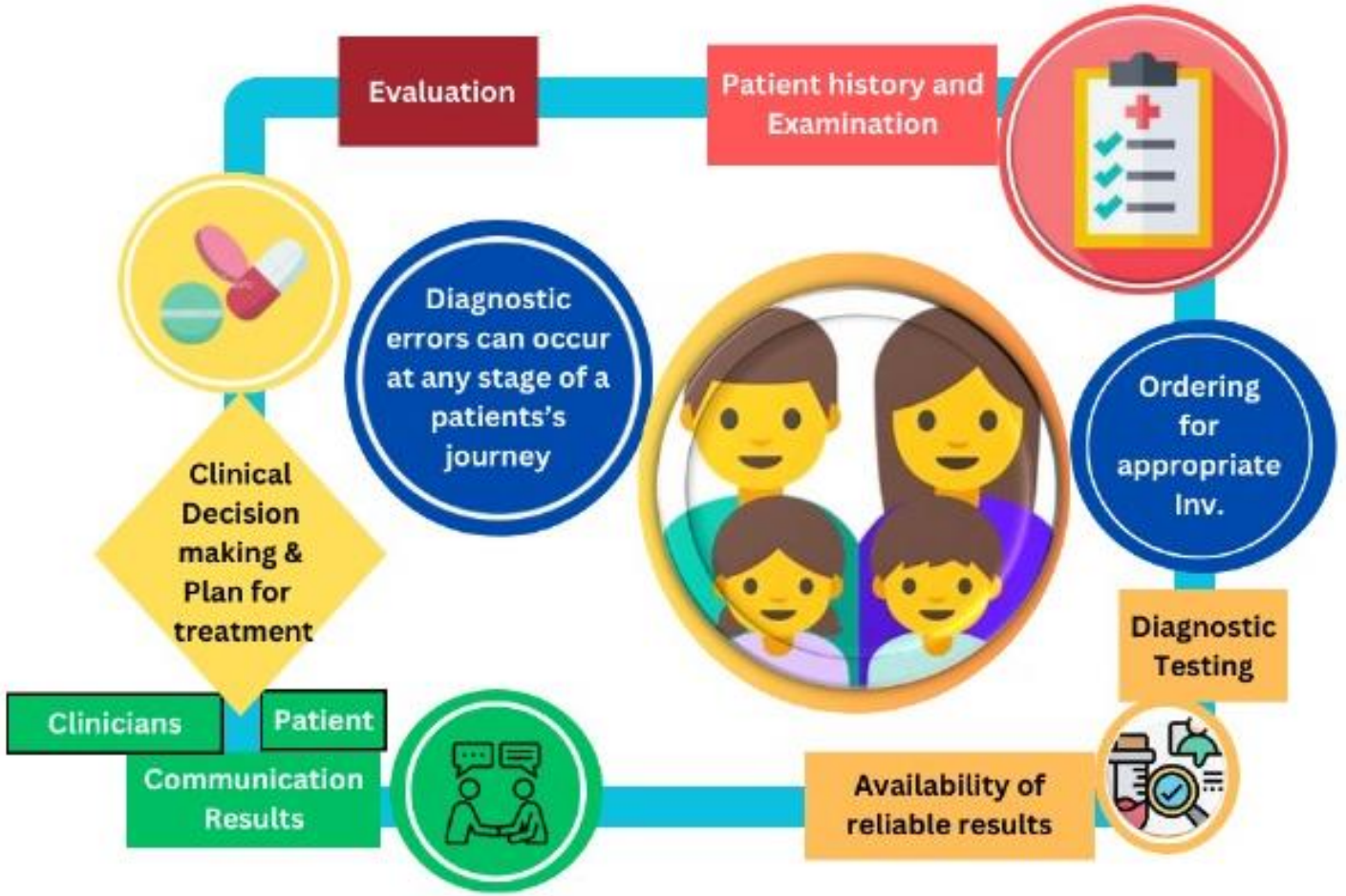
Diagnostic Safety: An Overview

Patient's Journey



Diagnostic Performance

Three key concepts that need to be operationalized, namely:

(1) Accurately identifying the explanation (or diagnosis) of the patient's problem,

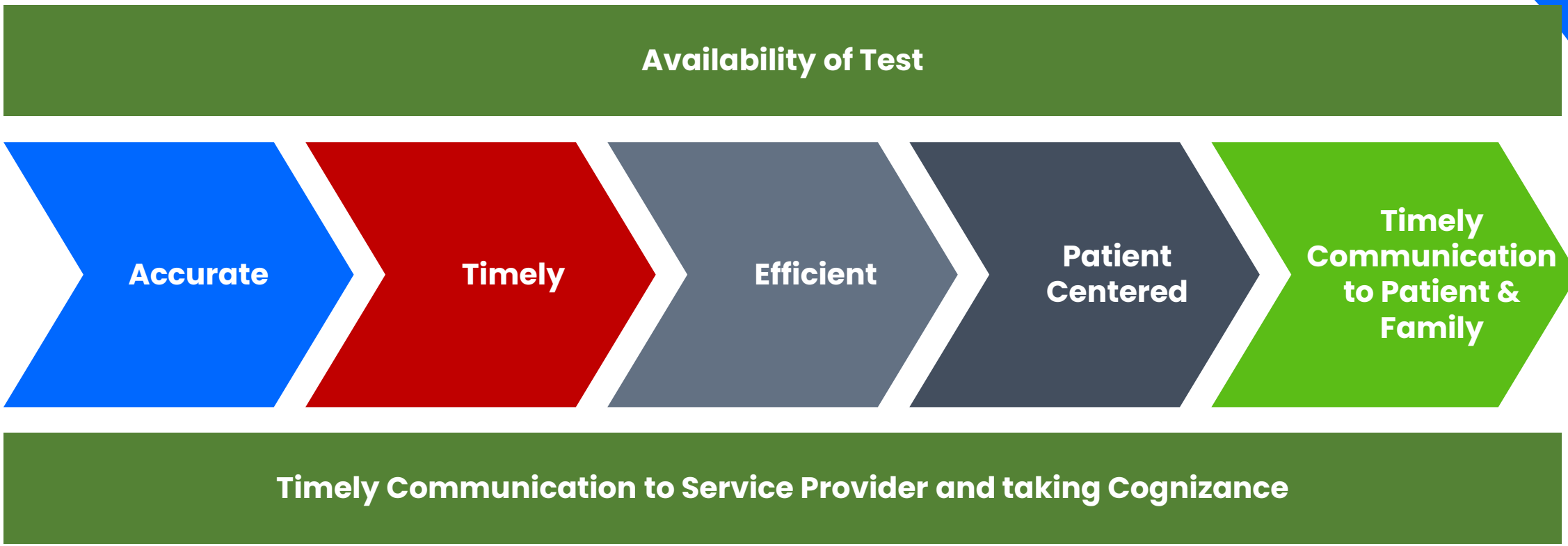
(2) Providing this explanation in a timely manner, and

(3) Effectively communicating the explanation.

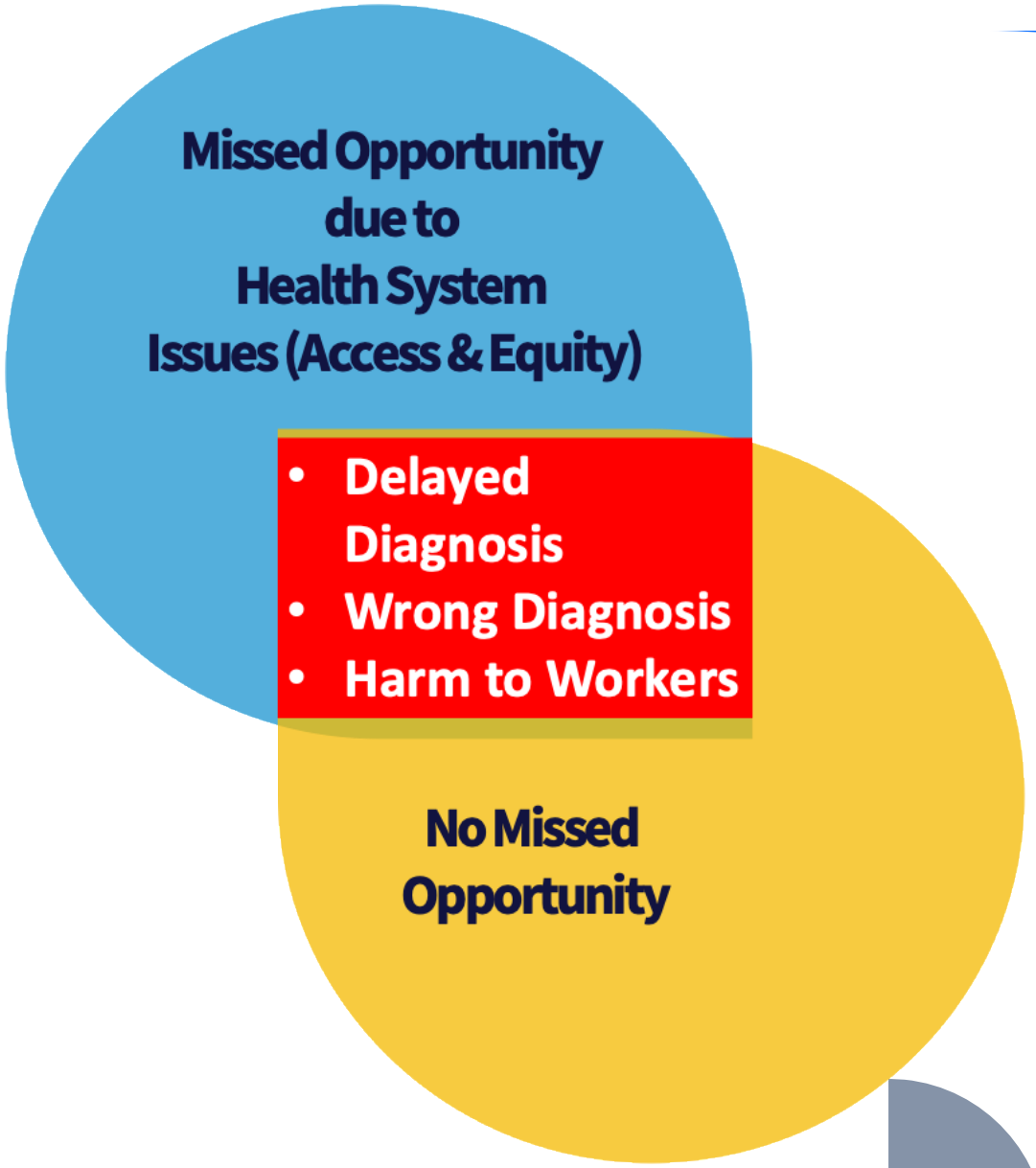
Achieving Diagnostic Excellence

1. Minimal Resources
2. Supports effective, efficient and feasible evidence-based interventions that maximise patient experiences and outcomes
3. Help to manage and communicate uncertainty to patients

Objectives of Safe Diagnostic Process



Defining Preventable Diagnostic Harm



Why does Diagnostic Safety matter?

- Diagnostic safety is the cornerstone of patient care - it is a foundation of effective treatment and equitable care for all
- It concerns all clinical disciplines and health programmes
- Diagnostic errors are a major source of preventable patient harm and causes upto 16% of overall harm

Extent of Problem

1. Most Americans experience a diagnostic error at least once in their lifetime.
2. Recent estimates suggest that more than a million a year harmed by diagnostic error in the USA.* It includes 2.5 Lakhs indoor patients.
3. Patient deaths due to these errors are estimated at 40,000 to 80,000 per year.
4. Diagnostic errors and other inefficiencies cost the U.S. economy $750 billion each year.

Source -
White Paper: The human cost and financial impact of misdiagnosis (2016)https://www.pinnaclecare.com/forms/download/Human-Cost-Financial-Impact-Whitepaper.pdf

*Newman-Toker DE, Makary MA. Measuring diagnostic errors in primary care: the first st path forward. Comment on "Types and origins of diagnostic errors in primary care settings" tern Med 2013;173:425–6.

Burden of Diagnostic Errors

1. Global Prevalence:

- 16% of preventable patient harm globally is related to diagnostic errors.

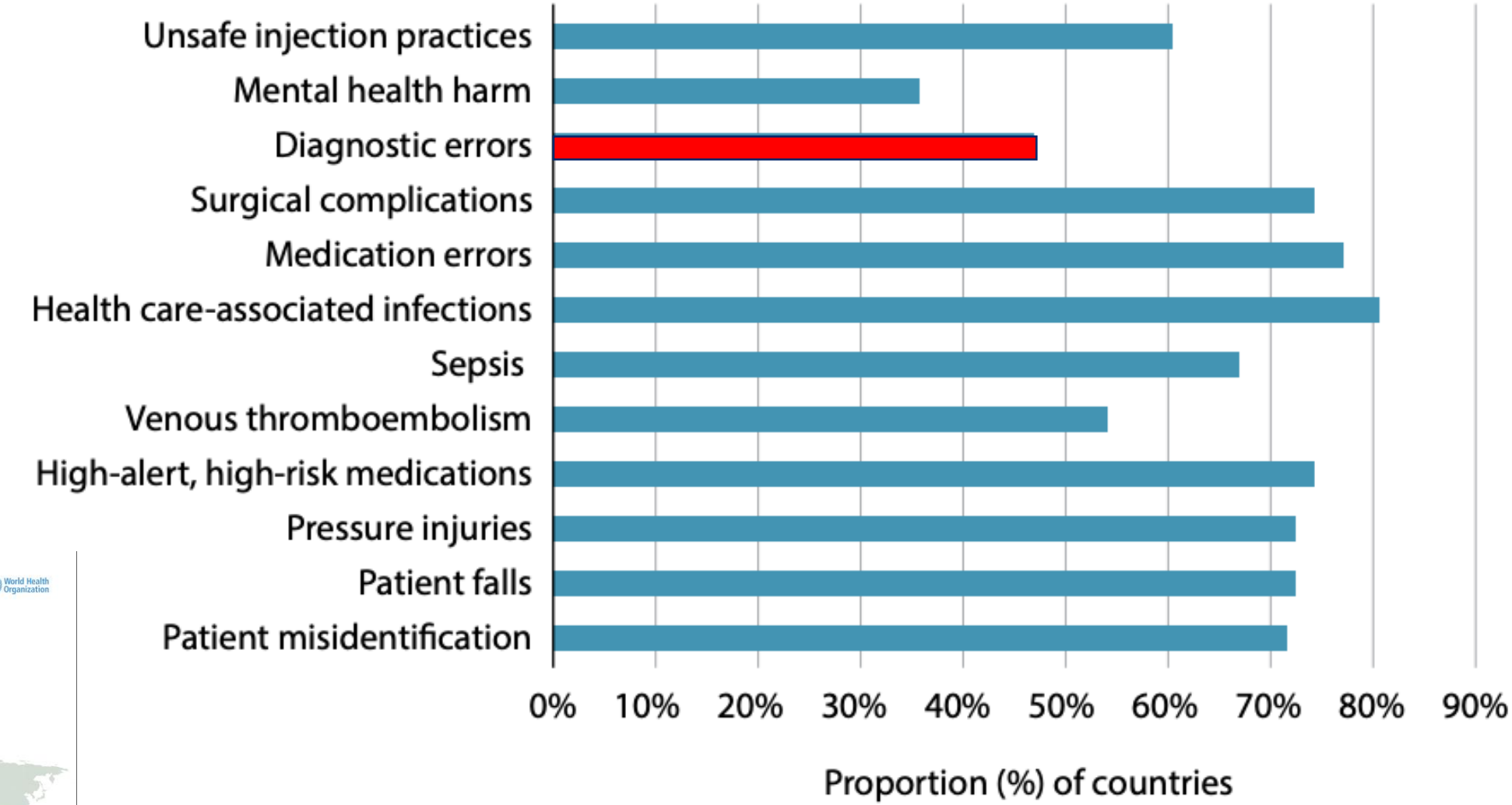
2. Impact on Primary and Ambulatory Care:

- Nearly 1 in 20 patients may experience a diagnostic error each year.
- In the UK, diagnostic errors accounted for over 60% of all harm in primary care.

3. Economic Impact:

- OECD estimates diagnostic errors in chronic illness treatment represent about 5% of health expenditure in member countries.

Diagnostic Safety is NOT prioritised



Patient Safety

World Health Organization

Global patient safety report 2024

Challenges in providing Diagnostic Services

1. Underuse—The failure to provide a diagnostic test when it would have produced a favourable outcome for a patient.

E.g. Failure to provide pap smears to eligible patients.

2. Overuse—Providing a diagnostic test in circumstances where the potential for harm exceeds the potential for benefit.

E.g. Conventional cerebral angiography to rule out brain aneurysm in a patient with typical, uncomplicated migraine-type headaches and a normal neurologic examination.

Challenges in providing Diagnostic Services

3. Misuse—When an appropriate diagnostic test has been selected but a preventable complication occurs, and the patient does not receive the full potential benefit of the test.

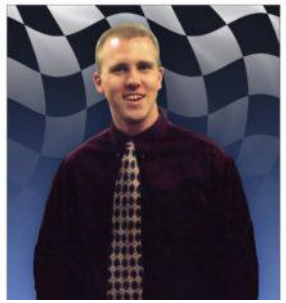
E.g. Pulmonary CT angiography to diagnose pulmonary embolus in a patient with dyspnoea who has a known contrast dye allergy but receives no pretreatment for a possible allergic reaction

Source - Newman-Toker DE, McDonald KM, Meltzer DO. BMJ Qual Saf 2013;22: ii11–ii20.

Defining Diagnostic Safety Event

- Delayed Diagnosis
- Wrong Diagnosis
- Missed Diagnosis
- Diagnosis not Communicated to Patient

Tested Too Late...



- Chad Becken, a 36-year-old man started having strange symptoms in early 2010 - lower back pain, fatigue, frequent bowel movements, and weight loss.
- Visiting Primary Care Physician almost for almost one year
- Finally came to his mom for advice.
- Mother, Susie, secured a new primary care physician for Chad.
- The physician immediately ordered a colonoscopy.
- Chad was ultimately diagnosed with stage 4 Colorectal cancer.
- At the age of 37, Chad's cancer journey ended after 16 months of treatment and painful side effects.

Source - https://www.improvediagnosis.org/stories/ assessed on 17 Sep 2024

‘Basic’ Investigation NOT done

- Cal Sheridan was born a healthy baby boy in March 1995.
- Hospital staff noticed that Cal looked jaundiced after 16-18 hours old, but a bilirubin test was not done.
- Staff again reported Cal’s visible jaundice at 23 hours old, but no bilirubin test.
- Discharged from the hospital when after 36 hours without bilirubin test.
- Four days after birth, the Paediatrician noted that Cal was still visibly jaundiced, but no test.
- The next day, admitted to the paediatric unit at the local hospital. Cal’s bilirubin was tested for the first time. The result – Cal’s bilirubin was one of the highest ever recorded at that hospital (34.6 mg/dcl).
- but Cal’s treatment consisted of only standard phototherapy, no exchange transfusion.
- Finally, at 18 months of age Cal was diagnosed with a classic case of kernicterus.
- Cal now has athetoid cerebral palsy.

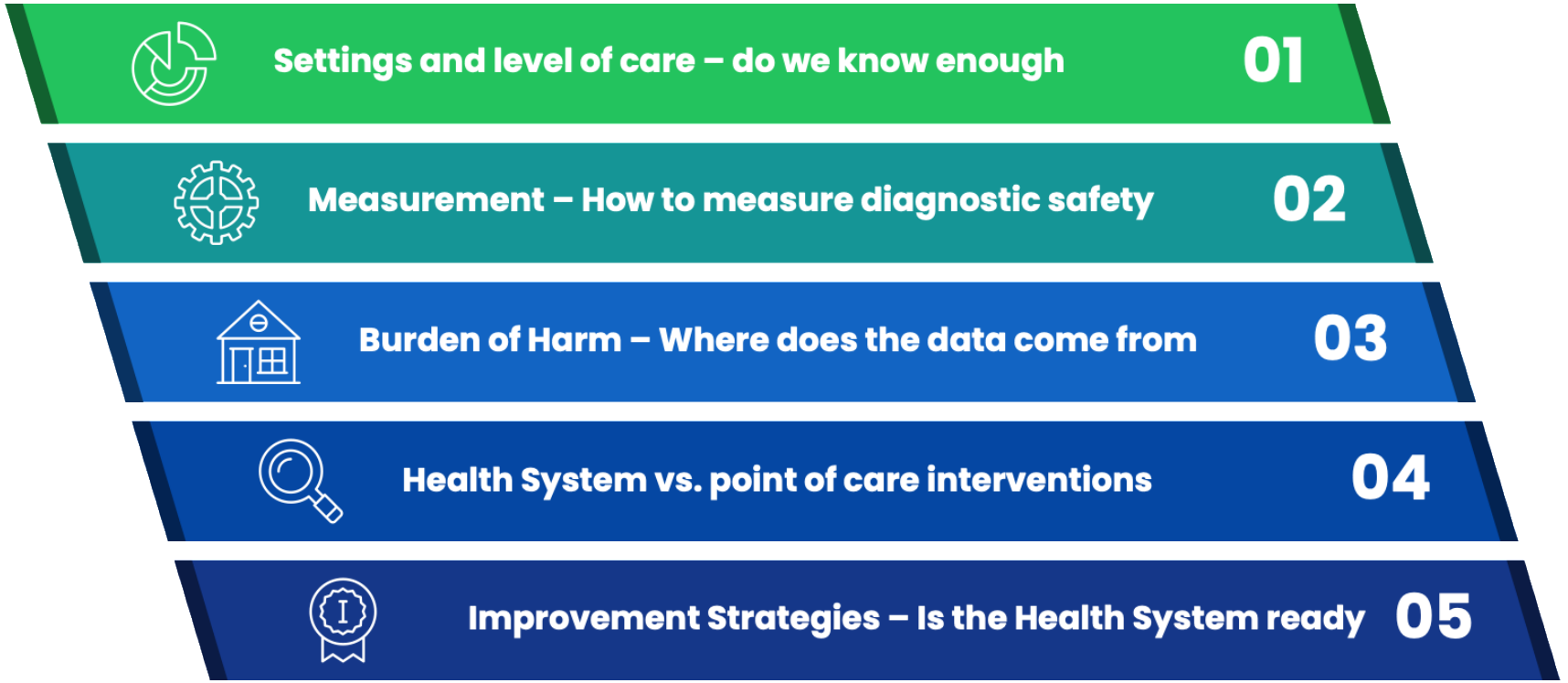
Source - https://www.improvediagnosis.org/stories/ assessed on 17 Sep 2024

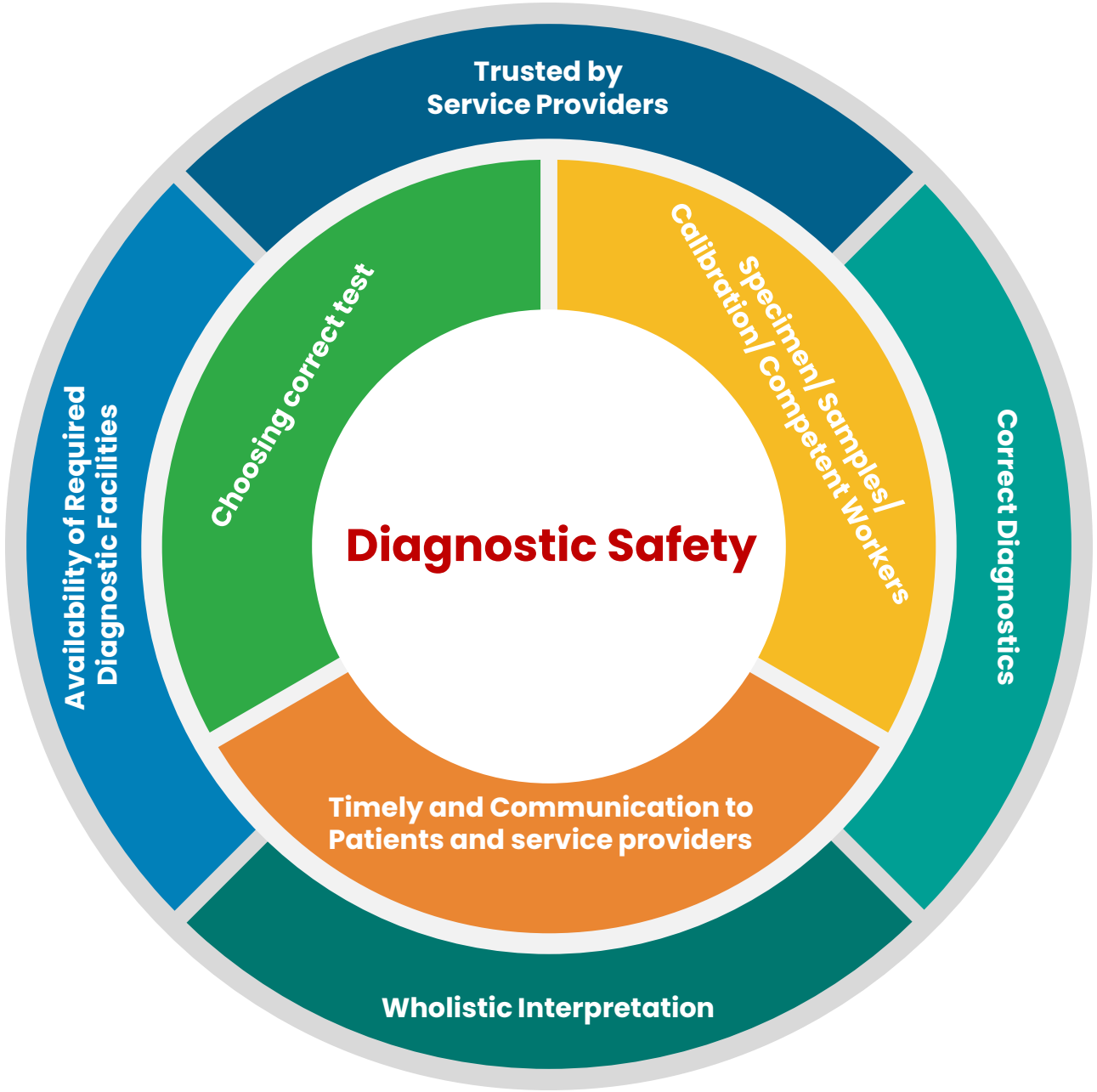
Cancer Journey during Pregnancy follows a Delayed Diagnosis...

- Lisa, has fibrocystic disease (cysts in her breasts).
- Gets an ultrasound of her breasts in addition to the typical mammogram every year.
- In early 1999 that she and her doctor noticed that a cyst she'd had for almost 15 years seemed larger than usual.
- A fine needle aspirate to draw out some tissue for examination
- The doctor called Lisa when he received the results, which showed an insufficient sample, and suggested a wait-and-see approach.
- Twin Pregnancy
- In November of that year that Lisa noticed that the area of her breast that had the cyst was reddish, warm, and tender to the touch, and a bit harder.
- Biopsy in Dec and diagnosed breast cancer.
- Lisa reviewed her old medical records. First page of the lab report said it was an inadequate sample, but there was a second page. It said 'inadequate sample with metaplasia'—i.e., abnormal cells—with the recommendation that Lisa undergo a biopsy.

Source - https://www.improvediagnosis.org/stories/ assessed on 17 Sep 2024

Major Challenges in Improving Diagnostic Safety




Trusted by
Service Providers
Correct Diagnostics
Wholistic Interpretation
Availability of Required
Diagnostic Facilities
Choosing correct test
Specimen/ Samples/
Calibration/ Competent Workers
Timely and Communication to
Patients and service providers
Diagnostic Safety

Thank you