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Internist_ Rheumatologist

TABRIZ _ 2023

Diagnosis
Early Diagnosis
Prognosis

Diagnosis is often complex, involving multiple steps:

- taking an appropriate history of symptoms and collecting relevant data
- physical examination
- generating a provisional and differential diagnosis
- testing (ordering, reviewing, and acting on test results)
- reaching a final diagnosis
- consultation (referral to seek clarification if indicated)
- providing discharge instructions, monitoring, and follow-up
- documenting these steps and the rationale for decisions made

prescribe, cure, confine, prognosis, commit

- doctor, practice, zero, treat, tune up
- tune, admit
- Diagnosticate, individualize

See more synonyms for Diagnose at https://www.thesaurus.net/diagnose

identify problem, disease (verb)
- determinate, distinguish, interpret, investigate, analyze, place, pronounce, spot, Diagnosticate, determine, pinpoint, recognize

Antonyms for

The process of studying the symptoms in a person as a result of a disease is called diagnosis.

The diagnosis can either be done through a physical examination or by reading briefly through the medical history of the patient.

In some cases, tests are carried out to discover the underlying cause of a disease.

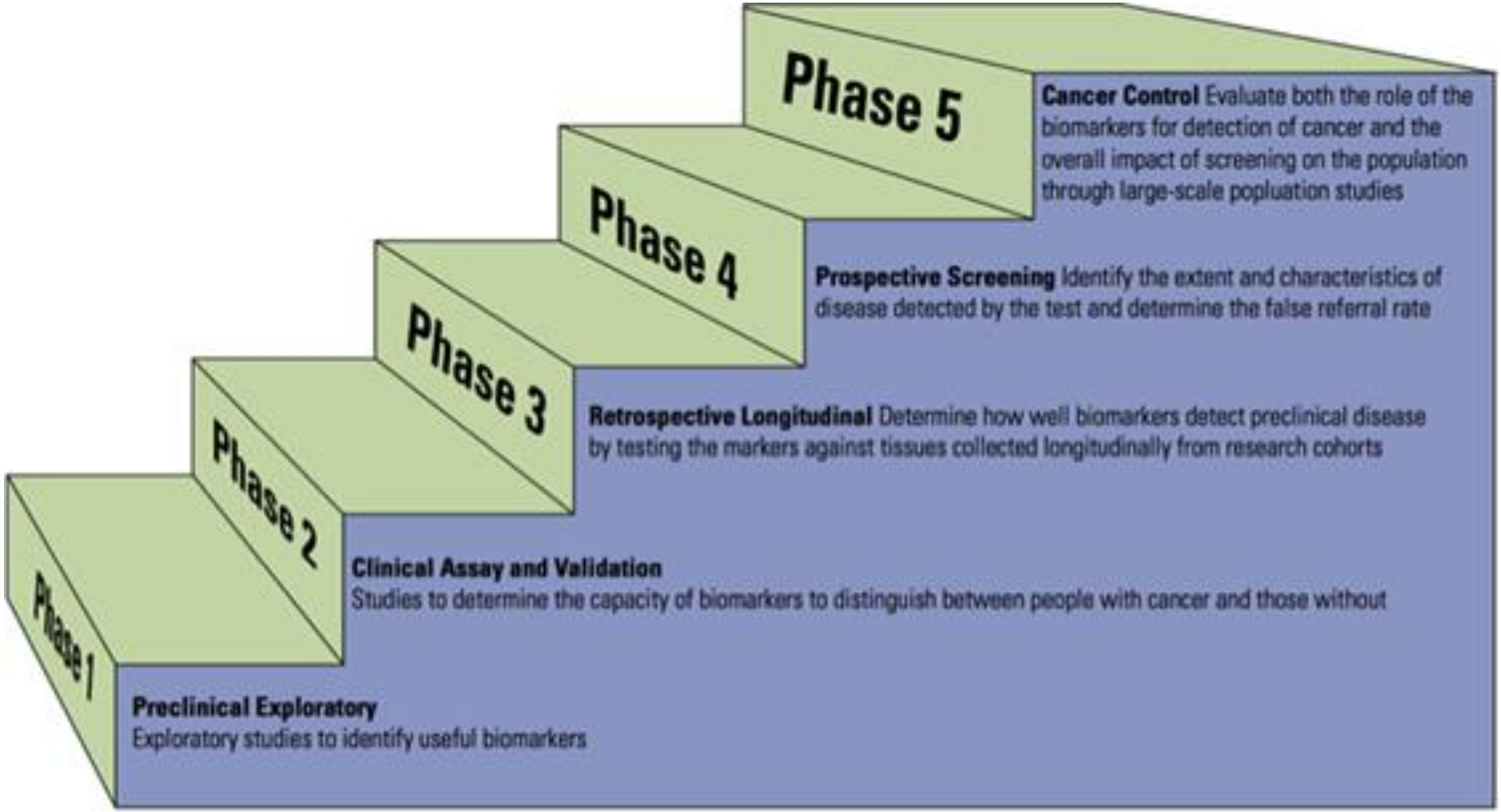
Early diagnosis

focuses on **detecting symptomatic patients as early as possible**,

while

screening

consists of testing healthy individuals to identify those having cancers before any symptoms appear.


Phase 1
Preclinical Exploratory
Exploratory studies to identify useful biomarkers
Phase 2
Clinical Assay and Validation
Studies to determine the capacity of biomarkers to distinguish between people with cancer and those without
Phase 3
Retrospective Longitudinal Determine how well biomarkers detect preclinical disease by testing the markers against tissues collected longitudinally from research cohorts
Phase 4
Prospective Screening Identify the extent and characteristics of disease detected by the test and determine the false referral rate
Phase 5
Cancer Control Evaluate both the role of the biomarkers for detection of cancer and the overall impact of screening on the population through large-scale popluation studies

Synonyms for Early diagnosis

14 other terms for early diagnosis- words and phrases with similar meaning

initial diagnosis ❖

premature verdict ❖

earlier diagnosis ❖

timely detection ❖

original diagnosis ❖

early detection ❖

prompt diagnosis ❖

early identification ❖

recent diagnosis ❖

early screening ❖

early decision ❖

early testing ❖

early prediction ❖

What level of prevention is early diagnosis and accurate treatment?

Secondary prevention is early diagnosis and management to prevent complications from a disease.

Why early diagnosis and follow up to diagnosis is important?

Earlier diagnosis is critical to meeting our survival ambition, as it means patients can receive treatment when there is a better chance of achieving a complete cure.

Information on progress made on achieving early and faster diagnosis is provided below: Cancer Alliances. Early detection – new screening tests.

Why early diagnosis and follow up to diagnosis is important?

Earlier diagnosis is critical to meeting our survival ambition, as it means patients can receive treatment when there is a better chance of achieving a complete cure.

Benefits of Early Detection and Treatment

- In some situations, early detection of certain illnesses and diseases can be extremely beneficial.
- It allows doctors to come up with an effective treatment plan that can prevent the progression of the disease, or at least manage it effectively.
- It also helps patients prepare themselves mentally and financially.
- Here are the most major benefits of early detection and treatment of various diseases:

- **Early diagnosis** opens the door to future care and treatment
- Allows healthcare professionals to develop treatment plans to combat the progression of disease
- Alerts doctors to watch out for certain symptoms
- Helps patients plan ahead while they are still able to make important decisions on their care
- Gives patients the chance to prepare themselves mentally for certain diseases, treatments, and lifestyle changes
- Provides patients with the chance to sort out necessary financial and legal matters
- It can be **cost-saving**, and even **life-saving**, to detect disease early on and treat it before it worsens

Obstacles to early recognition :

Delayed presentation
Delayed referral-
failure to recognize symptoms/urgency
Delayed therapy-
Multiplicity of referral routes

KEY POINTS

- **Earlier diagnosis** does not necessarily lead to better outcomes; sometimes it makes matters worse
- Screening programmes should only be introduced on the basis of sound evidence about their effects
- Not introducing a screening programme can be the best choice
- People invited for screening need balanced information
- The benefits of screening are often oversold
- The harms of screening are often downplayed or ignored
- **Good communication** about the benefits, harms, and risks of screening is essential

Are Early Detection and Treatment Always Best?

When is Early Detection and Treatment Best?

There are certain situations in which it is very useful, and even crucial, to conduct tests for early detection and treatment of various diseases.
For example, early detection may be beneficial in the following scenarios:

Is early diagnosis always important?

In many cases, early detection and treatment can even be life-saving.

However, it is important to understand that **early detection and treatment is not always best**.

In fact, the **overuse** of early testing may be ineffective, or lead to more complications that not benefits.

Why is early diagnosis important?

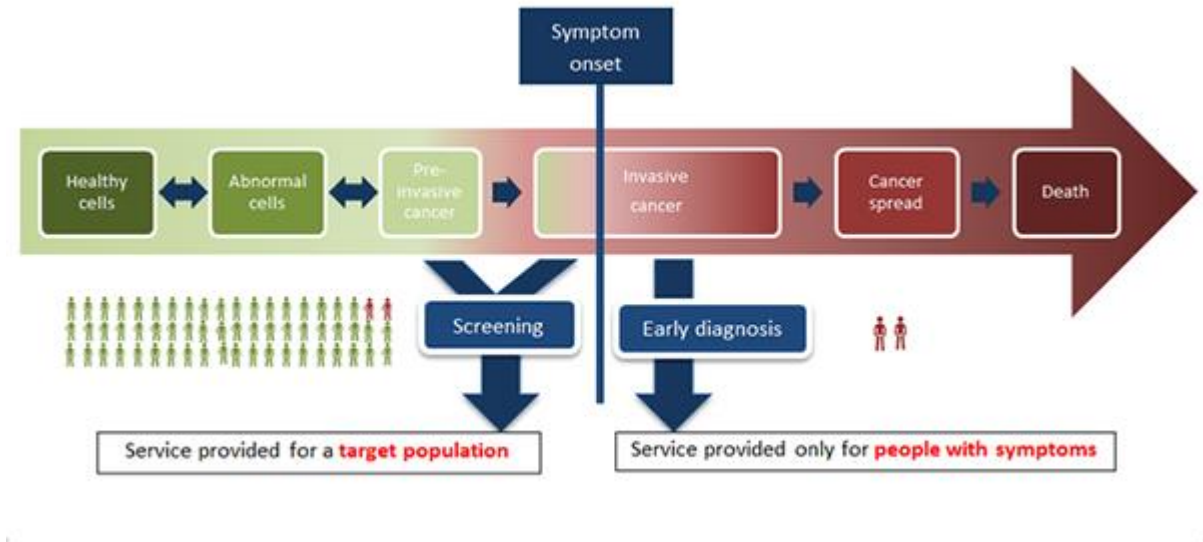
Benefit 1: **You get an accurate diagnosis so you will know what to expect**. Some treatable conditions can produce symptoms similar to dementia. For example, vitamin deficiencies, thyroid disease, sleep disorders, alcohol abuse or depression. Similarly, other possible causes of confusion include poor sight or hearing.

When is Early Detection and Treatment Not Always Best?

- While it is important to get tested as early as possible for many serious and life-threatening diseases, many health conditions go away on their own.

- In such cases, early testing may amount to wasted effort, time, and medical cost.

- Moreover, in cases where **testing is invasive** and has a **significant risk of complications**, it is a better practice not to get tested unless there is **solid reason** to believe that it is necessary.


Symptom onset
Healthy cells
Abnormal cells
Pre-invasive cancer
Invasive cancer
Cancer spread
Death
Screening
Early diagnosis
Service provided for a target population
Service provided only for people with symptoms

Why is early detection of a disease important?

- The earlier detection of disease **may lead to more cures or longer survival**.

- This possibility has led to public health programs which recommend populations to have periodic screening examinations for detecting specific chronic diseases, for example, cancer, diabetes, cardiovascular disease and so on.

What level of prevention is **early diagnosis** and accurate treatment?

Secondary prevention is early diagnosis and management to prevent complications from a disease.

Feasibility and **usefulness** of a fast track clinic for patients suspected of polymyalgia rheumatica: notes for a work schedule through a narrative review of published literature

July 2021•

Projects: Red flags for older persons with rheumatic • diseases.

Rheumatic diseases and elderly•

-There is a family history of certain diseases such as • cancer

-When there is significant suspicion of serious disease•

-Clear symptoms that are pointing to a cause of concern•

-When routine blood tests suggest there may be an• underlying problem•

-When your specialist determines it is **necessary** to • perform certain tests•
Rather than **blindly** jumping into various tests and treatments without professional advice, it is better to visit a specialist medical professional

Furthermore, sometimes the “**cure**” to certain medical conditions is the passage of time. Such is true in the case of colds and influenzas that tend to clear up on their own. For such situations, watchful waiting is often a better approach than aggressive testing.

At the end of the day, it is best to work with a qualified healthcare professional to determine when early detection and testing is necessary, and when it is not.

If you are worried about a certain condition, it is best to visit the relevant specialist and have them recommend the best course for early detection.

Delayed diagnoses

Misdiagnosis

Wrong diagnosis

Delayed diagnoses

occur when a patient seeks medical treatment for symptoms, and yet the condition causing those symptoms go undiagnosed for an unreasonable amount of time.

Often, this may result in the condition worsening into a serious illness or disease.

What is a common finding in the early diagnosis of lupus?

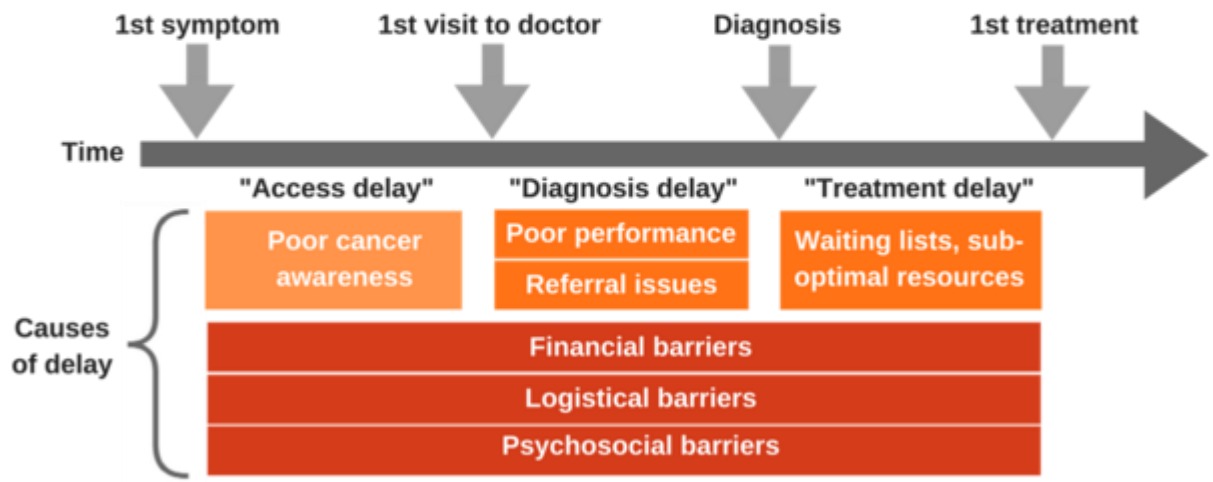
The most common lupus symptoms (which are the same for men and women) are: **Extreme fatigue (feeling tired all the time) Pain or swelling in the joints**. **Swelling in the hands, feet, or around the eyes**.

What test confirms SLE?

An antinuclear antibody (ANA) blood test measures the presence of antibodies that are directed against the body's cells, a sign of systemic lupus erythematosus.

ANA is present in nearly everyone with **active lupus**.

What causes delays in cancer diagnosis and treatment?



What are the reasons of delayed diagnosis?

The reasons for delayed diagnosis vary.
Doctors may wish to wait to make a formal diagnosis until tests or scans have been completed or until they have done adequate research of rare conditions.
Diagnosis may also be delayed due to **understaffed hospitals, incompetent medical staff, mishandled tests, or more**.

What is wrong diagnosis?

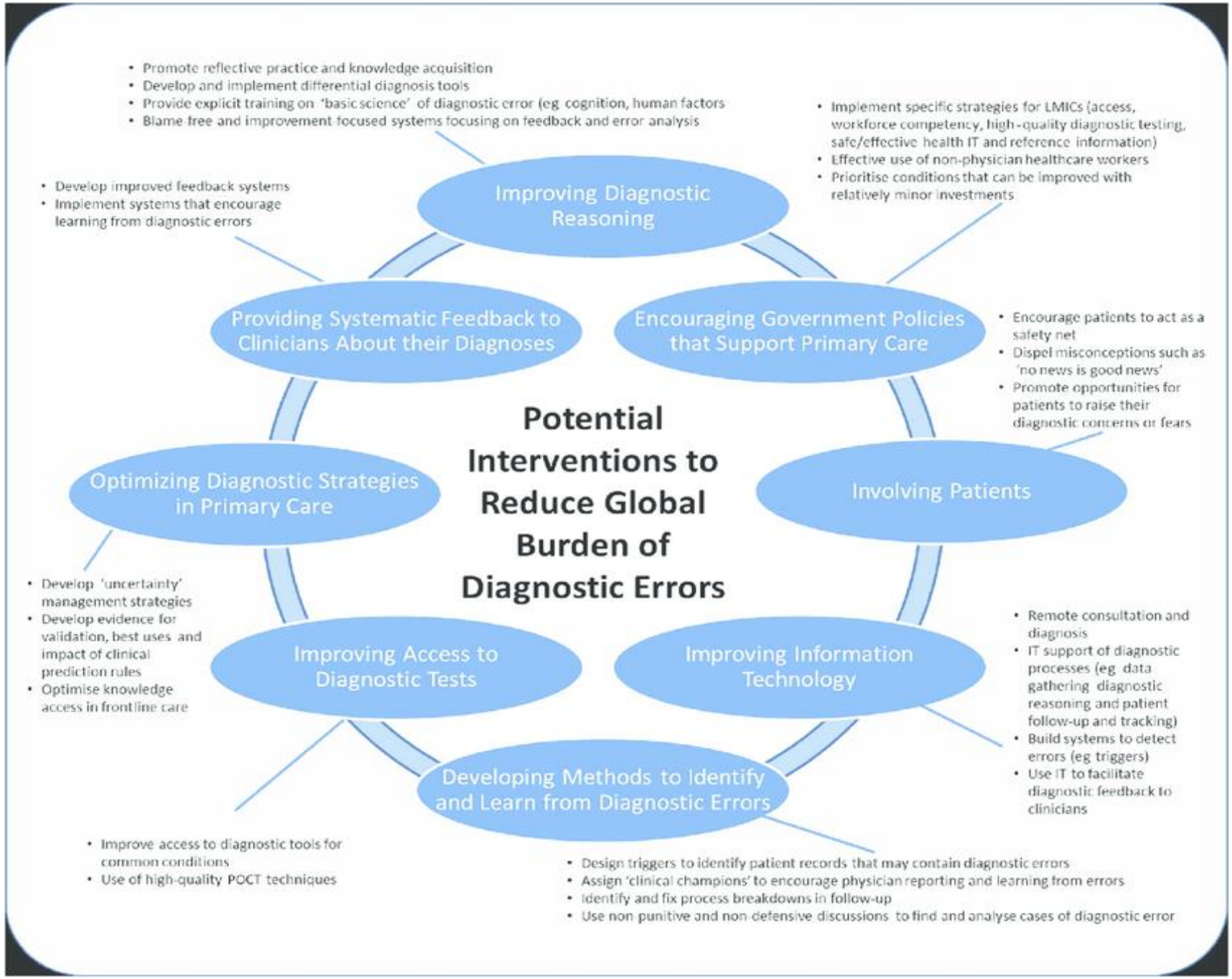
Also called **misdiagnosis**,
this is **when the doctor picks the wrong illness**.
For example, a doctor diagnoses a patient with a gastric problem when in fact the patient was having a heart attack. Or, the doctor diagnoses cancer when the patient is cancer-free.

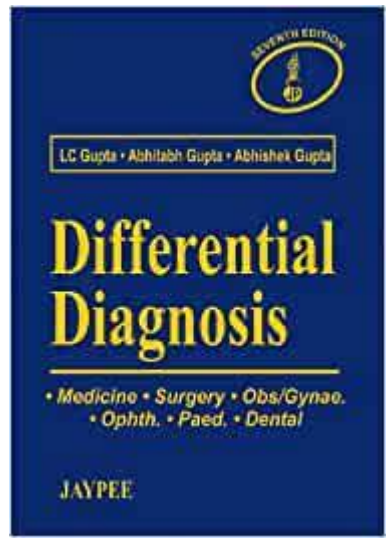
Is it possible to be misdiagnosed?

An estimated 12 million Americans a year are misdiagnosed with a condition they don't have.

In approximately half of those cases, the misdiagnosis has the potential to result in severe harm.
Misdiagnoses can have serious consequences on a person's health.

In some **missed diagnosis cases**, a suffering patient keeps seeking treatment, perhaps going to different doctors when the previous doctors haven't been able to find the problem.
While it may be necessary, this can actually perpetuate the cycle of missed diagnosis; subsequent doctors may give less credence to the reports of patients they see as "**doctor-shopping**."


Potential Interventions to Reduce Global Burden of Diagnostic Errors
Improving Diagnostic Reasoning
• Promote reflective practice and knowledge acquisition
• Develop and implement differential diagnosis tools
• Provide explicit training on 'basic science' of diagnostic error (eg cognition, human factors
• Blame-free and improvement-focused systems focusing on feedback and error analysis
Encouraging Government Policies that Support Primary Care
• Implement specific strategies for LMICs (access, workforce competency, high-quality diagnostic testing, safe/effective health IT and reference information)
• Effective use of non-physician healthcare workers
• Prioritise conditions that can be improved with relatively minor investments
Involving Patients
• Encourage patients to act as a safety net
• Dispel misconceptions such as 'no news is good news'
• Promote opportunities for patients to raise their diagnostic concerns or fears
Improving Information Technology
• Remote consultation and diagnosis
• IT support of diagnostic processes (eg data gathering diagnostic reasoning and patient follow-up and tracking)
• Build systems to detect errors (eg triggers)
• Use IT to facilitate diagnostic feedback to clinicians
Developing Methods to Identify and Learn from Diagnostic Errors
• Design triggers to identify patient records that may contain diagnostic errors
• Assign 'clinical champions' to encourage physician reporting and learning from errors
• Identify and fix process breakdowns in follow-up
• Use non punitive and non defensive discussions to find and analyse cases of diagnostic error
Improving Access to Diagnostic Tests
• Improve access to diagnostic tools for common conditions
• Use of high-quality POCT techniques
Optimizing Diagnostic Strategies in Primary Care
• Develop 'uncertainty' management strategies
• Develop evidence for validation, best uses and impact of clinical prediction rules
• Optimise knowledge access in frontline care
Providing Systematic Feedback to Clinicians About their Diagnoses
• Develop improved feedback systems
• Implement systems that encourage learning from diagnostic errors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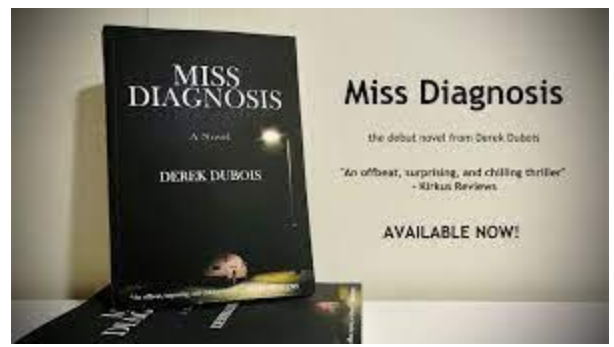
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A Novel
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Miss Diagnosis
the debut novel from Derek Dubois
"An offbeat, surprising, and chilling thriller"
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Early Diagnosis

Early Treatment

(Windows of Opportunity)


EARLY
DETECTION
SAVES
LIVES

International Journal of Rheumatic Diseases

Invited Review

Diagnosis and management of giant cell arteritis: an Asia-Pacific perspective

Jem V. Ninan, Susan Lester, Catherine L. Hill

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Citations: 4

Abstract

Giant cell arteritis is the commonest primary vasculitis of the elderly. However, the prevalence does vary widely between populations with highest incidence amongst Northern Europeans and lowest amongst East Asians. Preliminary studies suggest that clinical manifestations may differ between different populations. Newer diagnostic approaches including **ultrasound**, MR angiography and PET imaging are under review. While there have been recent advances in the diagnosis of GCA particularly with regard to imaging, there is an urgent need for improvements in methods of diagnosis, treatment and requirement for screening. Glucocorticoid treatment remain the backbone of therapy. However, glucocorticoid therapy is associated with significant adverse effects. Conventional and novel immunosuppressive agents have only demonstrated modest effects in a subgroup of steroid refractory GCA due to the different arms of the immune system at play. However, recently a study of IL-6 blockade demonstrated benefit in GCA. Newer approaches such as fast-track pathways can also result in improvements in consequences of GCA including blindness.

Fast track diagnosis and management of GCA

Permanent vision impairment is seen in 15-25% of GCA some of whom have bilateral involvement.

Irreversible ischemic complications such as sight loss occur early, prior to steroid therapy.

This is preventable with steroid therapy,

Need fast-track treatment analogous to stroke for GCA with ischemia

Giant cell arteritis: early diagnosis is key

In one study evaluating cases **of delayed diagnosis of GCA** resulting in permanent vision loss, 35% of patients had systemic symptoms for an average of 10.8 months before suffering permanent vision loss and 65% had transient visual symptoms for 8.5 days prior to diagnosis.[1]

In light of the research conducted in the past 20 years, it has become clear that the **early diagnosis and initiation of treatment** is essential to improve visual and systemic prognosis in patients with GCA.[1,8,9] Numerous recent studies evaluating the implementation of **fast-track clinics (FTCs)** have found that the rate of permanent blindness decreased significantly with early initiation of corticosteroid treatment for the vasculitis.[7–9]

From first symptoms to diagnosis of systemic lupus erythematosus:

mapping the journey of patients in an observational study

Clin Exp
Rheumatology
. 2022 Apr 20. doi: 10.55563/clinexprheumatol/x3s9td

Results:

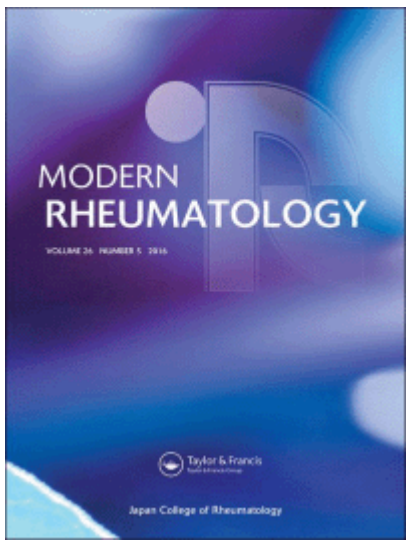
Most common initial symptoms were arthritis/arthralgia (74.5%) and rashes (61.8%). Median (IQR) total delay between symptom onset and SLE diagnosis was 24 (54) months. An "early" diagnosis was achieved only in 28.4% of patients, while 55.6% were diagnosed after 12 months, with patients consulting an average of 3 different physicians before reaching diagnosis. Oral ulcers (OR 3.55; 95% CI 1.45-8.70) and malar rash (OR 1.99; 95% CI 1.00-3.94) as initial symptoms, and rst medical assessment by orthopaedic (OR 5.18; 95% CI 1.47-18.20) were independently associated with a delayed diagnosis. The latter was also associated with increased SDI at the time of diagnosis (OR 2.42; 95% CI 1.03-5.69), attributed mainly to neuropsychiatric and thrombotic events.

Conclusions: Diagnosis of SLE is delayed by more than **6 months** in three quarters of patients and is associated with more damage accrual.

How long does Ankylosing Spondylitis take to diagnose?

According to data from our ArthritisPower research registry, nearly a third of respondents with AS reported that it took **more than 10 years** to receive a formal diagnosis from when they began seeking medical attention.

The disease had **juvenile-onset AS** in 26 and **adult-onset AS** in 137 patients. Diagnostic delay longer than five years was observed in 85 patients (52.1%). Furthermore, 50 patients (30.7%) were diagnosed with a delay of at least 10 years.
The average diagnostic delay was 7.88±7.17 years.


MODERN
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Japan College of Rheumatology

5 EARLY WARNING SIGNS OF ANKYLOSING SPONDYLITIS

1. Mornings Are the Worst.

Your back is stiff for at least 30 minutes.

2. Movement Helps.

As the day goes on, you loosen up.

3. There's Pain in Your Butt

One cheek hurts, then the other, then both

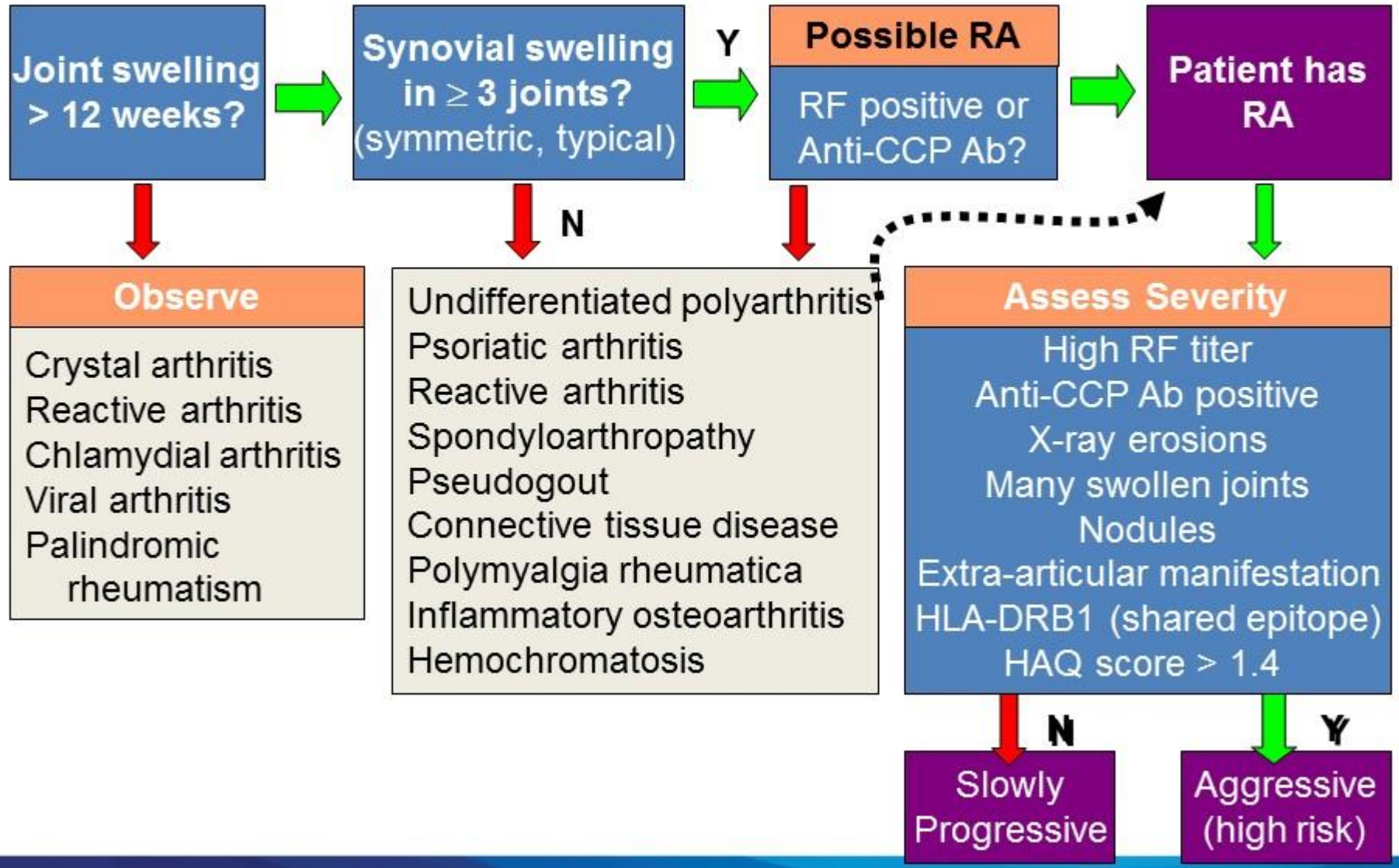
4. Other Joints Ache, Too.

Like the neck, shoulders, hips, or knees.

5. You're So Totally Tired.

Fighting inflammation is exhausting.

Diagnosis of Early RA



Dao KD, Cush JJ. J Musculoskel Med. 2005.

RheumNow

Diagnosis methods like **serum and urine analysis** etc. are conventional methods of disease diagnosis.

They were used earlier as the only options available to detect the pathogen but
with advancement in **technology,** techniques like recombinant DNA technology, PCR and ELISA have been developed which not only serve the purpose but help in early detection of the disease with high accuracy.

Question

Which of the following techniques serve the purpose of early diagnosis?

(ii) R-DNA technology
(ii) PCR
(iii) ELISA
(iv) Convential method of diagnosis(serum, urine analysis, etc.)

(i), (ii) and (iii)

Only (iv)

Only (iii)

All of these

The correct option is A (i), (ii) and (iii)•

R-DNA technology: Recombinant DNA technology, joining together of DNA molecules from two different species that are inserted into a host organism to produce new genetic combinations. It can provide precise diagnostic information about genetic diseases.

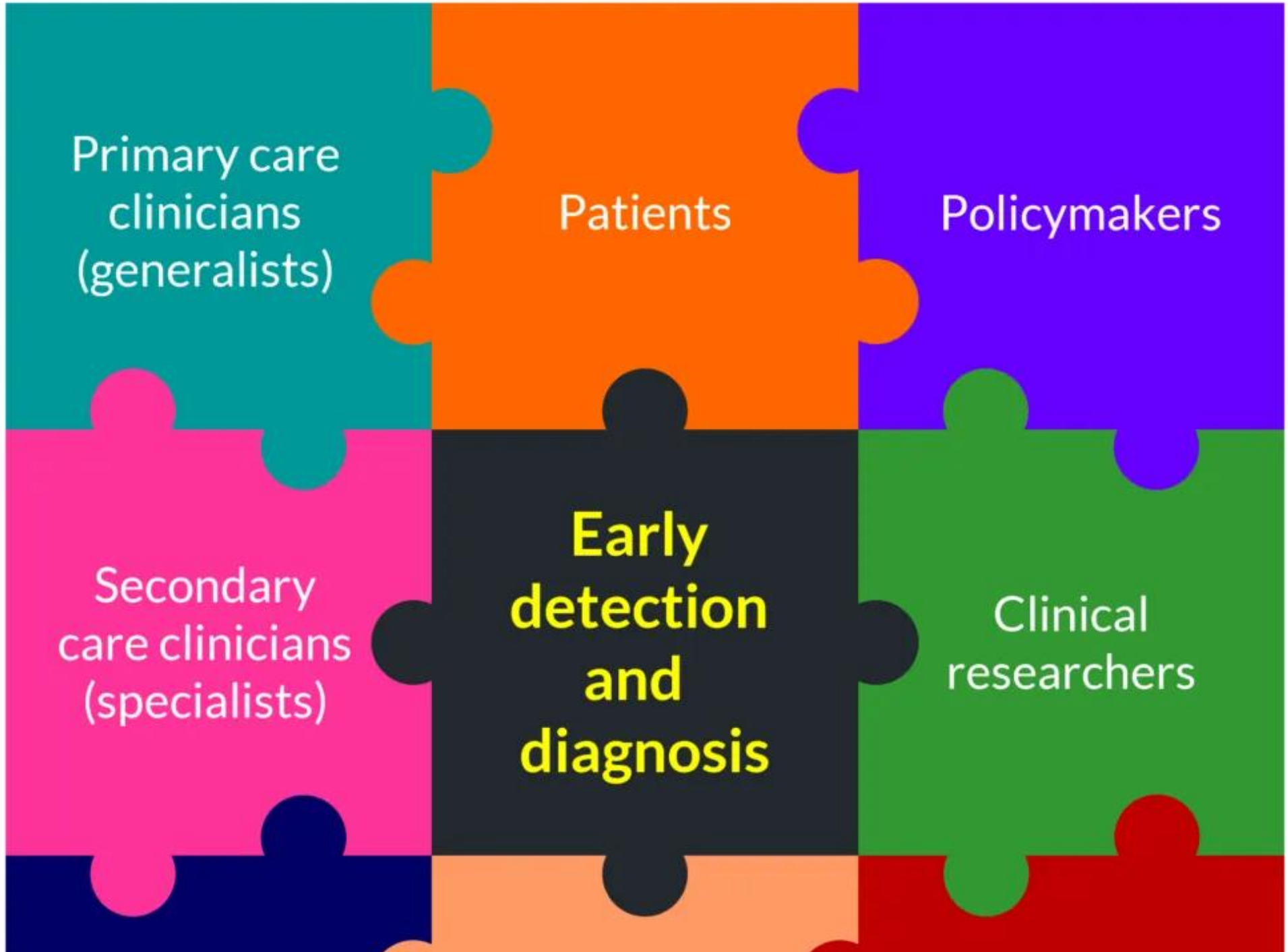
PCR (Polymerase Chain Reaction) involves • amplification of the nucleic acid in the pathogen allowing us to detect the pathogen at very low concentration. PCR used to detect HIV in suspected AIDS patients and to detect gene mutations in suspected cancer patients.

Using the **conventional method of diagnosis**(serum, • urine analysis, etc.) early detection of disease is not possible as the markers for most diseases appear late.

Enzyme-Linked Immunosorbent Assay (ELISA): The • basic principle of ELISA is antigen-antibody reactions. ELISA can diagnose infections by detecting the presence of antigens (proteins of the pathogen) in the patient serum or by detecting the antibodies produced against the pathogen.

In reality, a diagnostic procedure may involve components of multiple methods.

Differential diagnosis. Main article: Differential diagnosis. •
...
Pattern recognition. ...•
Diagnostic criteria. ...•
Clinical decision support system. ...•
Other diagnostic procedure methods.•


Primary care clinicians (generalists)
Patients
Policymakers
Secondary care clinicians (specialists)
Early detection and diagnosis
Clinical researchers

What is final diagnosis?

A final diagnosis that is made after getting the results of tests, such as blood tests and biopsies, that are done to find out if a certain disease or condition is present.

THANKS