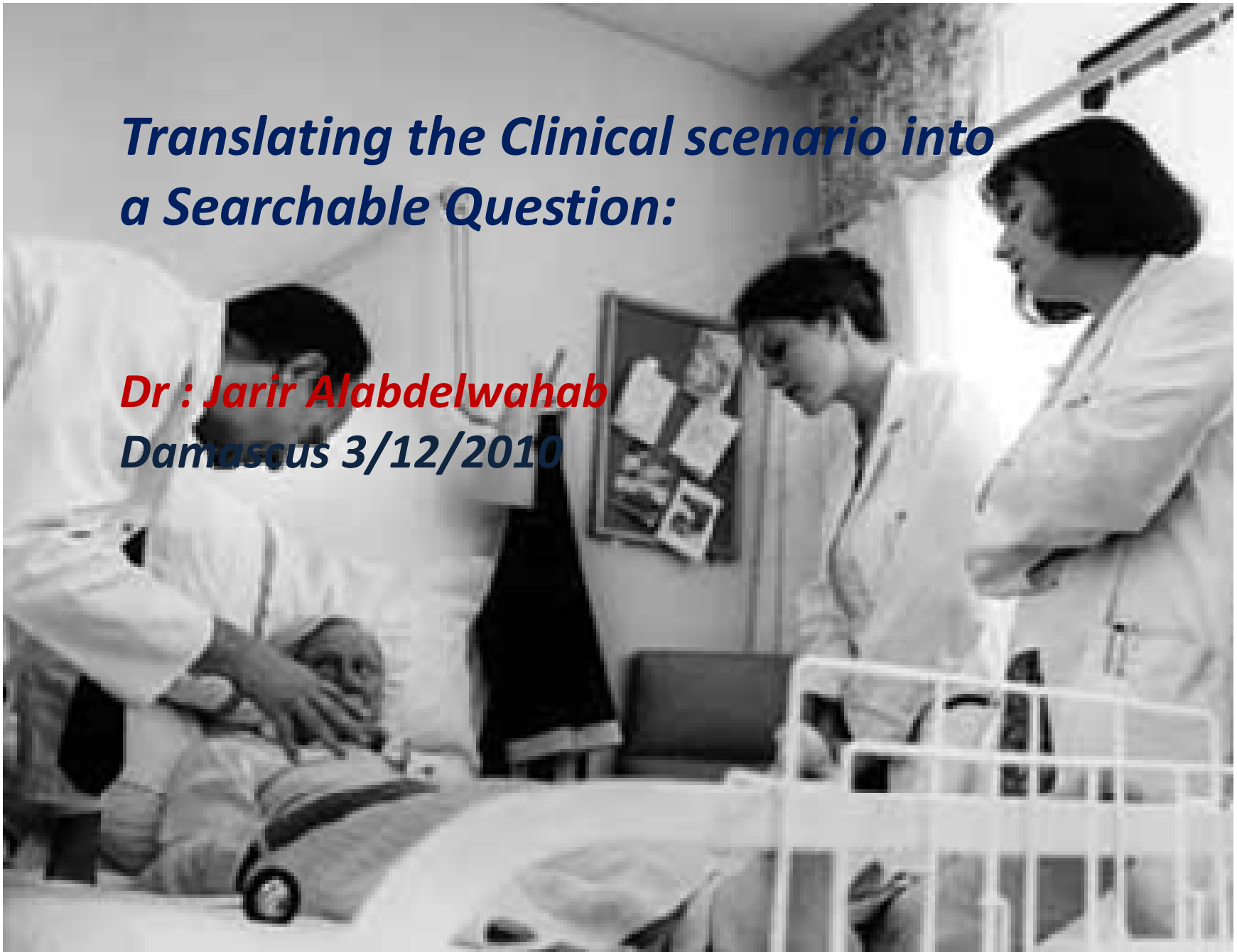



***Translating the Clinical scenario into
a Searchable Question:***

***Dr : Jarir Alabdelwahab
Damascus 3/12/2010***



A photograph of a lush green landscape with trees and a lawn. In the foreground, there is a well-maintained green lawn. In the middle ground, there are several trees with vibrant green leaves, suggesting spring. In the background, more trees are visible, some with bare branches. A white railing is visible in the bottom left corner. A large yellow text box is overlaid on the left side of the image.

By the year 2020, 90% of clinical decisions will be supported by accurate, timely, and up-to-date clinical information and will reflect the best available evidence.

what's going on ?



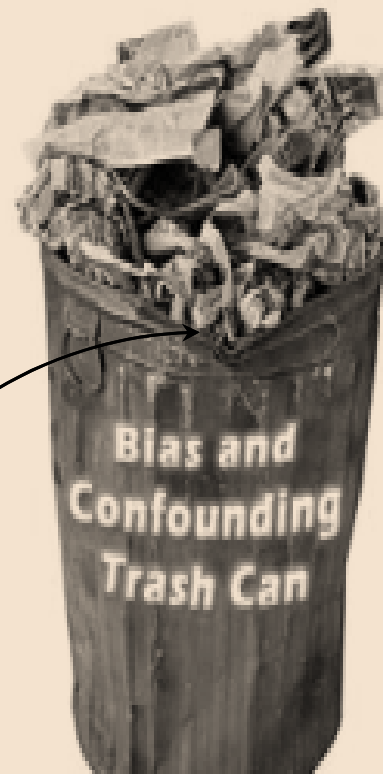
5,000?
per day
BIOMEDICAL

1,500 per day
MEDLINE

95 per day
TRIALS

Very few

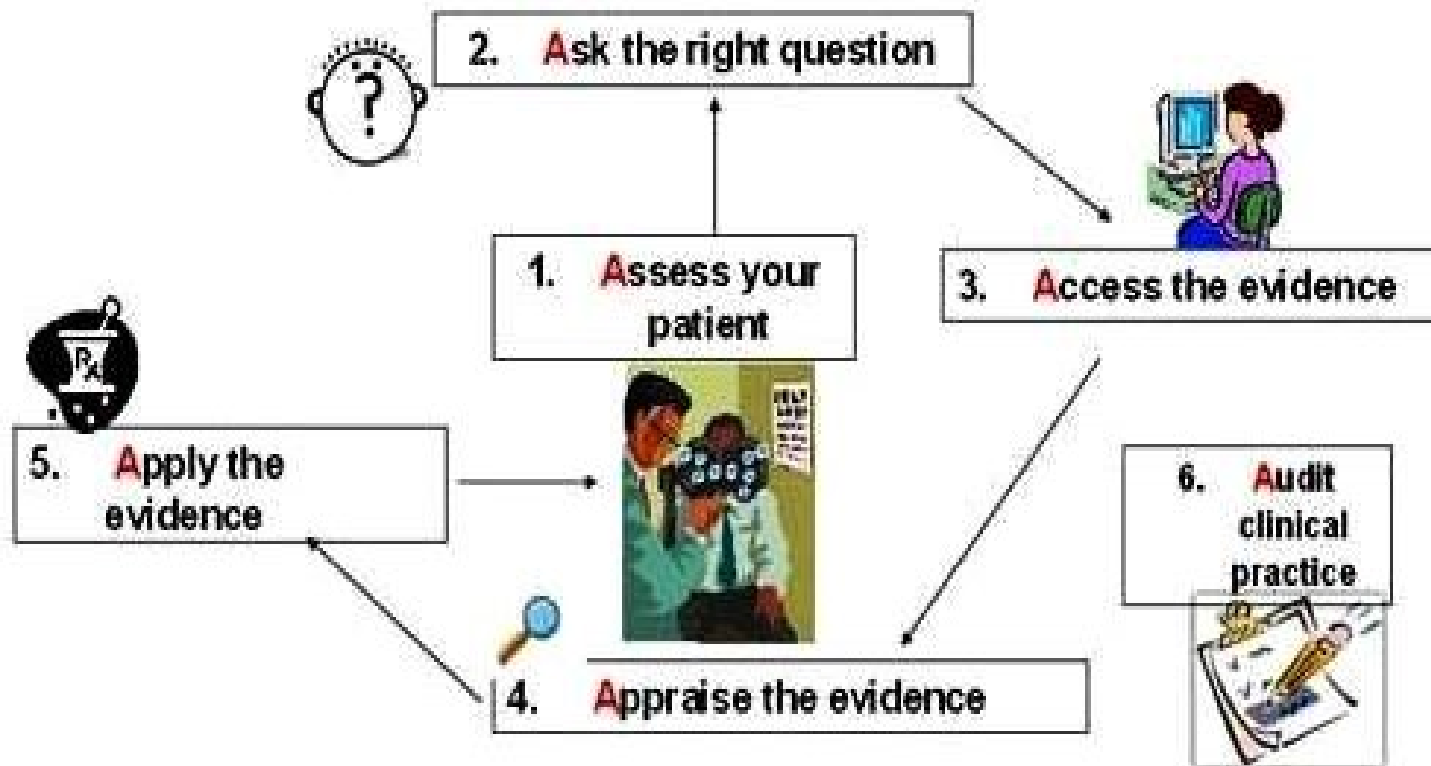
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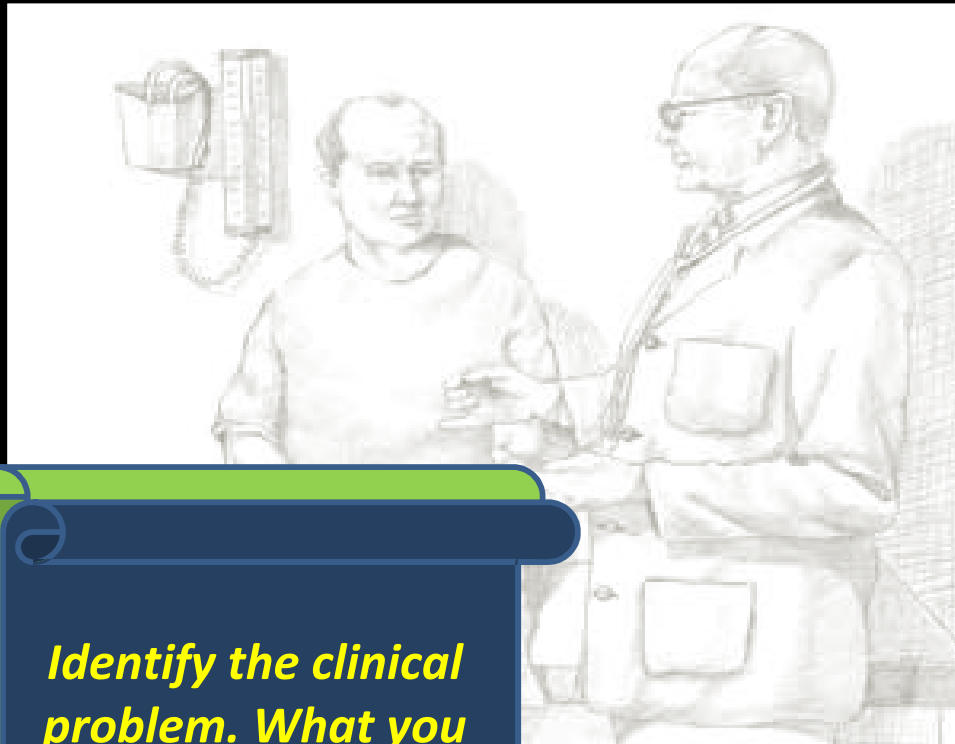
keeping up to date (hunting skills)



The roadmap



Assess



Identify the clinical problem. What you want to know?

WHAT INFORMATION DO NEED?

'Background'?

OR

'Foreground'?



'Background' Questions

About the disorder, test, treatment, etc.

what is the disorder; what causes it; how does it present; what are some treatment options.

-2 components:

a. Root + Verb: "What causes ..."*

b. Condition: "... SARS?"

Resources of the answers :

textbooks and narrative reviews in journals

'Foreground' Questions

*About patient care decisions and actions
specific questions / specific patient*

Answers from :

***primary sources** such as*

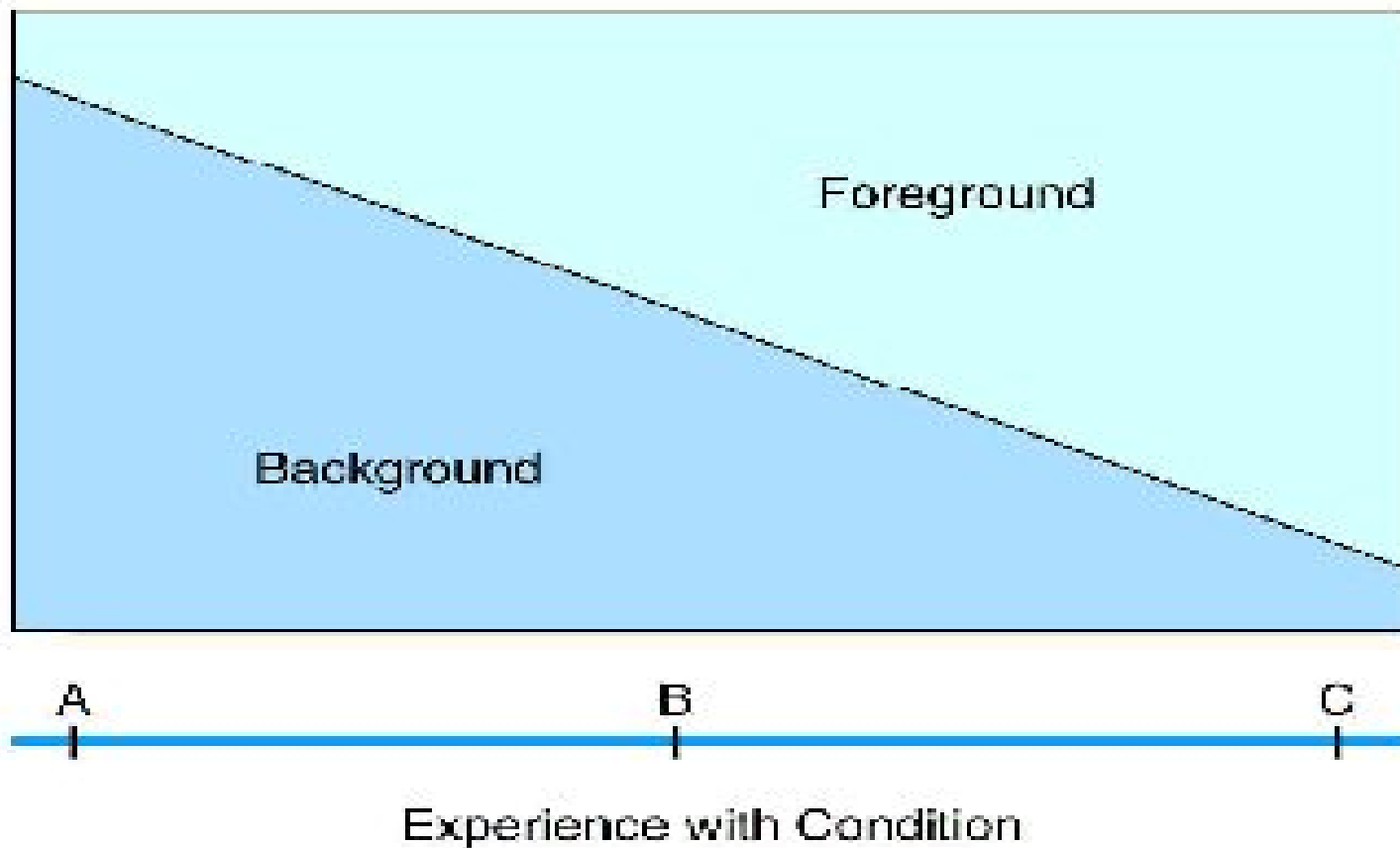
***original research articles** published in journals;*

***secondary sources** such as*

***systematic reviews** of the topic, and synopses
and reviews of individual studies*

Background & Foreground

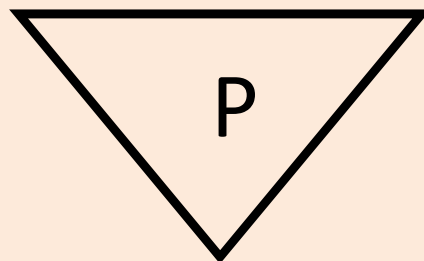
Figure 1.1 Background and foreground questions.



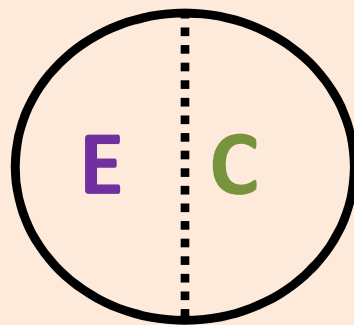
before asking question???

the 5 parts of every epidemiological study

Participants

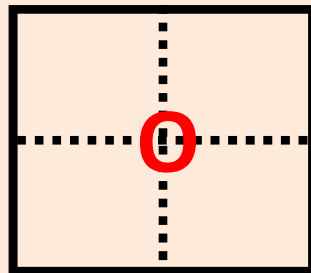
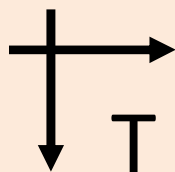


Exposure Group

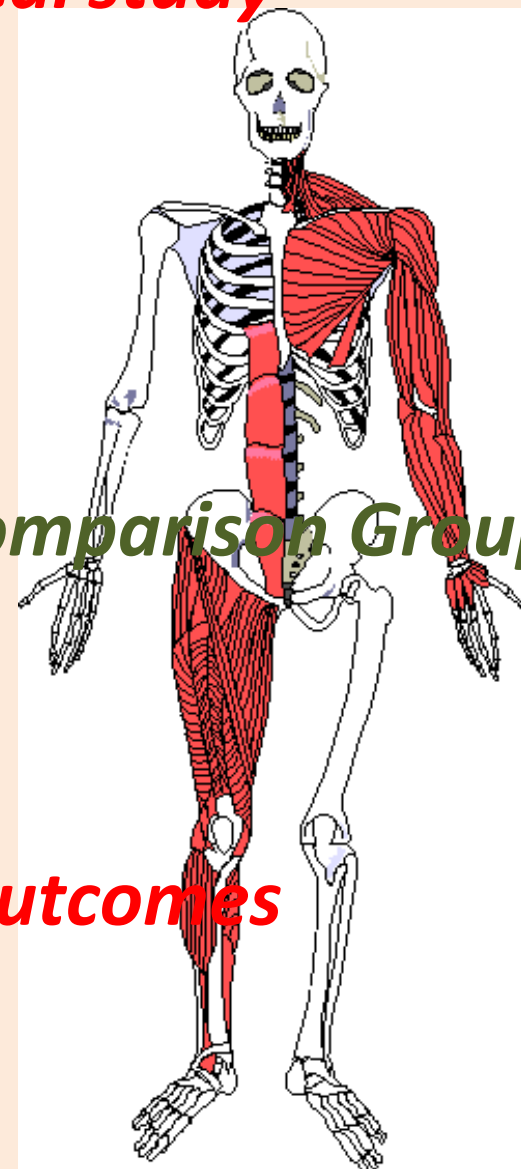


Comparison Group

Time



Outcomes



The objective of most clinical studies

<i>Objective</i>	<i>Common design</i>
<i>Prevalence</i>	<i>Cross sectional</i>
<i>Incidence</i>	<i>Cohort</i>
<i>Cause</i>	<i>Cohort, case-control, cross sectional</i>
<i>Prognosis</i>	<i>Cohort</i>
<i>Treatment effect</i>	<i>Controlled trial</i>

questions

1. *What is the question (PICO) of the study (anatomy)?*

2. What Kind of Question Is It??

a- intervention

b- frequency (incidence or prevalence)

c- diagnostic accuracy

d -prognosis (or natural history)

e -aetiology and risk factors

3-Which study type would give the highest quality evidence to answer the question?

4-Translating the Clinical Question into a Searchable Question

Anatomy of the Question?

P

Patient or population

*Age range -Gender -race,
Disease characteristics -Risk factors -medical condition(s)*

I

Intervention / Indicator

Treatment, diagnostic test, exposure, screening

C

Comparison

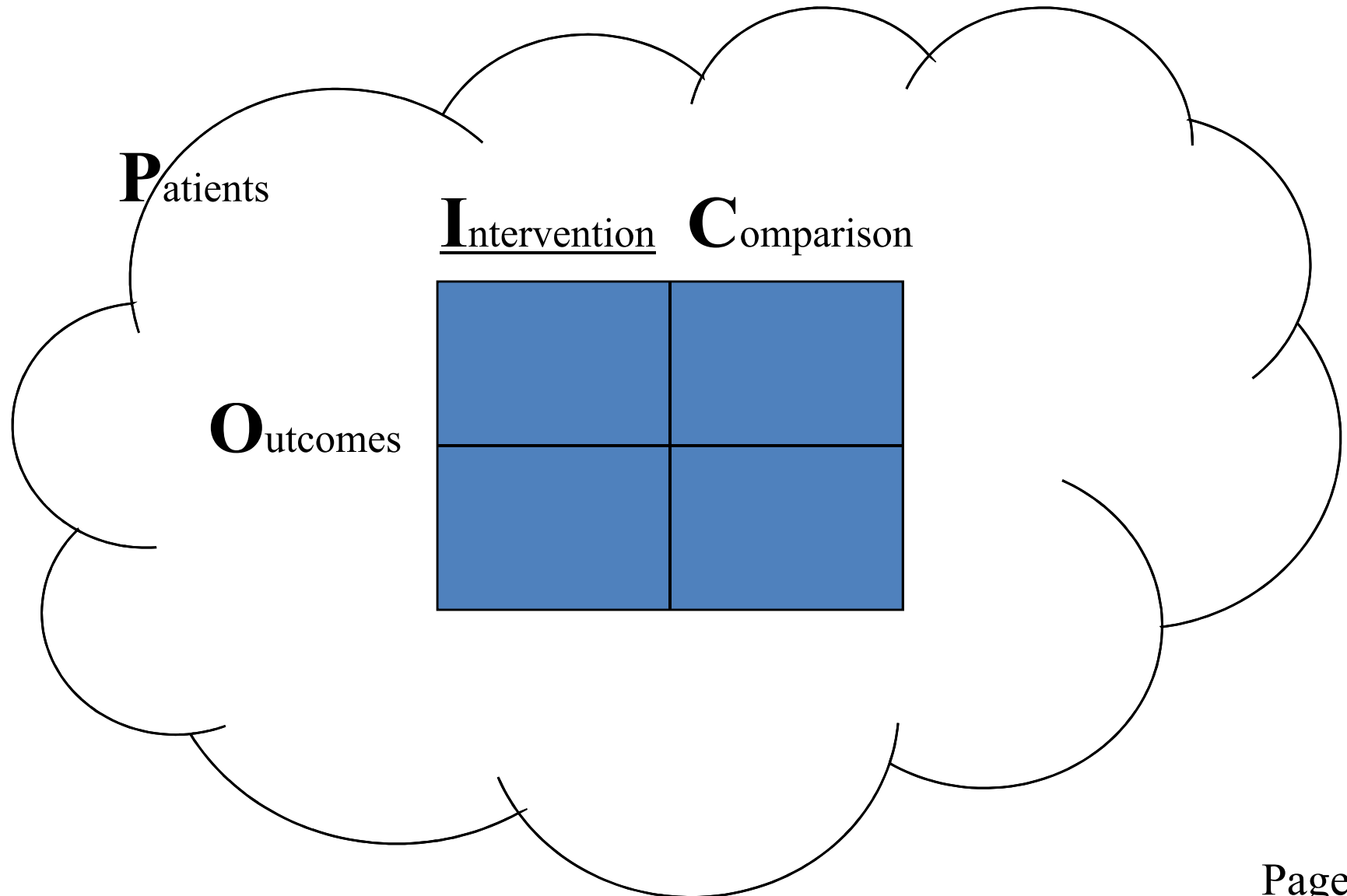
Nothing, placebo, gold standard, another intervention, usual care

O

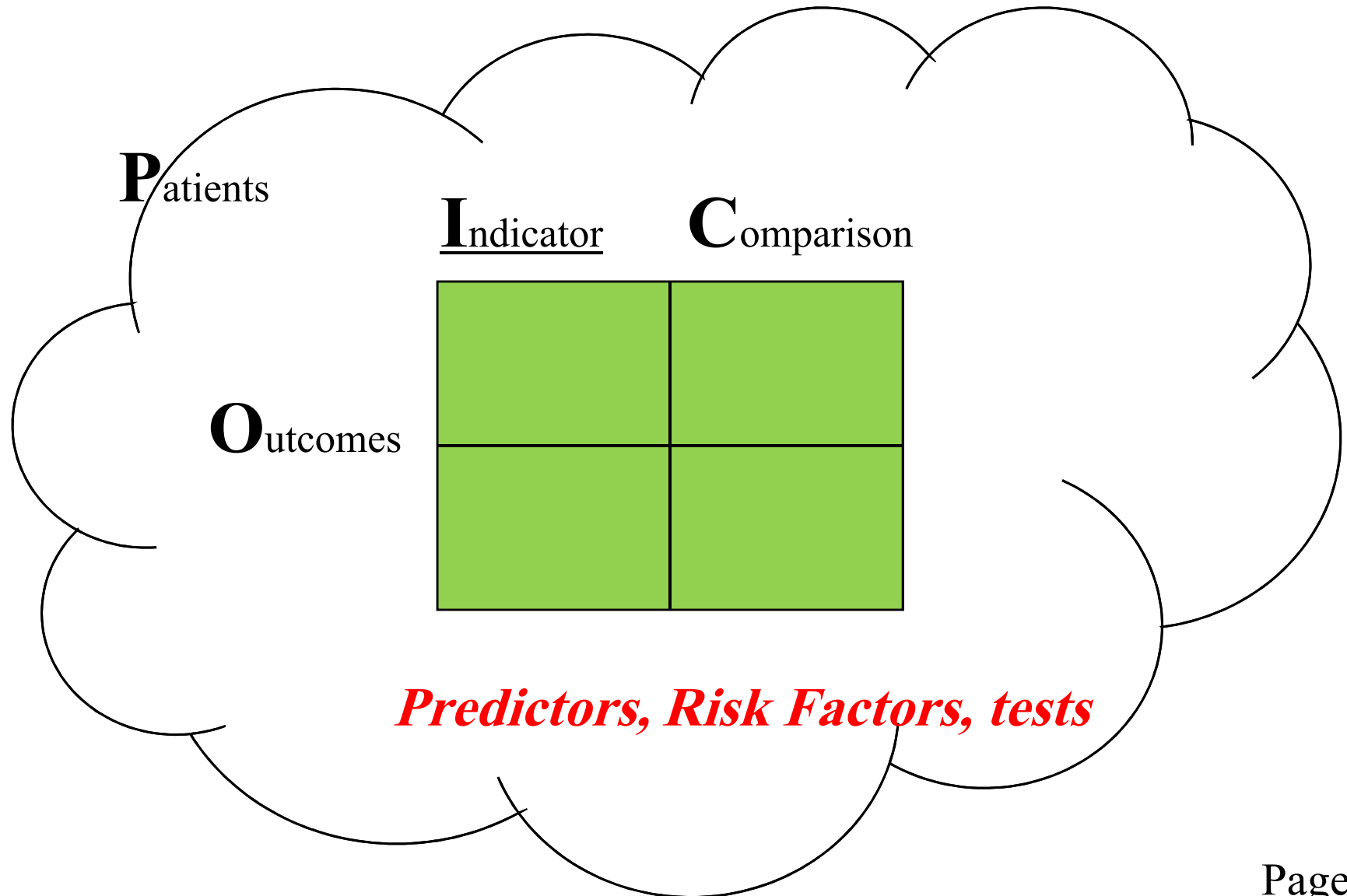
Outcomes (preferably clinical)

Hospitalizations, Mortality rate - symptom reduction, survival, Number of days lost from work quality of life

Question Structure: PICO



Risk Factors: Do patients with x disease have higher mortality?



Question /prognosis

Type of treatment

Type and severity of the disease

Cause of the disease

Time of onset

*Specific measure of future risk(using survival curves)
which allows estimation of disease-specific survival.*

Question /diagnosis

performance characteristics of diagnostic tests:

Sensitivity

Specificity

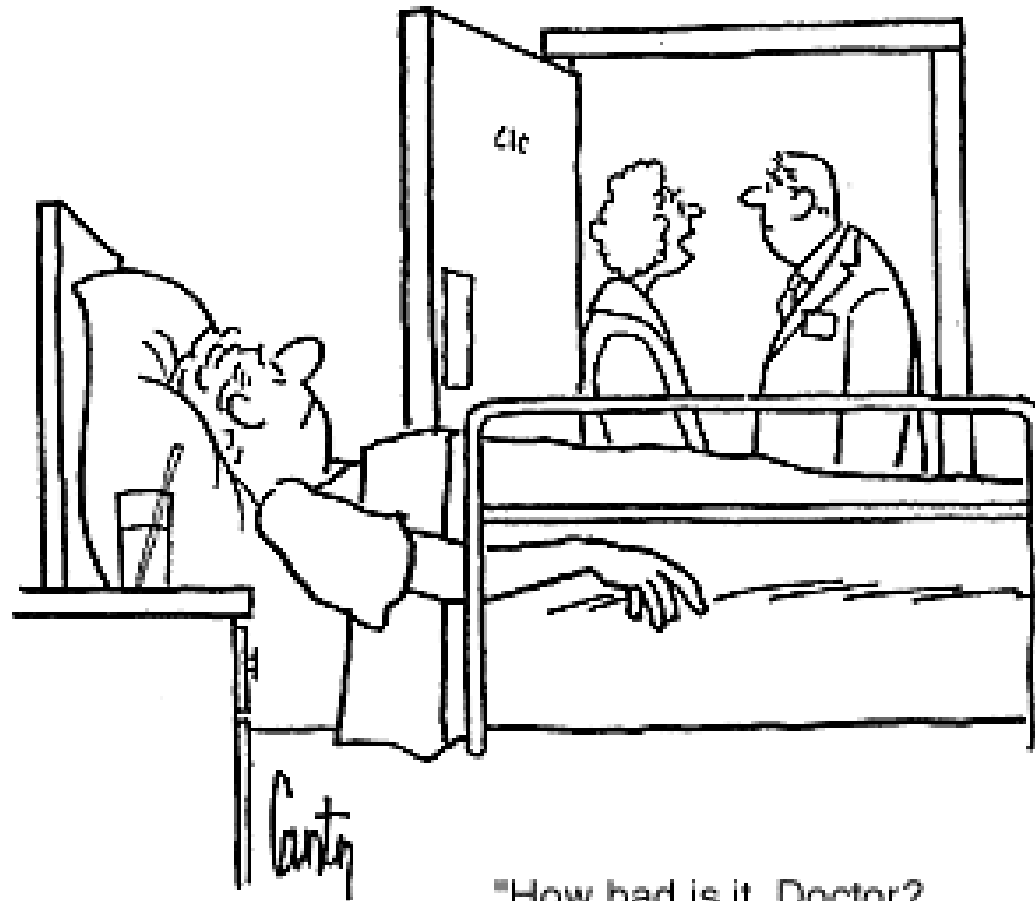
Likelihood ratios

(When we are most concerned about a false negative finding, test sensitivity is most important.)

Specific test name and methodology

(e.g. ELISA, Western Blot, electrophoresis) etc

What type of question is this?



"How bad is it, Doctor?
Should I start dating?"

DOMAINS

The kind of question you are asking will affect:

-how you use particular resources.

-the kind of answer you need.

- AND the way you analyze the studies you find.

The “best” evidence depends on the type of question

<i>Level</i>	<i>Intervention</i>	<i>Diagnosis</i>	<i>Prognosis</i>	<i>Aetiology</i>
<i>I</i>	<i>A systematic review</i>	<i>A systematic review</i>	<i>A systematic review</i>	<i>A systematic review</i>
<i>II</i>	<i>A randomised controlled trial</i>	<i>Cross-sectional study</i>	<i>A prospective inception cohort study</i>	<i>A prospective cohort study</i>
<i>III</i>	<i>1-A pseudo-randomised controlled trial 2-A comparative study with concurrent control group 3-A comparative study without concurrent control group:</i>	<i>Cross-sectional study</i>	<i>untreated control patients in a randomised controlled trial</i>	<i>A retrospective cohort study</i>
<i>IV</i>	<i>Case series</i>	<i>Case series</i>	<i>Case series, or cohort study</i>	<i>A cross-sectional study</i>

Example

A 43 year old male asked for some repeat prescriptions and advice about preventing deep vein thrombosis on a 12 hour flight (his brother had had one last year). You suggest stockings as the most effective prevention.

P I C O

P:

patients on long flights

I:

compression stockings

C:

no compression stockings

O:

prevent Deep Vein Thrombosis (DVT)

WHAT IS THE Clinical Question

In people who take long- flights does wearing compression stockings prevent DVT?

What type of question is it ?

What a searchable question might be?

Does wearing compression stockings prevent DVT?

what search terms would be suitable ?

**compression stockings
DVT
prevention**



Example 3

A 7-year old male presents with severe lower right quadrant pain.

You suspect appendicitis following your initial examination.

You decide to send the patient for an ultrasound before you make your diagnosis.

PICO

P=

7-year old healthy male

I=

Ultrasound

C=

Physical examinations and CBC

O=

Accurate diagnosis to rule in or rule out appendicitis

WHAT IS THE CLINICAL QUESTION

(How effective is ultrasound in accurately identifying acute appendicitis?)

SEARCH TERMS could be :

appendicitis AND ultrasound

case1

*A 35 year old former intravenous drug user has been found to be **HCV RNA positive** He last injected drugs 10 years ago after a 3 year period of needle sharing.*

He is sent to see you for advice on treatment for his viral hepatitis.

A liver biopsy reveals periportal inflammation, some piecemeal necrosis and early fibrosis. He drinks 30 units of alcohol per week.

*He wants to know if he should have treatment and if so, **does combination therapy of interferon with ribavirin really offer much more chance of viral clearance than interferon alone** or just waiting to see what happens.*

case 1/P I CO

P:

35 year old man who is HCV RNA positive

I:

interferon + ribavirin

C:

interferon or no treatment

O:

viral clearance

For our patient, the clinical question might be:

***“In 35 year old man who is HCV RNA positive does treatment with interferon + ribavirin, compared to interferon alone, or no treatment, offer a significant chance of viral clearance.*”**

case 1/ searchable Q

Does combined treatment with interferon + ribavirin for HCVRNA positive patients has a higher viral clearance rate than treatment with Interferon alone?

Search terms :

HCVRNA positivity

interferon

ribavirin

viral clearance

what type of question is it?

a- intervention

b- frequency (incidence or prevalence)

c- diagnostic accuracy

d -prognosis (or natural history)

e -aetiology and risk factors

Example 2

A 64-year-old white female with a long history of **poorly treated hypertension** was diagnosed by your preceptor with congestive heart failure (CHF) at her last visit.

She was **treated with a diuretic and started on an ACE inhibitor** and now is clinically well compensated and without edema.

Her EKG shows **LVH and strain**.

Her echocardiogram shows an **ejection fraction of 35%** and *left ventricular hypertrophy*.

The patient is otherwise in good health **without any other known chronic conditions**.

She is a lifelong **non-smoker** with a cholesterol/HDL ratio of 2.3 (low risk for heart disease). Her only **other medication is Prempro** (a combination estrogen/progesterone product).

The patient has heard that CHF is a serious disease, and **asks what the future is likely to hold for her**. Specifically she asks *how likely she is to die from this condition in the near future*.

clinical question

For white women in their 60's

with recent onset of moderately severe systolic congestive heart failure (ejection fraction around 30%) due to hypertension,

what percent have died from CHF 2, 5, and 10 years after diagnosis, assuming they are treated optimally with an ACE inhibitor and other medications as needed?

Translating the Clinical Question into a Searchable Question:

Identify the two or three most important concepts in our clinical question:

white women in their 60's

congestive heart failure

what percent have died

The searchable question that could be asked:

What is the prognosis for 60-year-old women with congestive heart failure?

Example 4

A 52-year old woman presented with a three-week history of epigastric aching pain, worse in the early morning before breakfast and somewhat relieved by food and antacids. Physical examination was normal. An air contrast upper GI showed a small **duodenal ulcer** crater and mild reflux with provocative maneuvers. Her symptoms responded well to omeprazole 40 mg. per day. ***H. pylori* antibody serology was negative.**

You are concerned about a possible false negative *H. pylori* serology because this would cause you to miss the opportunity of treating the patient for *H. pylori* and preventing future ulcers.

Therefore, you decide to **check on the sensitivity of the *H. pylori* assay used by the hospital laboratory.**

A laboratory technician informs you that the test they use is an **ELISA, IgG** test performed using a commercial kit.

Pico/example 4

P :

older women with symptomatic duodenal ulcer,

I :

IGg ELISA test

C :

O :

sensitivity for detecting *H. pylori* infection

The clinical question

Among older women with symptomatic duodenal ulcer, what is the sensitivity of a typical IgG ELISA test for detecting H. pylori infection?

the searchable question

Is the IgG ELISA test sensitive for detecting H. pylori infection?

Search terms :

IgG ELISA test ,H. pylori infection?

CASE 2

A 67 years old woman and has a history of congestive heart failure brought on by several myocardial infarctions.

She has been hospitalized twice within the last 6 months for worsening of heart failure.

At the present time she remains in normal sinus rhythm. She is extremely diligent about taking her medications (enalapril, aspirin and simvastatin)

and wants desperately to stay out of the hospital.

*You think she should also be taking **digoxin** but you are not certain if this will **help keep her out of the hospital.***

You decide to research this question before her next visit

CASE 2/ P I C O

P:

congestive heart failure, elderly

I:

digoxin

C:

none, placebo

O:

primary: reduce need for hospitalization;

secondary : reduce mortality

For our patient, the clinical question might be:

In elderly patients with congestive heart failure, is digoxin effective in reducing the need for rehospitalization?

1-WHAT TYPE OF QUESTION IS IT ?

2-WHAT THE SEARCH TERMS ARE?

congestive heart failure

Digoxin

hospitalization



Educational Prescription

Patient's Name

Learner:

3-part Clinical Question

Target Disorder:

Intervention (+/- comparison):

Outcome:

Date and place to be filled:

Presentation will cover:

1. search strategy;
2. search results;
3. the validity of this evidence;
4. the importance of this valid evidence;
5. can this valid, important evidence be applied to your patient;
6. your evaluation of this process.

The last message

****"Kill as Few Patients as Possible" –
Oscar London***

Thank you for joining in 😊



***Questions
or comments?***

