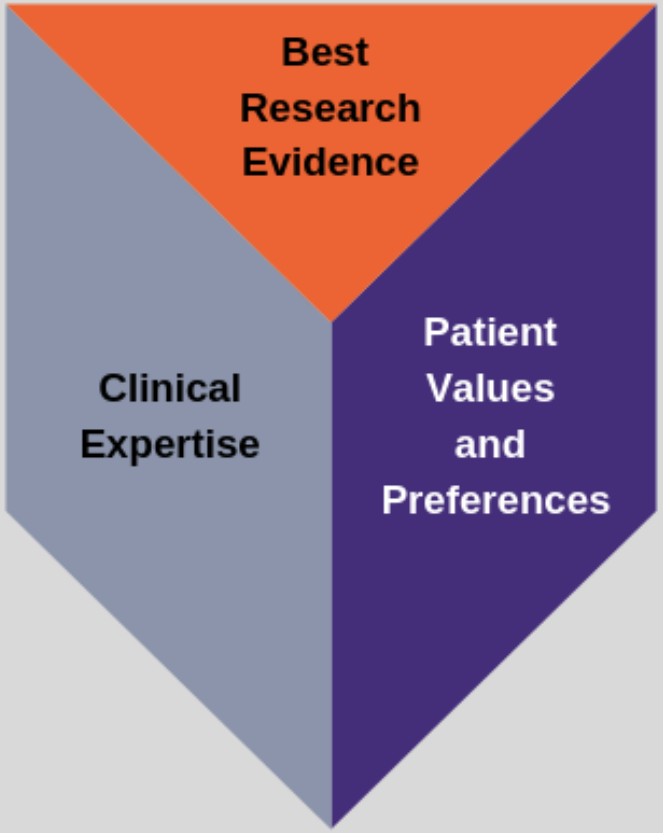
- If you are here you must want to know more about Evidence Based Practice.
- What do you think it is?
- Why do you think it is important?

What is Evidence Based Practice?

- Sackett and colleagues (1996) defined EBP as “the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients”[1].

- But, EVIDENCE is NOT everything in Evidence Based Practice:
- Liamputtong’s definition (2010) is more explicit about the components of the process: EBP is “the use of best research evidence, along with clinical expertise, available resources, and the patient's preferences to determine the optimal management options in a specific situation“[2].

Components of EBP



Evidence Based Practice (EBP)

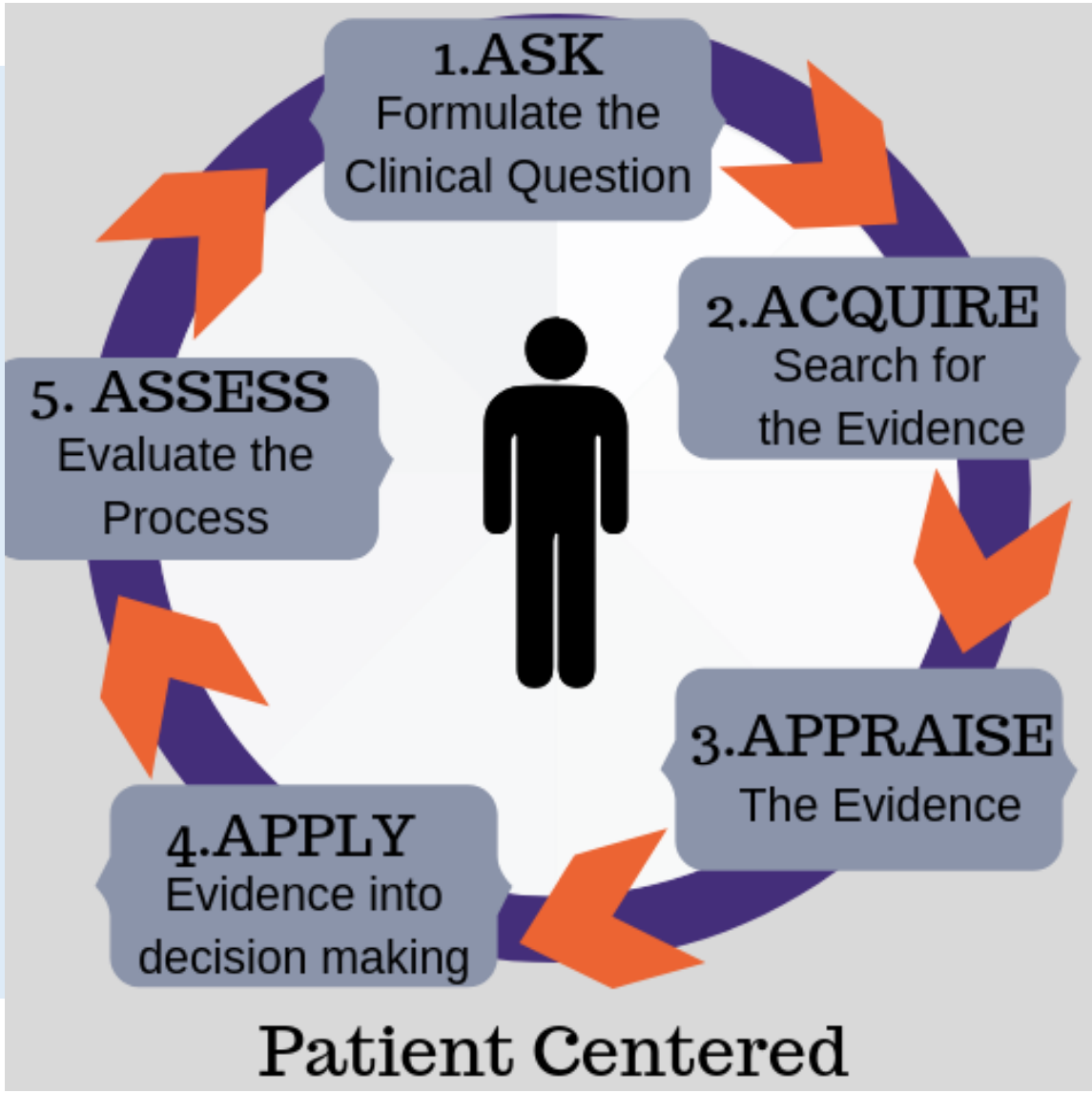
Note the components:

- The best research evidence
- Your clinical expertise
- Patient's preferences and values

- (Also: Available resources)

3. The 5 Steps of EBP

The 5 Steps of Evidence Based Practice



Step 1. Ask

- Construct an answerable clinical question

TYPES OF QUESTIONS

- Knowing what you want to find before you begin is half the battle.

- The are two kinds of questions you may encounter: **background** and **foreground**

- **Background Questions:**
  - "Ask for general knowledge about a condition, test or treatment"[1]
  - Their answers can usually be found in textbooks, manuals, handbooks, and narrative review articles

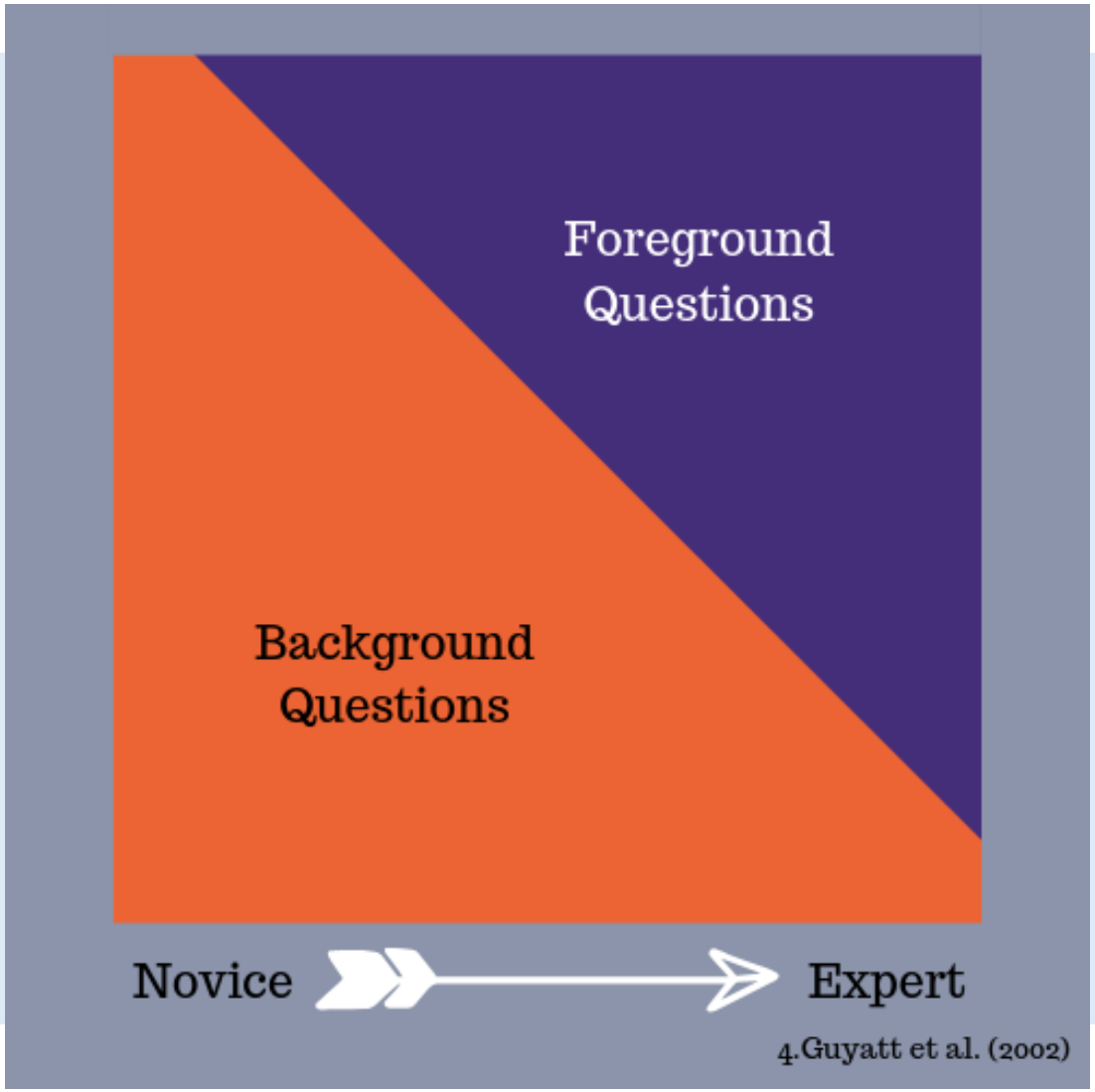
- **Foreground Questions:**
  - "Ask for specific knowledge to inform clinical decisions or actions"[1]
  - Can be answered by searching the evidence
  - **Important:** A question that you may ask yourself in clinical practice may contain multiple clinical questions!

TYPES OF QUESTIONS

EXAMPLE: Background Question

How do you treat high blood sugar in diabetics?

Where to search for an answer: In a textbook, a manual, a handbook, a narrative review article …



- More on Foreground questions in the next slides …

Formulating Foreground or Clinical Questions

ACTIVITY

- Please think of a foreground question that you have asked yourself recently in your clinical practice
- Write it down as if you were going to search for its answer (or the way that you searched for it if you looked for evidence to answer this question)
- (3 min)

Anatomy of a Well Built Clinical Question

P (Patient, Population, or Problem) Whom is the question about?

I (Intervention or exposure) What intervention are you considering in the patient or population? Define

C (Comparison) If necessary, define what you are comparing your intervention or exposure to.

O (Outcome) Define your desired outcome

SCENARIO

- Your diabetic patient has high blood sugar and you would like to prove that nutritional counselling helps lower blood sugar in diabetics so you can justify your treatment plan or your recommendation to refer them to a dietician.

EXAMPLE: Foreground / Clinical question

Question: You are looking for literature on the impact of dietary counselling on minimizing blood glucose levels of adults with type 2 diabetes.

Population (adults with type 2 diabetes)

Intervention (dietary counseling)

Comparison (no dietary counseling)

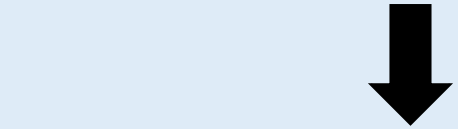
Outcome (lowered blood glucose levels)

Where to search for an answer:
In biomedical databases

Identifying Key Concepts without PICO

Look at your question. Remove all extra words:

You are looking for literature on the impact of dietary counselling on minimizing blood glucose levels of adults with type 2 diabetes.



~~You are looking for literature on the impact of~~ **dietary counselling** ~~on minimizing~~ **blood glucose levels** ~~of~~ **adults with type 2 diabetes.**

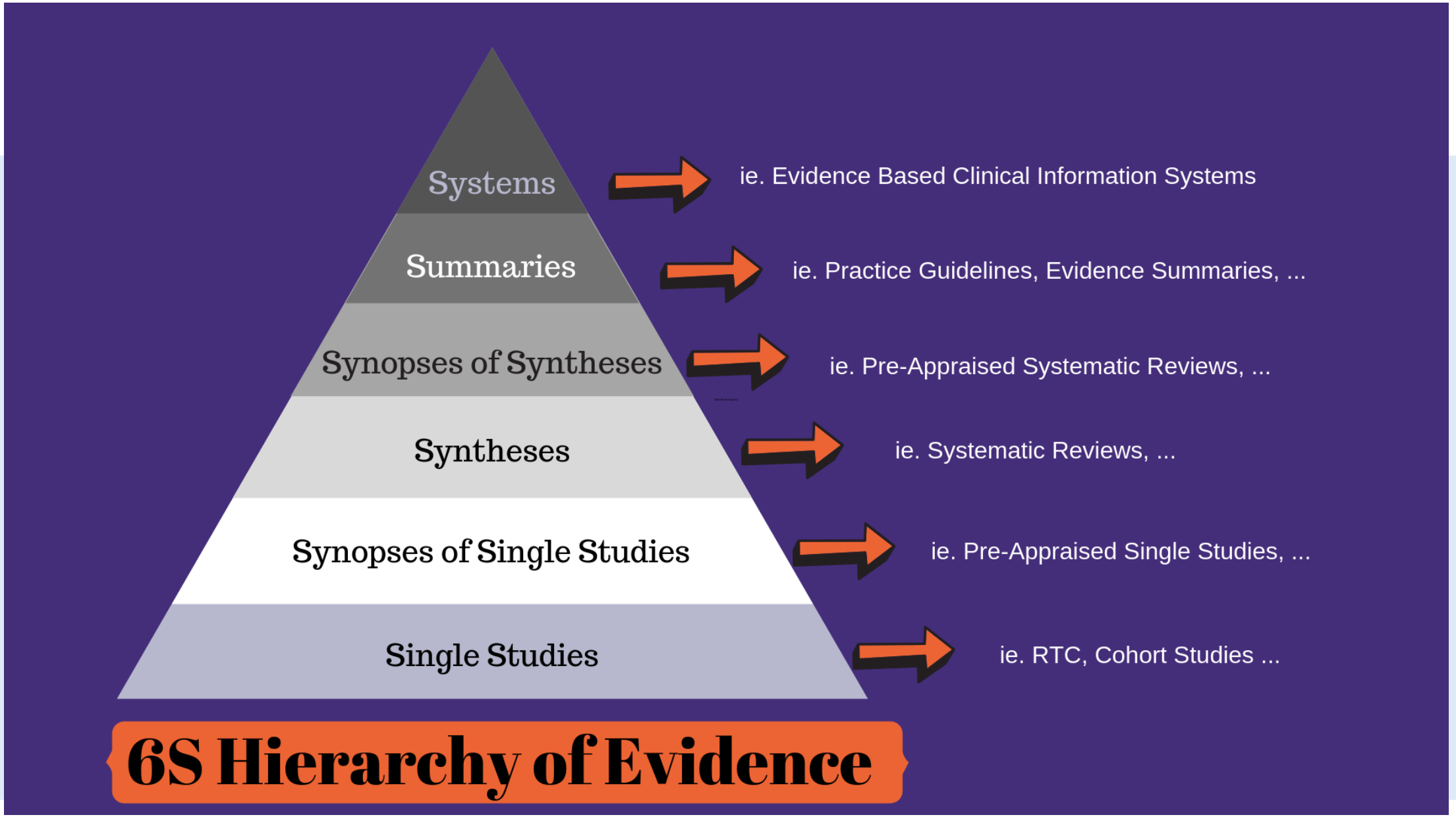
Types of Questions and Best Evidence

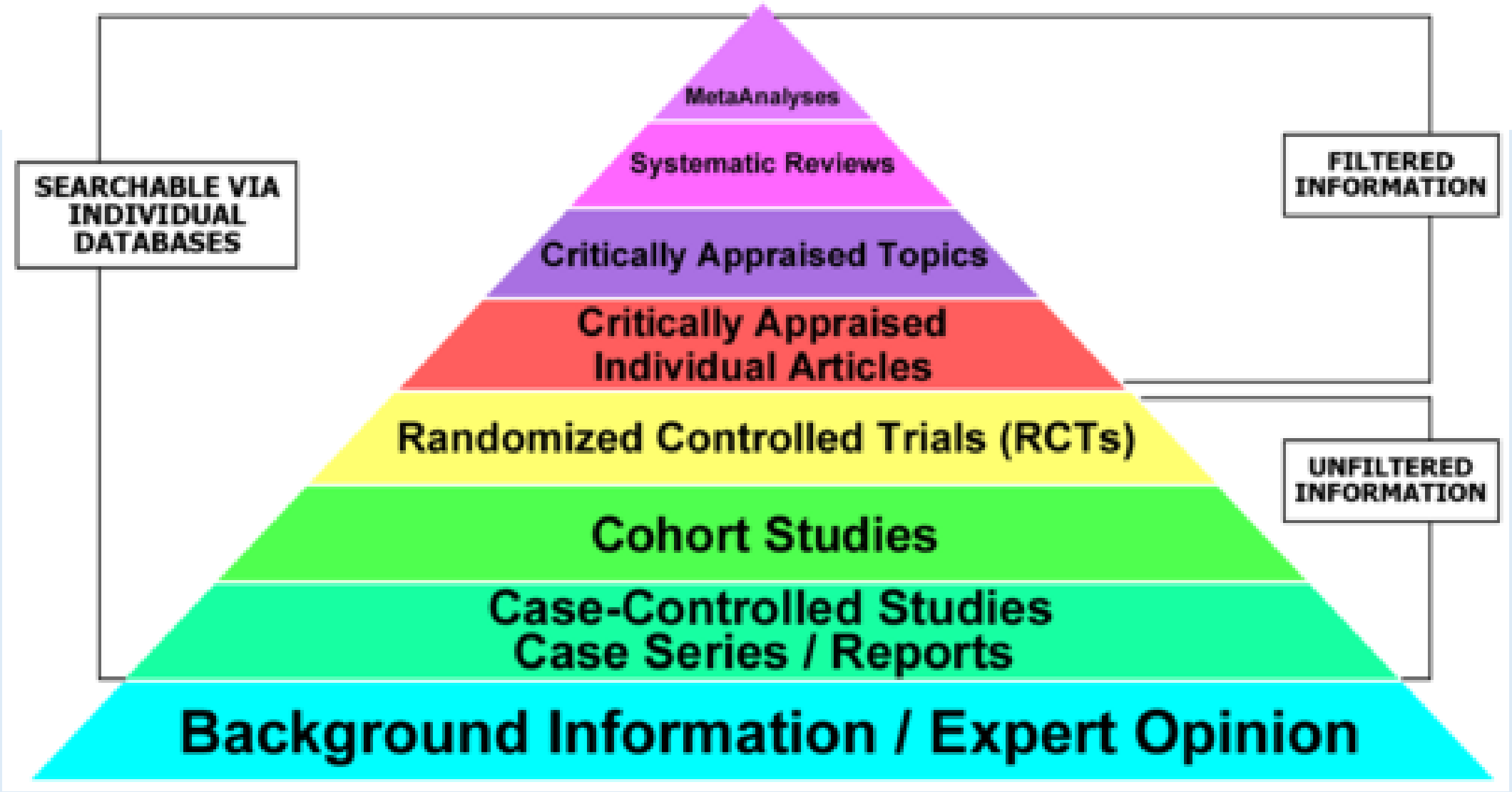
- Depending on the type of question you are asking, the best evidence to answer it will be different.

Type of Question	Best Evidence
Diagnosis (Test)	**Quantitative** Comparision to Gold Standard
Therapy (treatment, Prevention)	**Quantitative** Systematic Review of RCT, RCT
Etiology / Harm	**Quantitative** Observational Study: Cohort or Case Control
Prognosis	**Quantitative** Observational Study: Cohort or Case Control
Economics	**Quantitative** Cost effectiveness study
Meaning	**Qualitative, Mixed Methods** Case study, ethnography, grounded theory, phenomenological approach

Step 2. Acquire

- Select an appropriate resource
- Conduct a search for evidence


Systems
Summaries
Synopses of Syntheses
Syntheses
Synopses of Single Studies
Single Studies
ie. Evidence Based Clinical Information Systems
ie. Practice Guidelines, Evidence Summaries, ...
ie. Pre-Appraised Systematic Reviews, ...
ie. Systematic Reviews, ...
ie. Pre-Appraised Single Studies, ...
ie. RTC, Cohort Studies ...
6S Hierarchy of Evidence


SEARCHABLE VIA INDIVIDUAL DATABASES
MetaAnalyses
Systematic Reviews
Critically Appraised Topics
Critically Appraised Individual Articles
Randomized Controlled Trials (RCTs)
Cohort Studies
Case-Controlled Studies
Case Series / Reports
Background Information / Expert Opinion
FILTERED INFORMATION
UNFILTERED INFORMATION

Systems

- An evidence-based clinical information system integrates and concisely summarizes all relevant and important research evidence about a clinical problem, is updated as new research evidence becomes available, and automatically links (through an electronic medical record) a specific patient's circumstances to the relevant information.[6]

Summaries

Clinical Pathways, Clinical Practice Guidelines, Point of Care Tools

JGH Access Point of Care Tools:

UpToDate

Nursing Reference Center Plus

CIUSSS Access:

Online Care Methods

RxVigilence

Open Access:

Clinical Practice Guidelines Infobase (CMA)

TRIP

NICE Clinical Guidelines

ECRI Institute Guidelines Trust

RNAO International Affairs and Best Practice Guidelines

Synopses of Syntheses

Synthesis or systematic review is a comprehensive summary of all the research evidence related to a focused clinical question. It involves a multi-step process in which the question is formulated, the relevant studies are identified and appraised for study quality, relevant study findings are extracted and synthesized either quantitatively (in the form of meta-analysis) or non-quantitatively, and conclusions are drawn.[6]

Open Access:

DARE - Database of Abstracts of Reviews of Effects (no longer updated)

Health Evidence

PEDro (Physiotherapy Specific)

SpeechBITE

MDPHD (Artificial Intelligence synopses of PubMed abstracts)

Syntheses

- Systematic Reviews, Scoping Reviews, and other Knowledge Syntheses
- You can find them in specific Databases and in the same databases where you find Single Studies

JGH Access:

Cochrane Library

Open Access:

Campbell Library of Systematic Reviews

PubMed Clinical Queries

Also look in the databases where you look for single studies!

Synopses of Single Studies

As with the synopses of syntheses, the synopsis of a single study provides a brief, but often sufficiently detailed, summary of a high-quality study that can inform clinical practice. These synopses are also found in the evidence-based abstraction journals and are accompanied by commentaries that address the clinical applicability of the study findings.[6]

JGH Access:

Open Access:

App:

MDPHD (Artificial Intelligence synopses of PubMed abstracts)

Also look in the databases where you look for single studies!

Single Studies

- Randomized controlled trials, Cohort studies, Case control studies, Case series, Case studies etc.
- Each has its own methodology and must be critically appraised in order to assess both the quality of the study (i.e. how well it applies and reports the particular methodology), and its relevance to your patient or patients. [6]

JGH Access:

CINAHL Complete

EMBASE (via Ovid)

JGH Journals by Topic A-Z

Medline (via Ovid)

PsycINFO (via Ovid)

CIUSSS Access:

CINAHL Complete

Open Access:

PubMed (Medline, etc.)

Directory of Open Access Journals

Google Scholar

SpringerOpen

Meta-Search Engines

- Search multiple resources at the same time:

- Epistemonikos
- TRIP Database

Conduct a Search for Evidence

- Once you have identified an appropriate resource to search in:
- Conduct your search

- During this session we will not get into the specifics of searching
- There are two different sessions in the summer lunch and learn series 2019 on searching in biomedical databases (CINAHL & PubMed)

Step 3. Appraise

- Evaluate the evidence you have found for its validity (closeness to the truth) and applicability (usefulness in clinical practice)

Step 4. Apply

- Integrate the evidence, your clinical expertise, the available resources, and the patient's preferences and values into your decision-making

Step 5. Assess

- Evaluate the process and start the cycle again

4. Keeping Up-to-date with the Literature

Current Awareness

- Veille Informationelle:
  - Centre Hospitalier Universitaire de Montreal (CHUM) Library: https://bibliothequeduchum.ca/sp/subjects/guide.php?subject=veilles_t

- Email Alerts from biomedical databases, Google scholar, or from a pre-appraised source (ACCESSSS Smart Search – McMaster University) (the lunch and learn sessions on CINAHL and PubMed go into detail on sending alerts from those databases)

- RSS Feeds

- Table of Contents (TOC)

RSS Feeds

- RSS (Really Simple Syndication) is a useful way to keep up-to-date on news and current issues in your field. By subscribing to RSS feeds you can:
  - Create search alerts in biomedical databases;
  - Receive the table of contents (TOC) of current issues of medical journals;
  - Be alerted to latest medical headlines, news and announcements from websites;
  - Keep up with medical blogs and podcasts.
  - Your RSS feed subscriptions can be managed using an RSS reader such as Feedly. RSS readers keep track of your feeds the way e-mail account keep track of your messages. Accounts are free to create and can be accessed from anywhere you have Internet.
  - Subscribe anywhere you see an RSS icon

5. Reminder & References

REMINDER

- A JGH Librarian is available to provide one-on-one instruction and help
  Kendra Johnston, 514 340 8222 x22453
  kendra.johnston.ccomtl@ssss.gouv.qc.ca
- To access this presentation:
  https://www.jgh.ca/care-services/health-sciences-library/instruction/workshop-presentations-handouts/

REFERENCES

1. Sackett, D. L., Rosenberg, W. M., Gray, J. M., Haynes, R. B., & Richardson, W. S. (1996). Evidence based medicine: what it is and what it isn't.
2. Liamputtong, P. (2010). Research methods in health: foundations for evidence-based practice.,(Oxford University Press: Melbourne).
3. Straus, S. E., Glasziou, P., Richardson, W. S., & Haynes, R. B. (2018). Evidence-Based Medicine E-Book: How to Practice and Teach EBM. Elsevier Health Sciences.
4. Guyatt, G., Rennie, D., Meade, M., & Cook, D. (Eds.). (2002). Users' guides to the medical literature: a manual for evidence-based clinical practice (Vol. 706). Chicago: AMA press.
5. Greenhalgh, T. (2014). How to read a paper: The basics of evidence-based medicine. John Wiley & Sons.
6. DiCenso, A., Bayley, L., & Haynes, R. B. (2009). Accessing pre-appraised evidence: fine-tuning the 5S model into a 6S model.
7. McGill Library, Evidence-Based Practice Resources - Interactive Guide, Accessed 26/06/2019

THANK YOU

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