

Step 1. Question Formulating

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Topics for discussion

- Where clinical questions arise?
- Types of questions
- Forming the question - methodology

Where clinical questions arise?

- Clinical findings - how to properly gather and interpret findings
- Etiology -how to identify causes of the disease
- Differential diagnosis
- Diagnostic tests
- Prognosis
- Prevention/Screening
- Therapy

Your questions

- Asking clinical questions that are answerable from clinical question research
- Work in pairs - discuss your current questions
- Write them down

5 types of questions

- Treatment (Therapy)
- Diagnosis
- Etiology/Harm
- Prognosis
- Economic effectiveness

Treatment (Therapy)

HOW to TREAT

- treatment
- prevention and control
- quality of care improvement
- What is the best first-line therapy for treating high blood pressure in the elderly?
- Does listening to music reduce discomfort of bronchoscopy?

Diagnosis

WHAT to TREAT

- diagnosis
- differential diagnosis
- screening

- What is the fastest test for HIV infection?
- Is tuberculin test still used for diagnosing tuberculosis?

Etiology/Harm/Risk

HOW did I GET HERE?

- cause of disease/condition
- harm/risk from treatment/diagnostic procedure
- drug adverse effects

- Does keeping pet birds cause lung cancer?
- Is depression a risk factor for ischaemic heart disease in men?

Prognosis

WHETHER to TREAT

- prognosis - progression of treated disease (natural history - progression of untreated disease)

- What is the prognosis for patient with Lou Gehrig's Disease?
- What is the long-term natural history of untreated, early stage prostatic cancer?

Economic effectiveness

- benefits and costs of a health care intervention
- direct costs
- indirect costs
- compare alternative strategies for diagnosis, therapy, prevention, quality improvement

PICO (PECOT)

- **Population** (patient) - who is being considered
- **Intervention (exposure)** - what is being done/happening to them
- **Comparison** - what the alternative is
- **Outcomes** - how the effect of the intervention or exposure might be measured
- **Time** - when the outcome is measured

What is the best first-line therapy for treating high blood pressure in the elderly?

- Patient - hypertensive elderly people
- Intervention - which drug is the most effective monotherapy
- Comparison - how effective are different interventions?
- Outcomes - define the outcomes you wish to assess
- Main focus of interest - treatment of hypertension in the elderly

- Harm/Risk - the side effects of this intervention
- Question about cost - Is intervention A (i.e., beta-blockers) more cost-effective than intervention B (i.e., diuretics)?

Types of questions (2)

- **Background** - general knowledge
- **Foreground** - more specific

Background questions

- usually have two components:
a question root (who, what, when, how, why) and a verb
a disorder, test, treatment, etc.
- ask for general knowledge

- What causes AIDS?
- What is the current thinking on treatment for rheumatoid arthritis?
- When is a pelvic ultrasound indicated for a patient having pelvic pain?

Foreground questions

- have 3 or 4 components (PICO)
- when you have more clinical experience with the particular condition
- have several options to chose from

Foreground question - Therapy

- Are beta-blockers more effective than diuretics for monotherapy of hypertension in the elderly ?
- Does administration of vitamin A to HIV+ pregnant women reduce MTCT?

Foreground question - Diagnosis

- Should mammography be used as breast cancer screening method for all women after 50?
- Is whispered voice test alone accurate enough for testing hearing in old people?

Foreground question - Etiology

- Does keeping pet birds cause lung cancer?
- Does vitamin C intake cause headaches?

Foreground question - Prognosis

- What is the disease progression and mortality rate beyond 10 to 15 years of watchful waiting among men with early initially untreated prostatic cancer?

ECLIPSE

- **Expectation** - why do you require the information?
- **Client group** - at whom is the service aimed?
- **Location** - where is the service sited?
- **Impact** - what is the change in the service/how you will measure it
- **Professionals** - who is involved in providing/improving the service
- **Service** - for which service are you looking for information?

ECLIPSE - example

- Is there a difference between 12-hour and 8-hour nursing shifts (patient outcomes, nurses satisfaction with their work conditions)?

SPICE

- **Setting** - where the intervention is taking place?
- **Population** - the users or community being affected
- **Intervention** - what is being done to them/for them?
- **Comparison** - what is the alternative?

- **Evaluation** - how the effect might be assessed or measured?

SPICE - example

- Is there a difference in effectiveness of teaching EBM to LRC staff at stand alone workshops and through distant course?

Why bother formulating questions clearly?

- they help focus scarce learning time on evidence that is relevant to patients' clinical needs
- they can suggest effective search strategies
- they suggest the forms that useful answers might take
- they help to communicate more clearly with colleagues

References

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- Evidence-based Practice for Information Professionals: A Handbook /Ed. by A.Booth, A.Brice. London: Facet Publishing, 2004