Patient story:

- A 26 year old patient comes to your clinic. She started ART 2 years ago, but 4 months later returned to her village and was unable to continue treatment. She returned to your area a year ago, but was too scared to come to clinic because she thought the staff would be angry that she had stopped her treatment.
- She is complaining of a cough for 3 weeks, has lost weight and feels she sometimes has a fever.

Questions:

- Could she have advanced HIV disease?
- Does this make any difference to your approach to her management?
- What is her risk of mortality?

Advanced HIV (AHD): a clinical approach

A common problem currently across the world

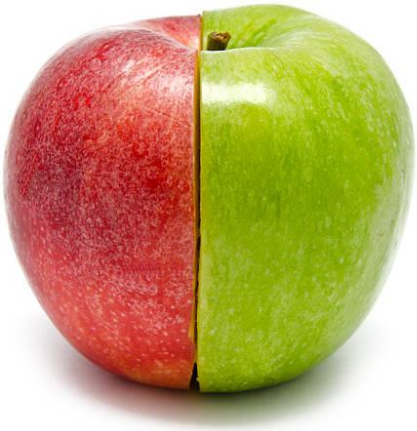
- AHD receiving increased attention
- Associated high mortality
- Needs correct approach
- A few simple tests

This session in two parts:

1. AHD overview
2. AHD patients in primary care

Not one long lecture!

Will do it in a two parts



Several quizzes to keep you awake …

… and super-interested

Have pen and paper ready

Commit thoughts to paper every time I ask you to:

- You test yourself
- You find out what you know and don’t know

Q&A later

- Write all questions as we go along
- Post in chat if you like
- No replies during sessions – suggest avoiding conversations in chat

Part 1: AHD overview

Learning Objectives

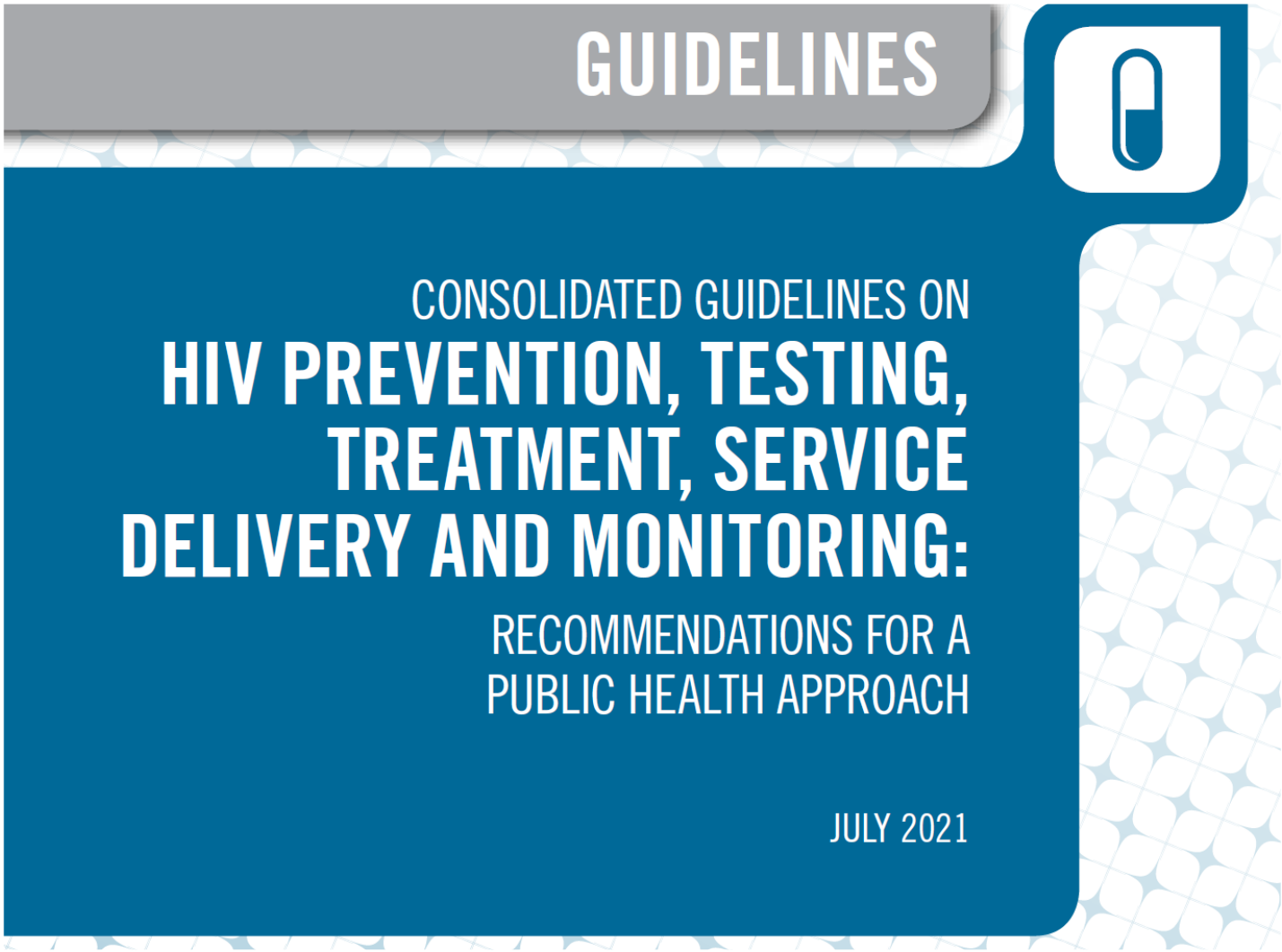
On successful completion of this AHD overview, you will be able to:

- Correctly identify patients with advanced HIV disease
- Describe the mortality risks and list the common causes of mortality
- Identify danger signs and refer immediately
- Identify the patients without danger signs who need referral to hospital

What is Advanced HIV?

WHO, 2021, Chapter 5

World Health Organization



Poll number 1

What is Advanced HIV?

WHO, 2021

Adults:

What is Advanced HIV?

WHO, 2021

Adults:

- CD4 < 200

Or:

- New stage 3 or 4 disease

Why is CD4 important?

What is Advanced HIV?

WHO, 2021

Adults:

- CD4 < 200

Or:

- New stage 3 or 4 disease

Why is CD4 important?

Study from Kenya, Malawi, Uganda, Zimbabwe showed that almost half of people with CD4 < 100 were classified as having WHO clinical stage 1 or 2

What is Advanced HIV?

WHO, 2017

Adults:

- CD4 < 200

Or:

- New stage 3 or 4 disease

Why is CD4 important?

Study from Kenya, Malawi, Uganda, Zimbabwe showed that almost half of people with CD4 < 100 were classified as having WHO clinical stage 1 or 2

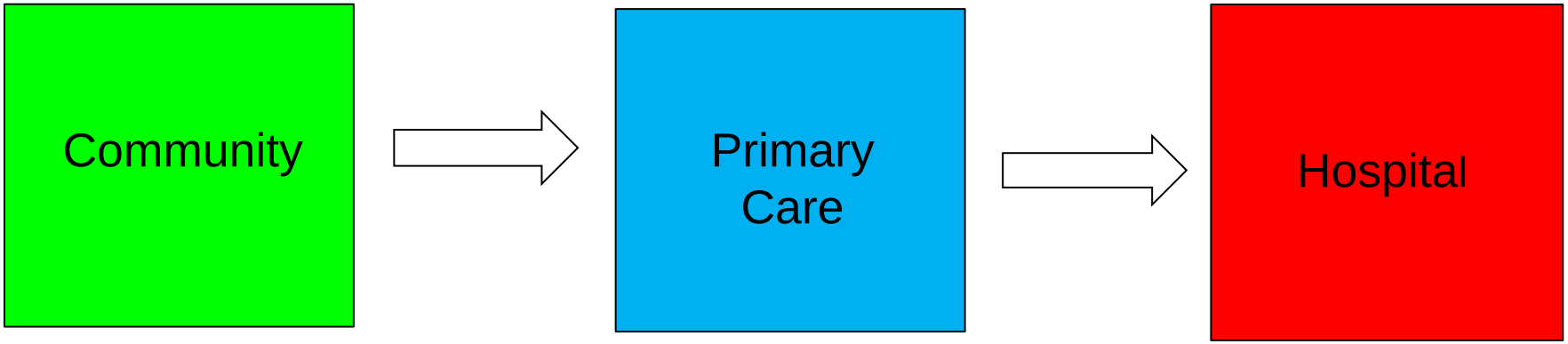
If you don't check it you will miss almost half of PLHIV with advanced HIV because they **are not obviously ill…**

What is Advanced HIV? WHO, 2021

Children:

- All children under 5 years
- Why?
  - Increased risk of disease progression and mortality, regardless of clinical and immunological state
  - Different CD4 count varies with age, therefore definition based on CD4 count not helpful

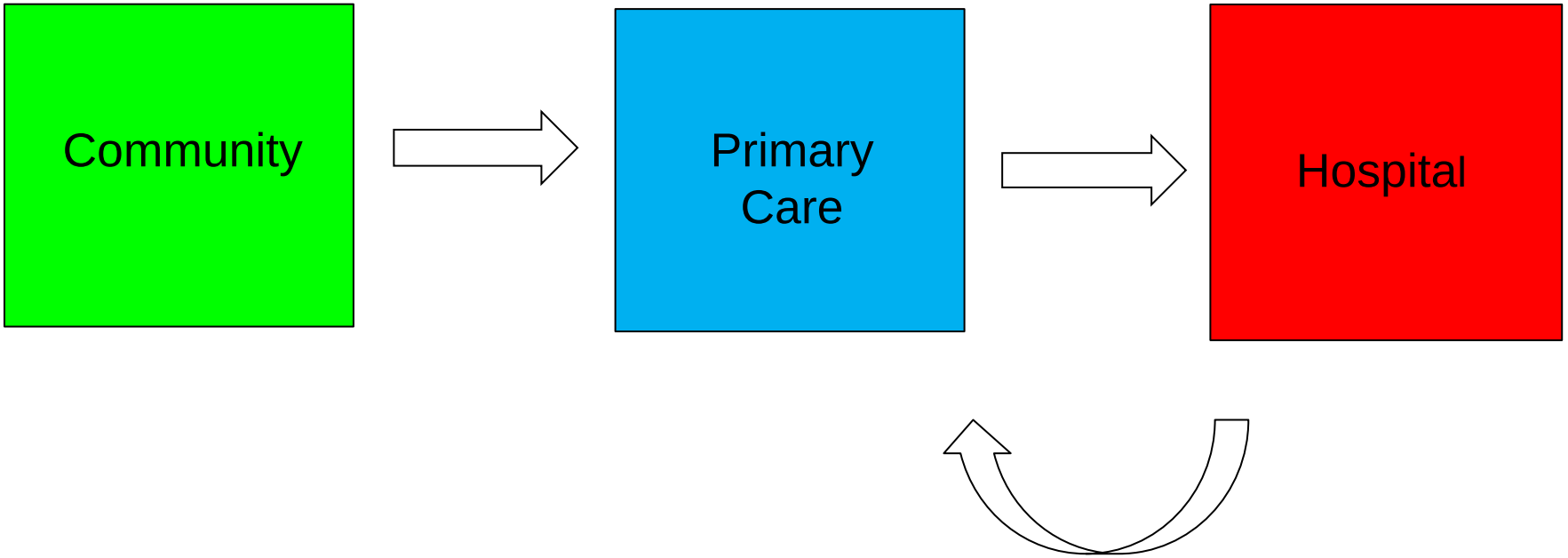
Where are patients with advanced HIV?



- Majority of people living with HIV are well, and do not have advanced HIV
- Many patients with advanced HIV have CD4 < 200 and are not yet unwell
- Important to identify and treat advanced HIV early, to prevent opportunistic infections and death

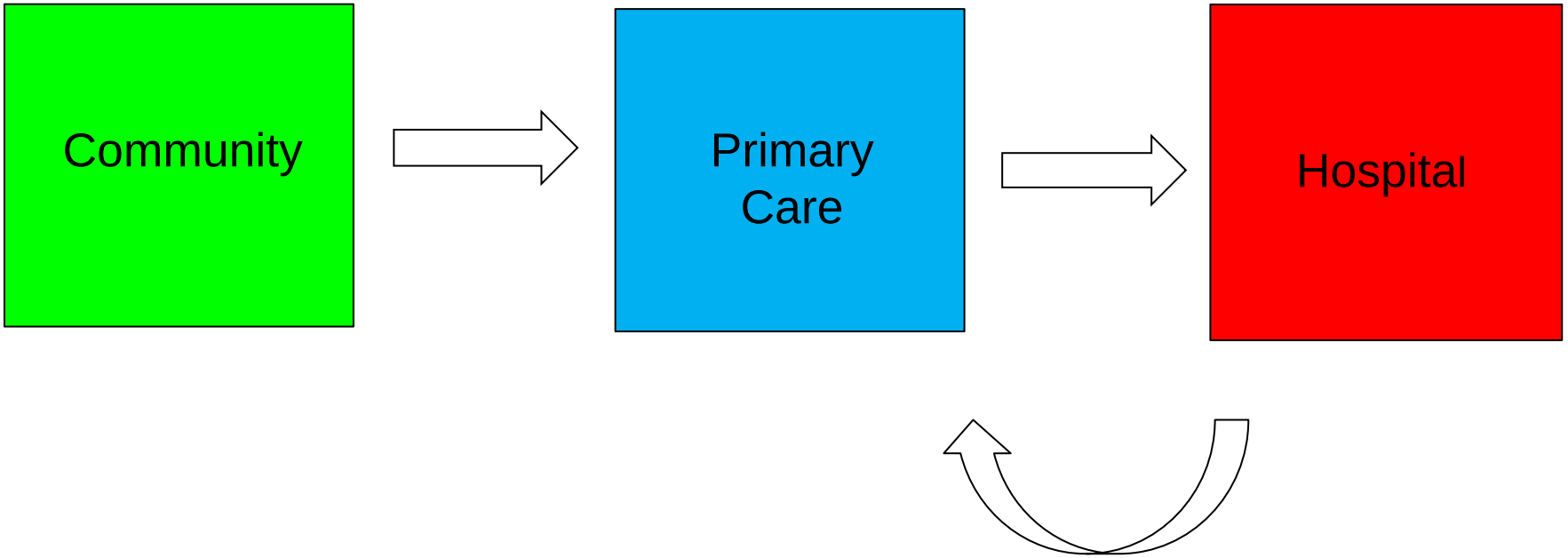
- Majority of hospitalized patients have advanced HIV
- High risk of death

Where are patients with advanced HIV?



Post-hospitalization:
Patients need higher level of care after discharge

Patients with AHD are everywhere!



Post-hospitalization:
Patients need higher level of care after discharge

Advanced HIV: what are the risks?

Inpatient mortality

Inpatient study, 2015-2017

- Over 2,000 patients
- Median CD4 count: 84

David Maman, **Rapport Hospitalisation CHK 2015/2017**, Epicentre, 2017

Poll 2

Inpatient mortality

Inpatient study, 2015-2017

- Over 2,000 patients
- Median CD4 count: 84

1. 7%
2. 17%
3. 27%
4. **37%**

David Maman, **Rapport Hospitalisation CHK 2015/2017**, Epicentre, 2017

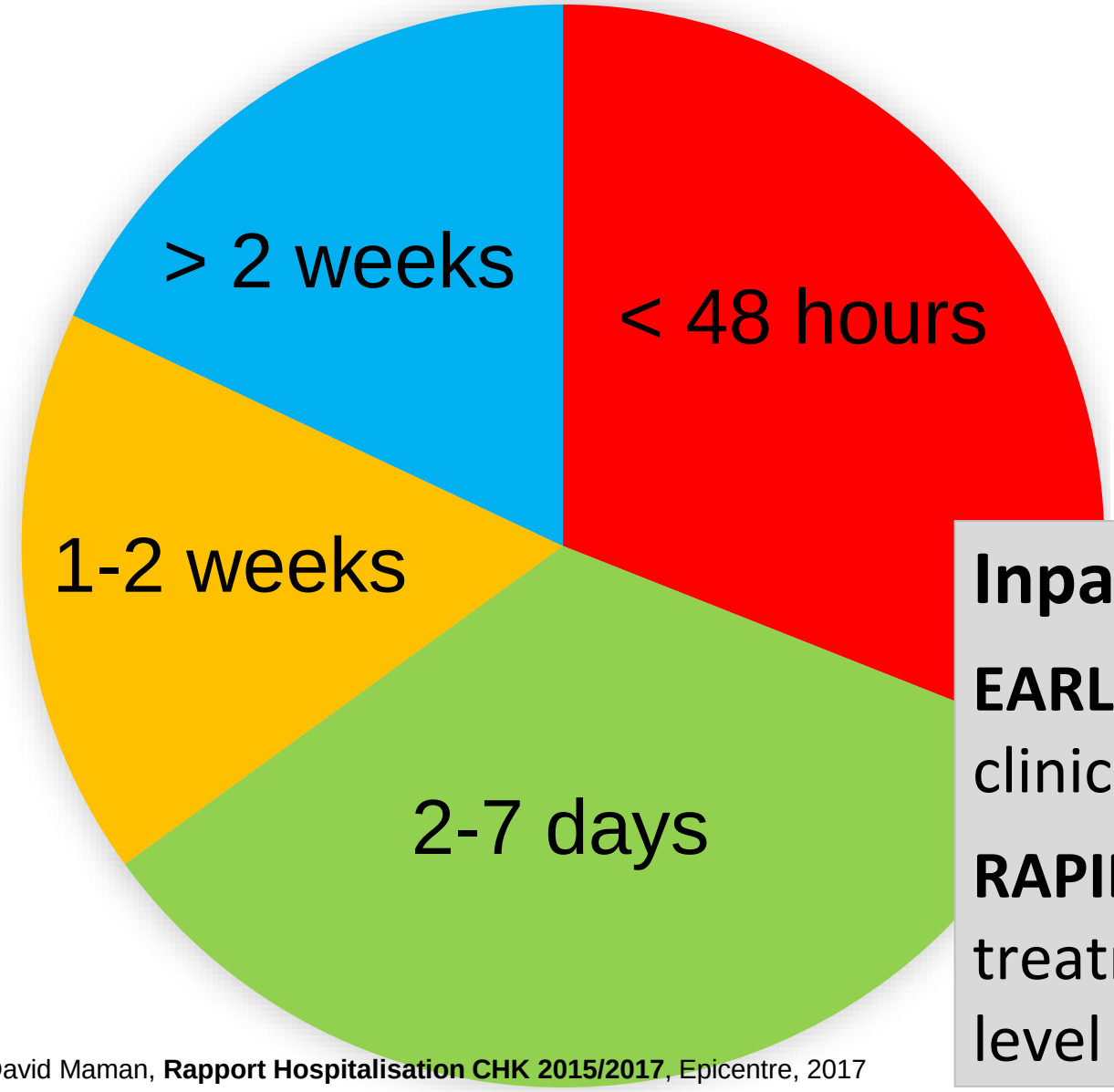
Poll 3

Time of death from admission

31%

David Maman, **Rapport Hospitalisation CHK 2015/2017**, Epicentre, 2017

Time of death from hospital admission



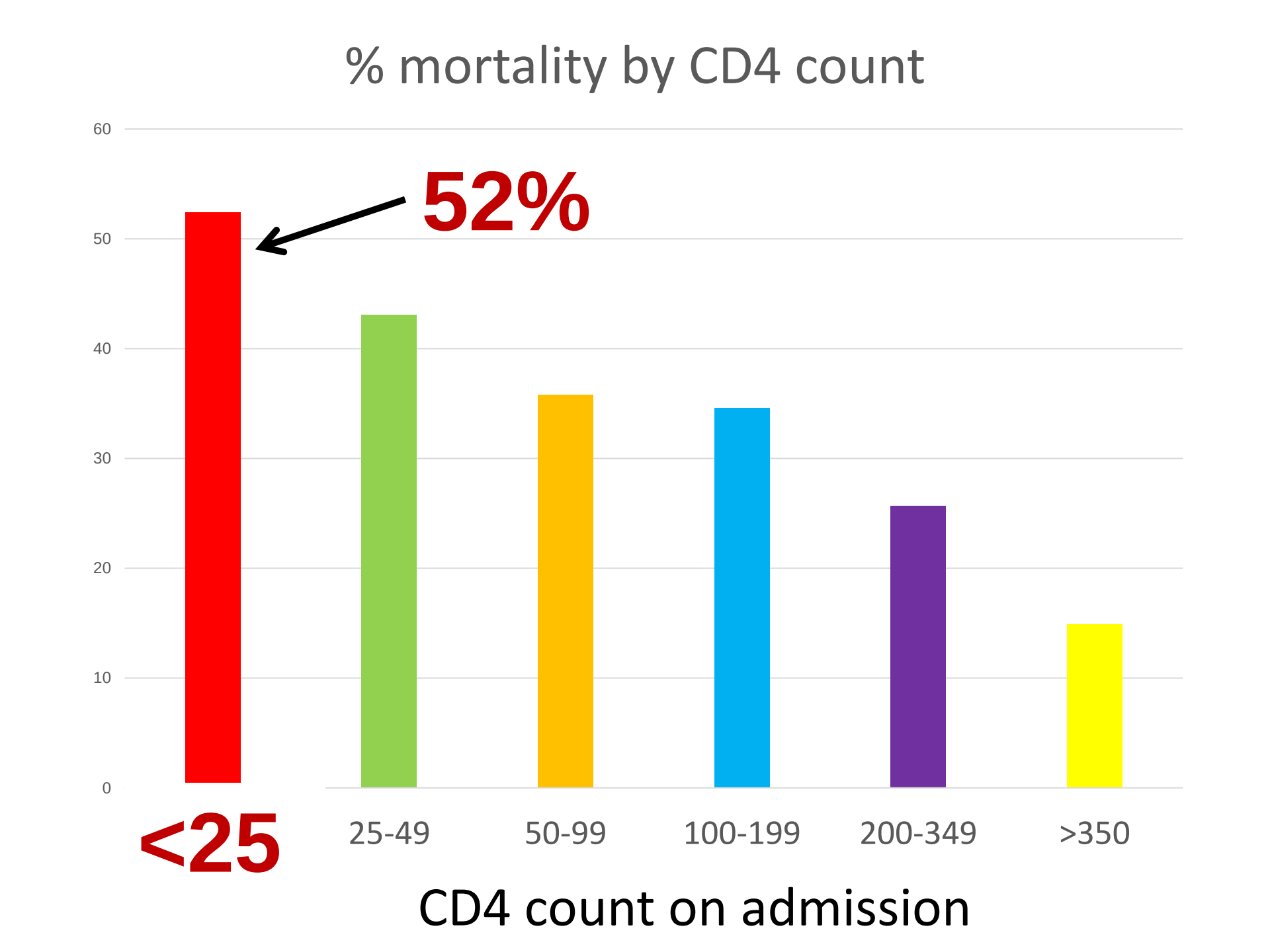
Inpatients die early:

EARLY referral from clinics important

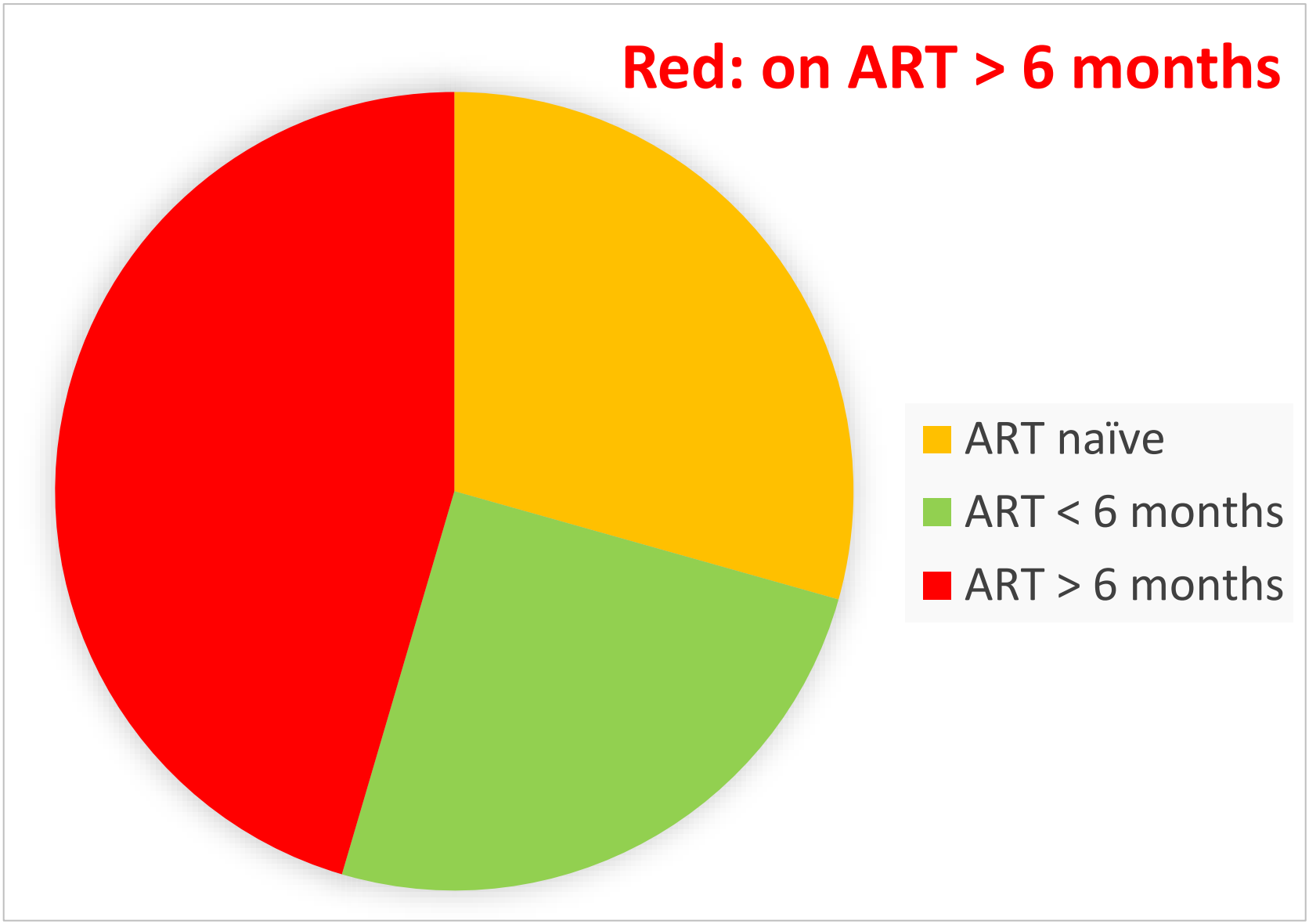
RAPID diagnosis and treatment at hospital level

David Maman, **Rapport Hospitalisation CHK 2015/2017**, Epicentre, 2017

Poll 4

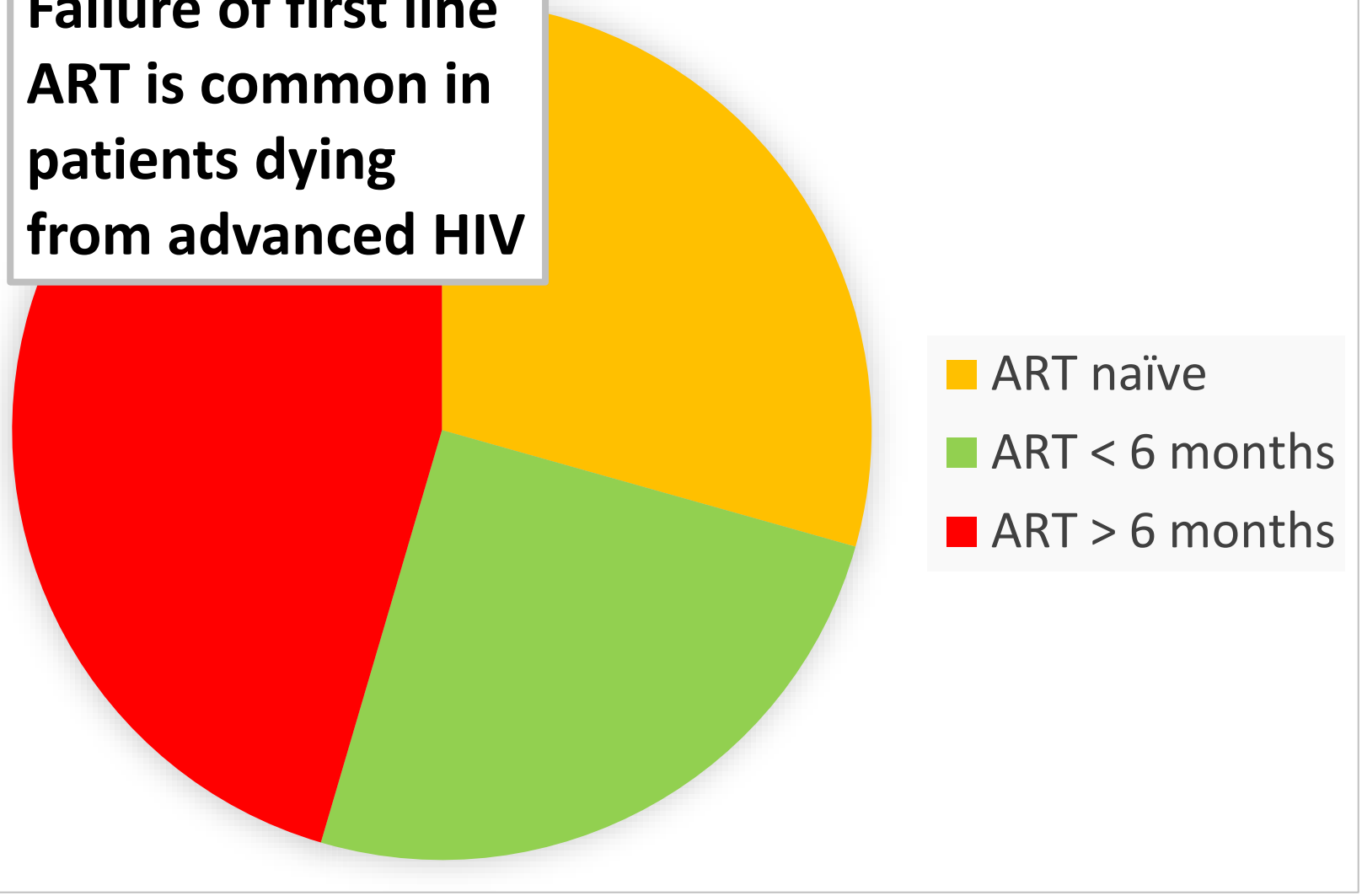

% mortality by CD4 count
60
50
40
30
20
10
0
52%
<25
25-49
50-99
100-199
200-349
>350
CD4 count on admission

Poll 5



ART > 6 months: median 3.6 years (IQR 1.7 – 6.7)

Failure of first line ART is common in patients dying from advanced HIV



ART > 6 months: median 3.6 years (IQR 1.7 – 6.7)

Homa Bay, Kenya study 2015: morbidity and mortality in IPD

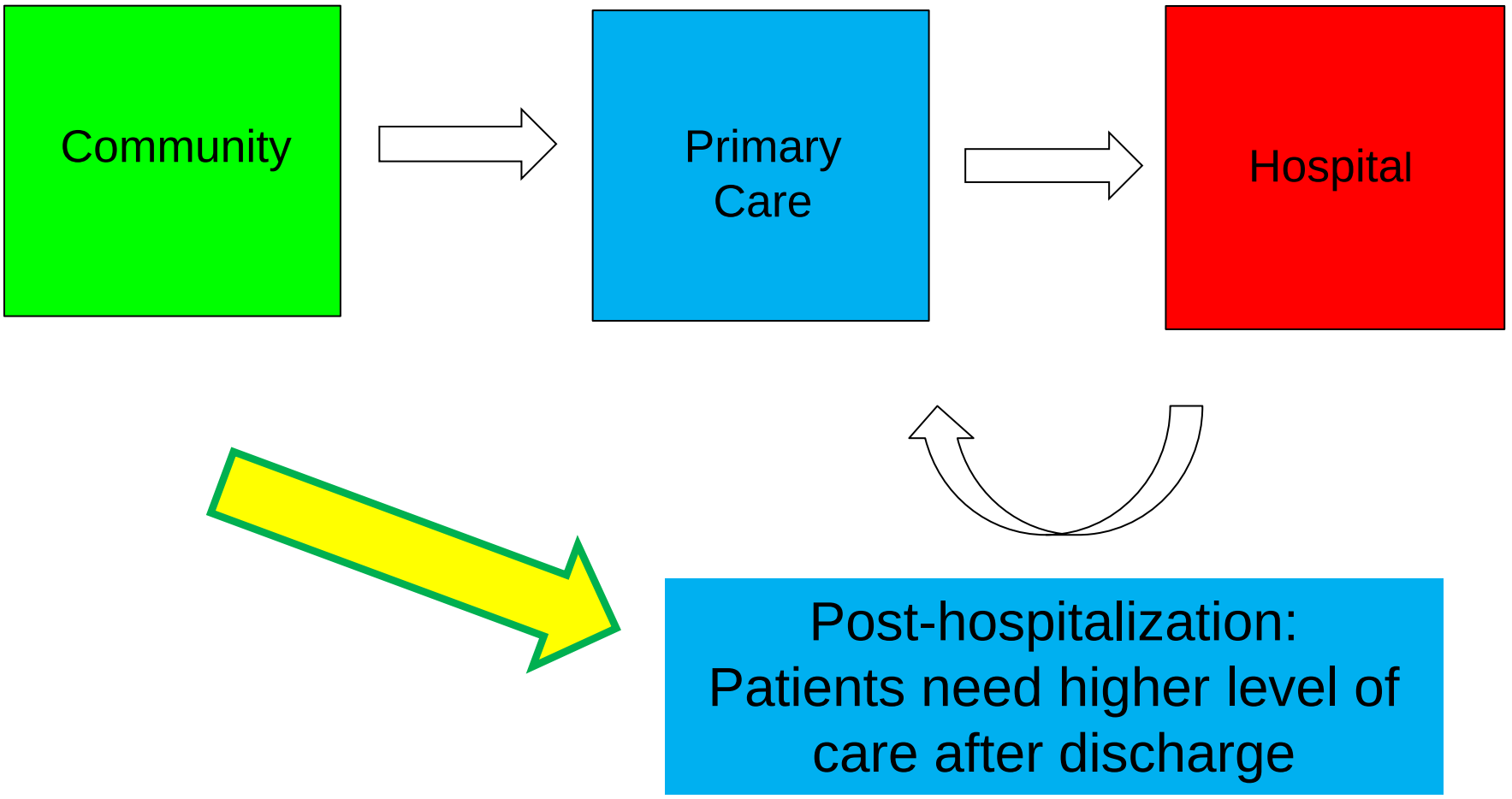
- Overall mortality: 17%
- Mortality if CD4 < 100: 23%
- Mortality if severe wasting: 30%

Poll 6

Mortality following discharge from hospital

- Follow-up for 9 months, median time of death 35 days
- **Overall mortality: 30%**

David Maman, Epicentre. IPD follow up, Homa Bay, Kenya


Community
Primary Care
Hospital
Post-hospitalization:
Patients need higher level of care after discharge

Causes of mortality

What are the common causes of mortality in hospitalised patients with advanced HIV?

- List at least 9!!!
- Write down what the most common cause is

TB is the most common cause

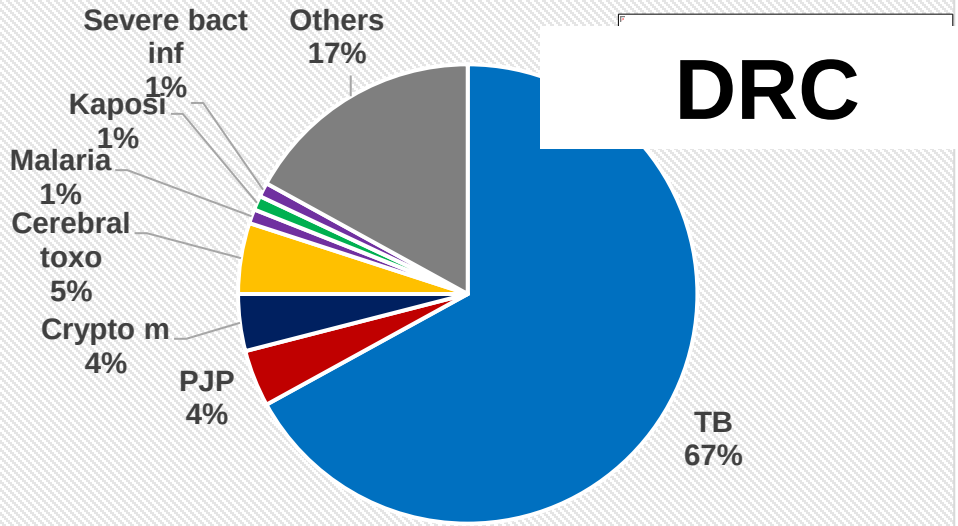
All patients with advanced HIV are strong TB suspects, THEREFORE:

- Look for TB in all patients
- Start TB treatment rapidly
- Have a low threshold for empiric TB treatment

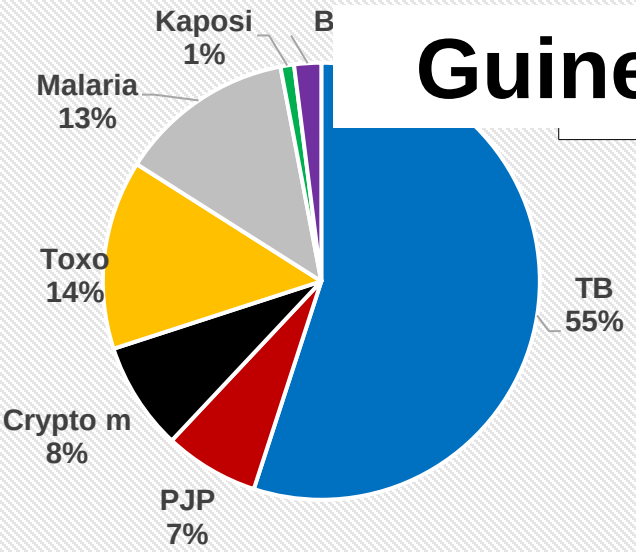
Naturally, follow national guidelines. But, remember, if limited access to tests, empiric TB treatment can save lives

FOUR DIFFERENT SITES AS EXAMPLES

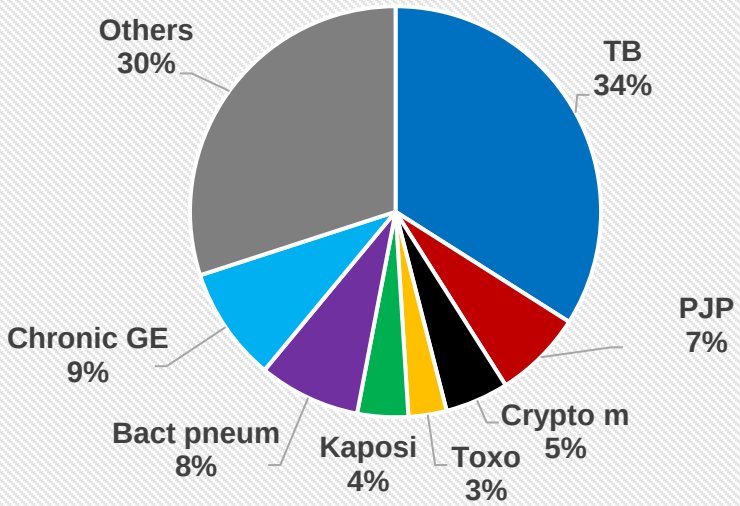
DRC



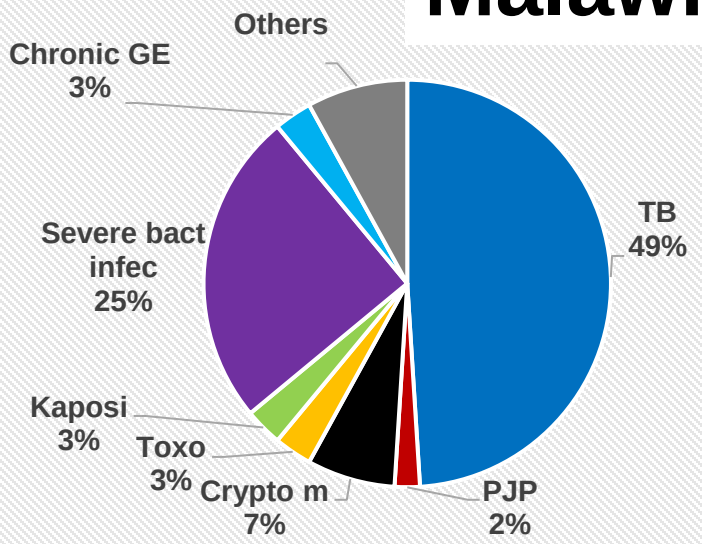
Guinea

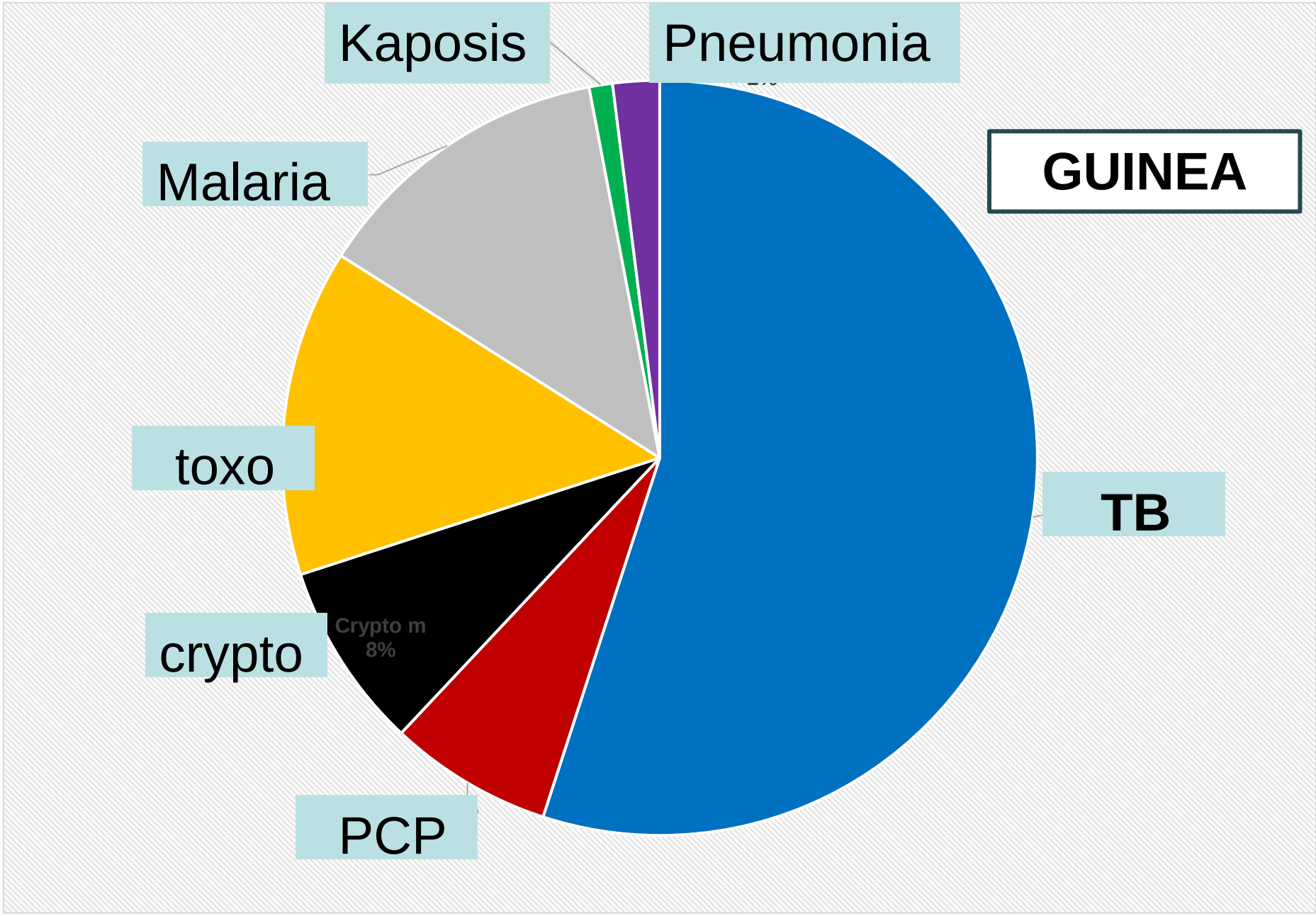


Mozambique



Malawi




Kaposis
Pneumonia
GUINEA
Malaria
toxo
TB
crypto
Crypto m
8%
PCP

TB is the most common cause of both admission and mortality

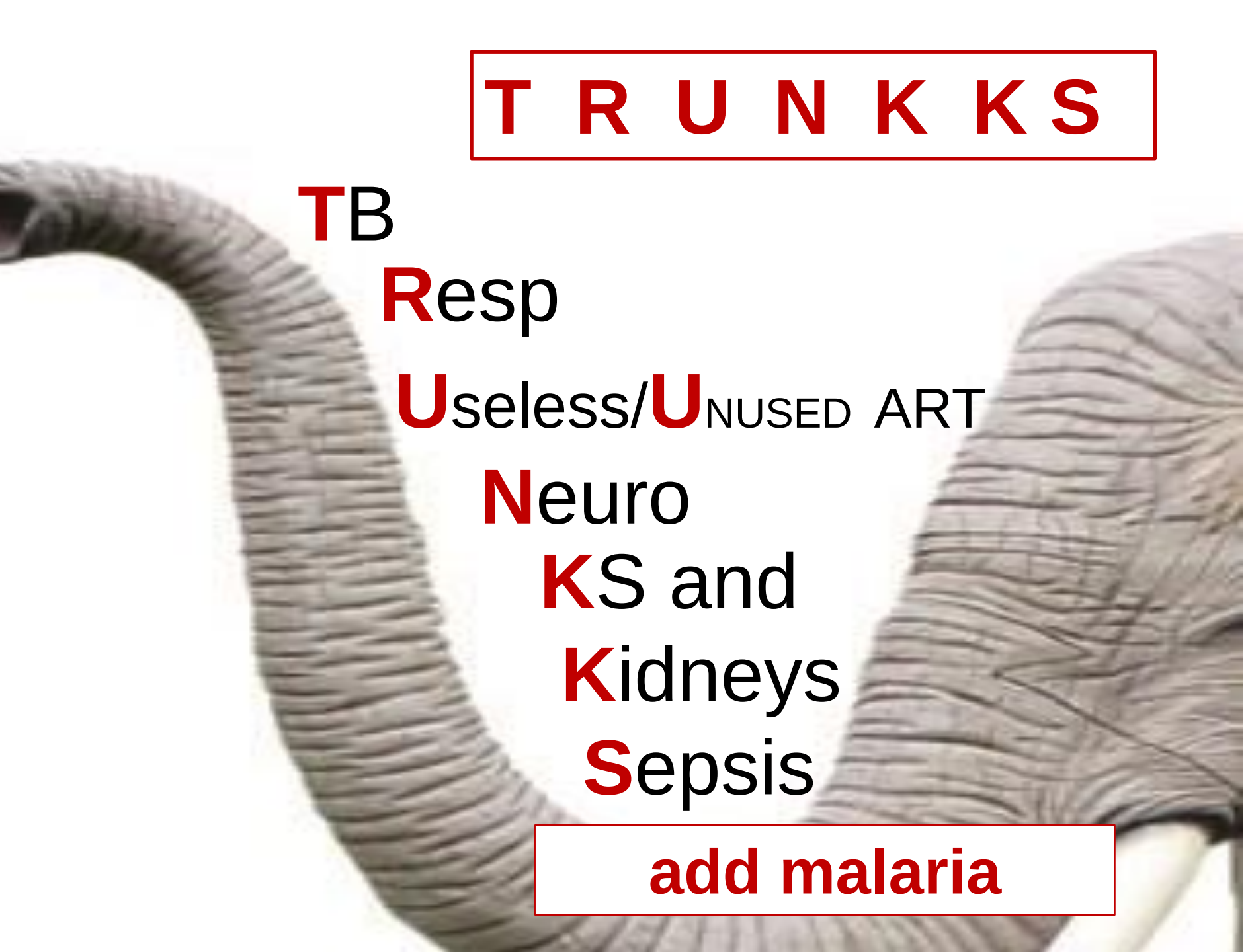
BUT …

Remember that there is usually more than one cause!!

Even if you treat for TB – still look for other causes!

REMEMBER

T R U N K K S



TB

Resp

Useless/**U**NUSED ART

Neuro

KS and

Kidneys

Sepsis

add malaria

T R U N K K S

TB

Resp: Big 3: TB, pneumonia, PCP

Useless/**U**NUSED ART

Neuro: Big 3: TBM, CCM, toxo

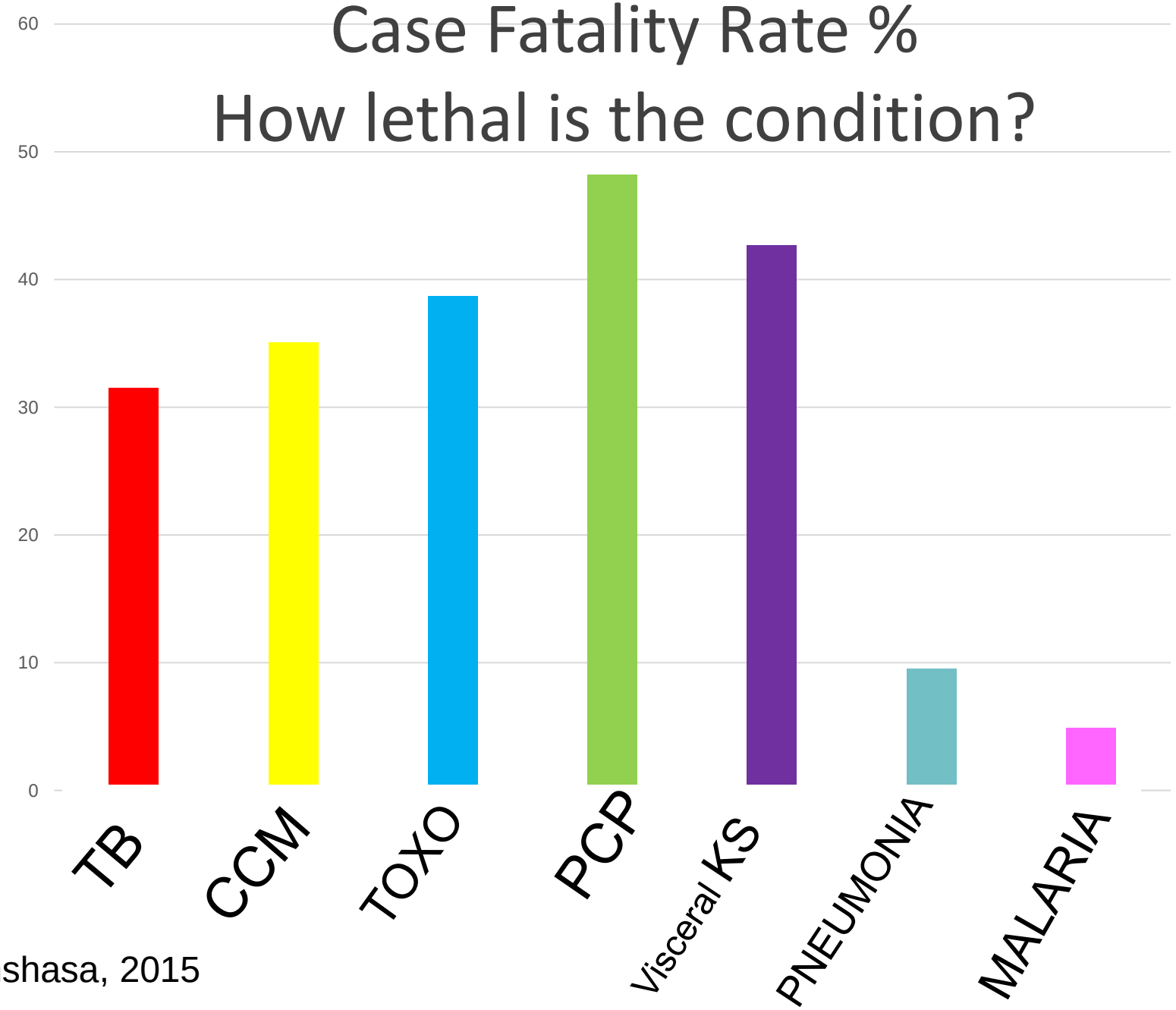
KS and

Kidneys

Sepsis

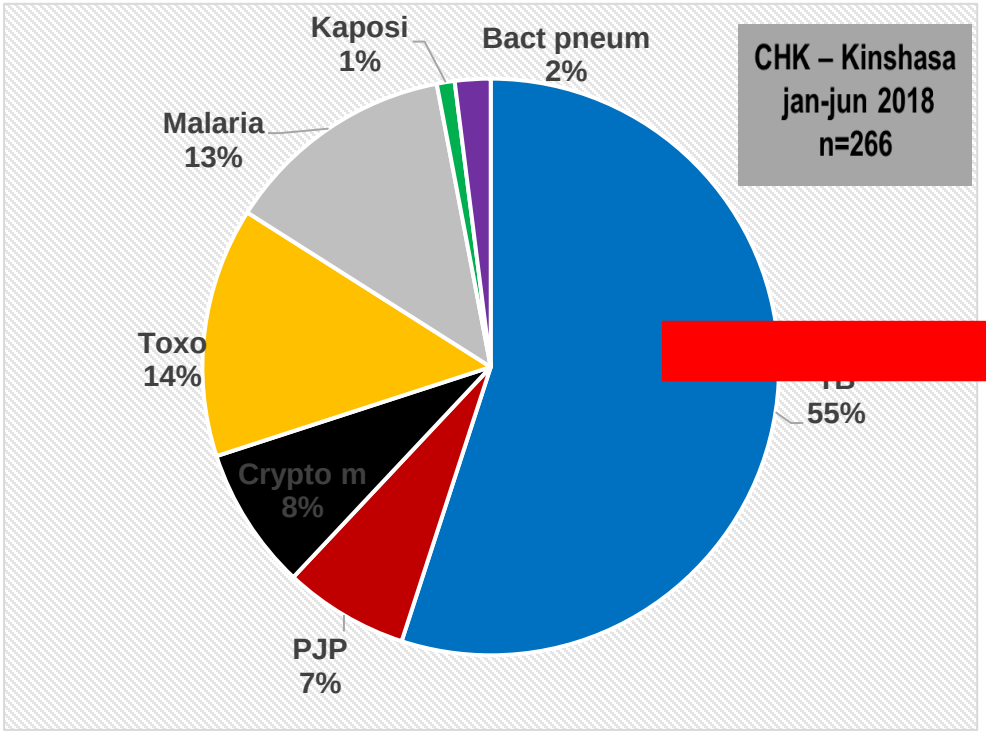
add malaria

Case Fatality Rate %
How lethal is the condition?



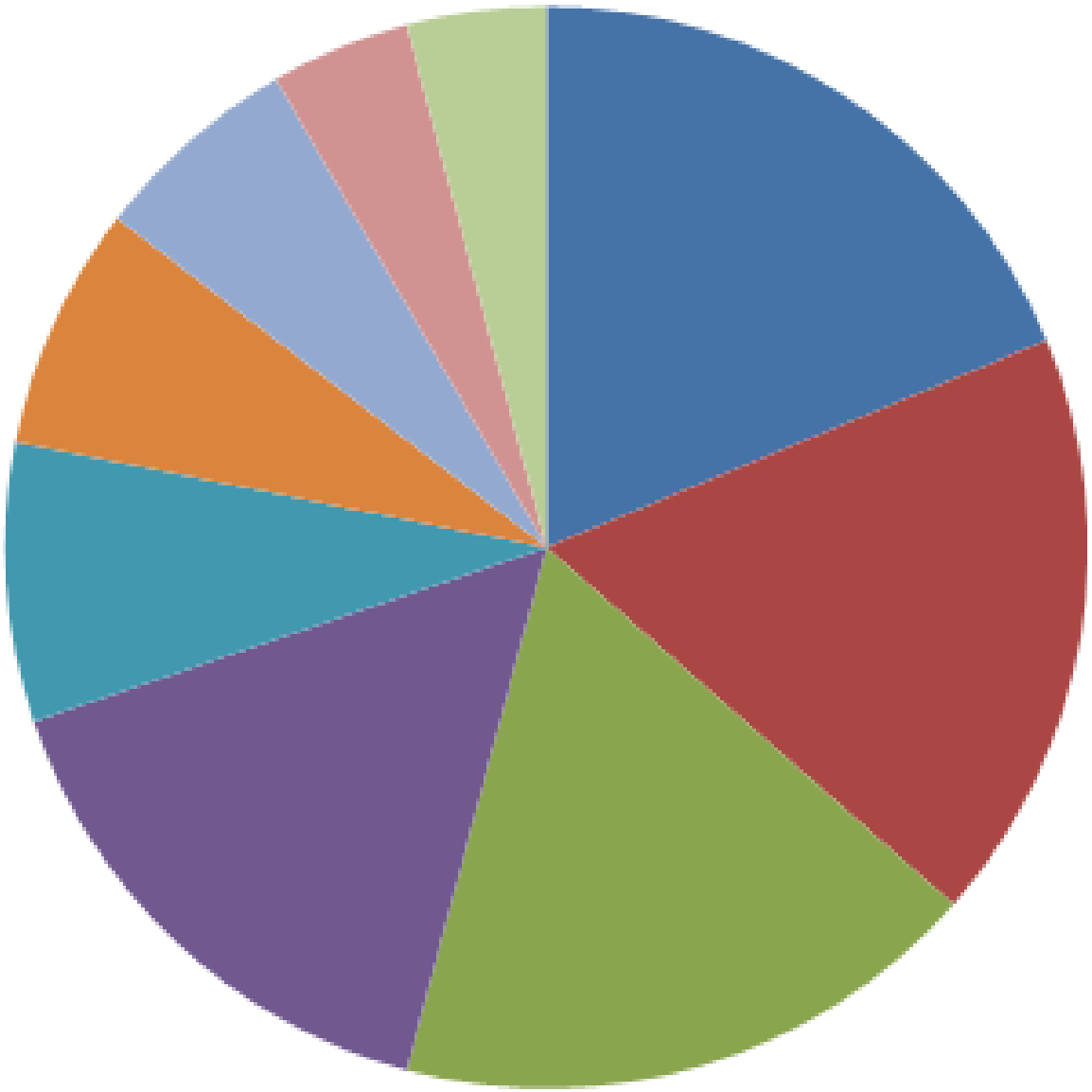
Kinshasa, 2015

Mortality and co-morbidity IPD CHK, Kinshasa Jan-June 2018 n=266



Co-morbidities occurring at the same time as TB (Next slide)

Co-morbidities occurring at the same time as TB



PCP

Sepsis

Renal failure

Toxo

Crypto

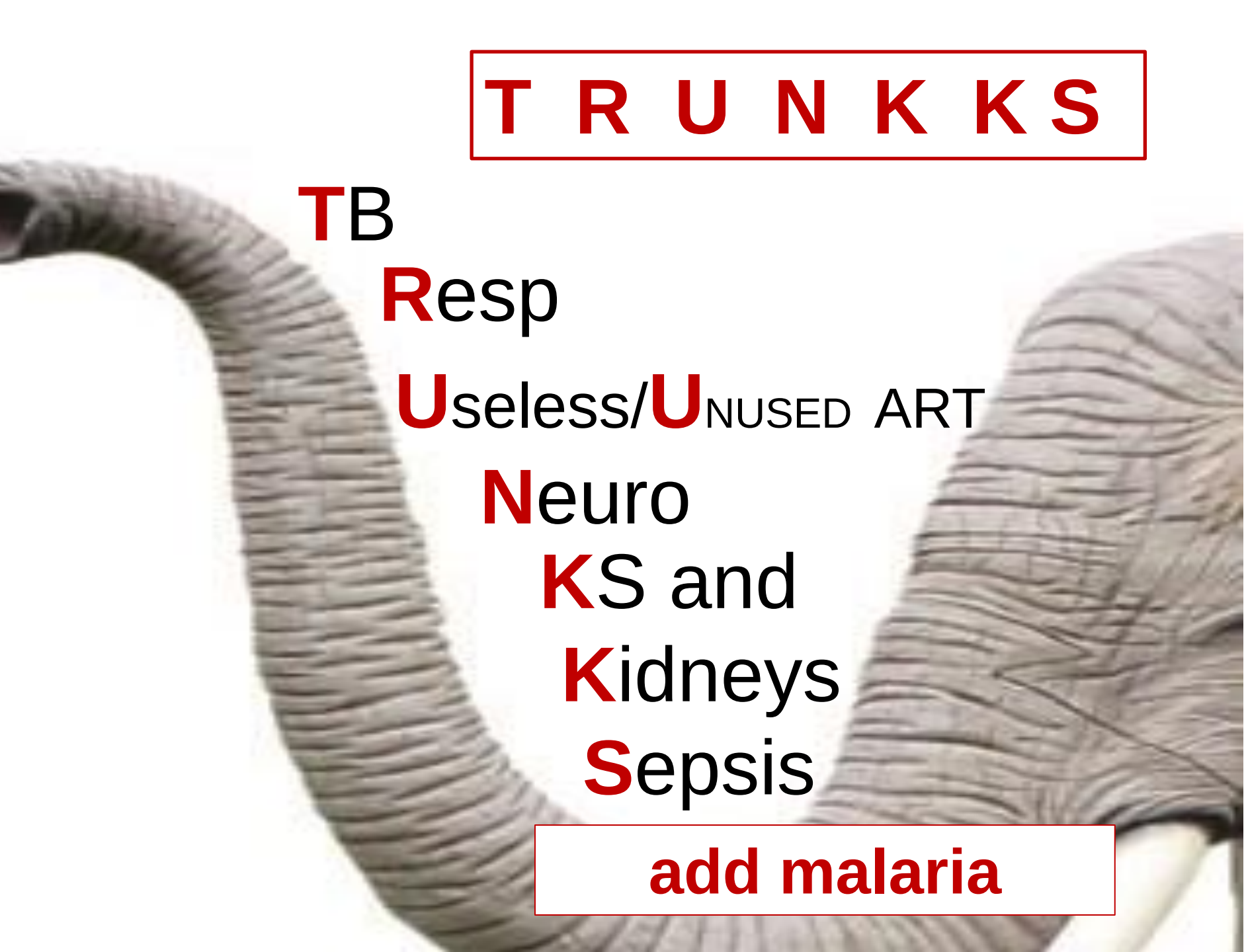
HIVAN

Malnutrition

Hypokalaemia

DILI

T R U N K K S



TB

Resp

Useless/**U**NUSED ART

Neuro

KS and

Kidneys

Sepsis

add malaria

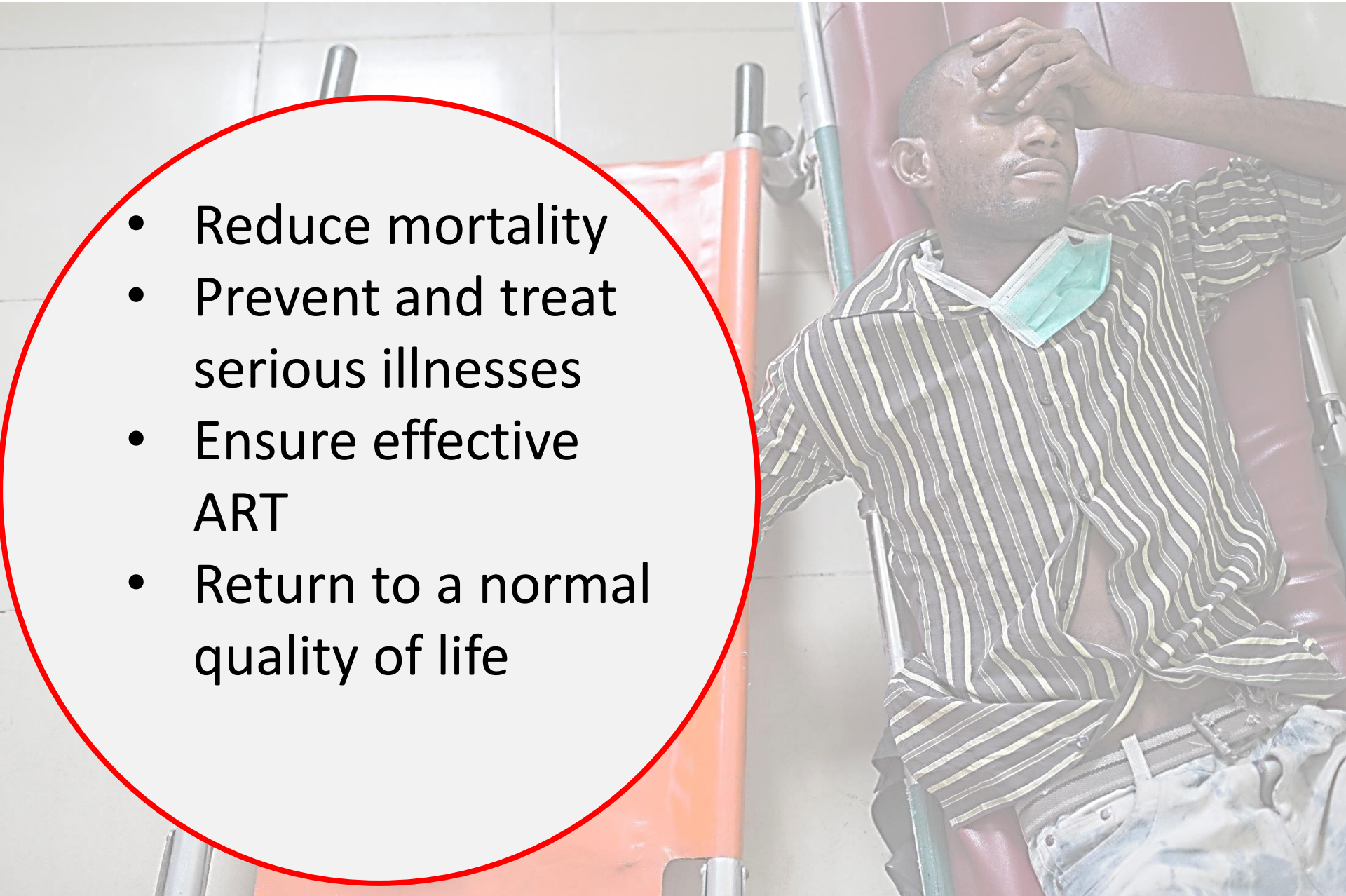
Done with the theory. What do you do when you see a patient with AHD?

Firstly: **Don’t miss them**

- Any new or sick patient or anyone returning to care needs a CD4 (RSA guidelines later)
- Remember: 50% of people with AHD are generally well.

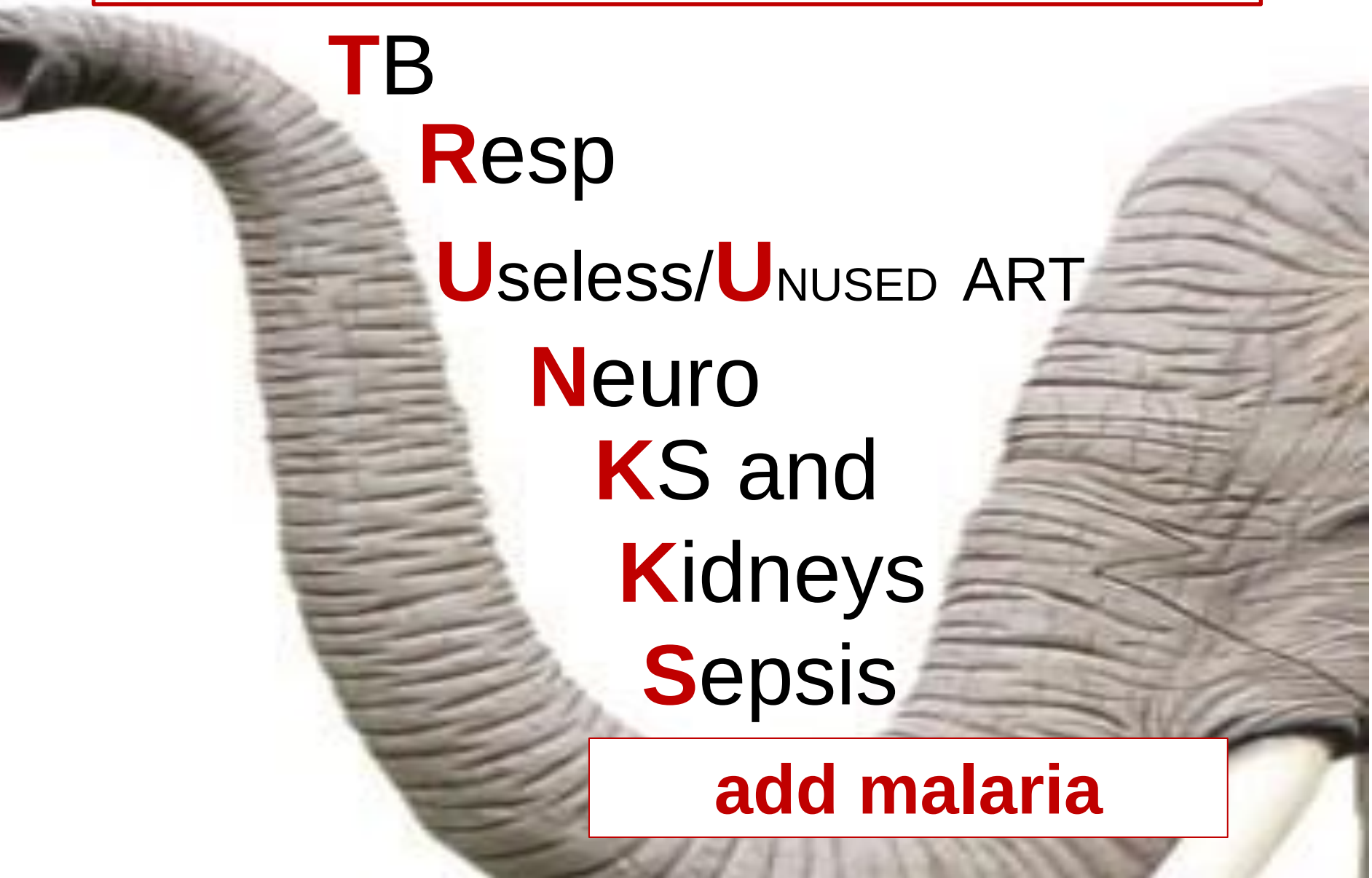
When they are identified, what do you do?

Advanced HIV: approach aims to:



- Reduce mortality
- Prevent and treat serious illnesses
- Ensure effective ART
- Return to a normal quality of life

Think: T R U N K K S



TB

Resp

Useless/**U**NUSED ART

Neuro

KS and

Kidneys

Sepsis

add malaria

First step

- Look for danger signs
- Refer as soon as possible
- Manage immediate problems within your capacity in the meantime – can save lives

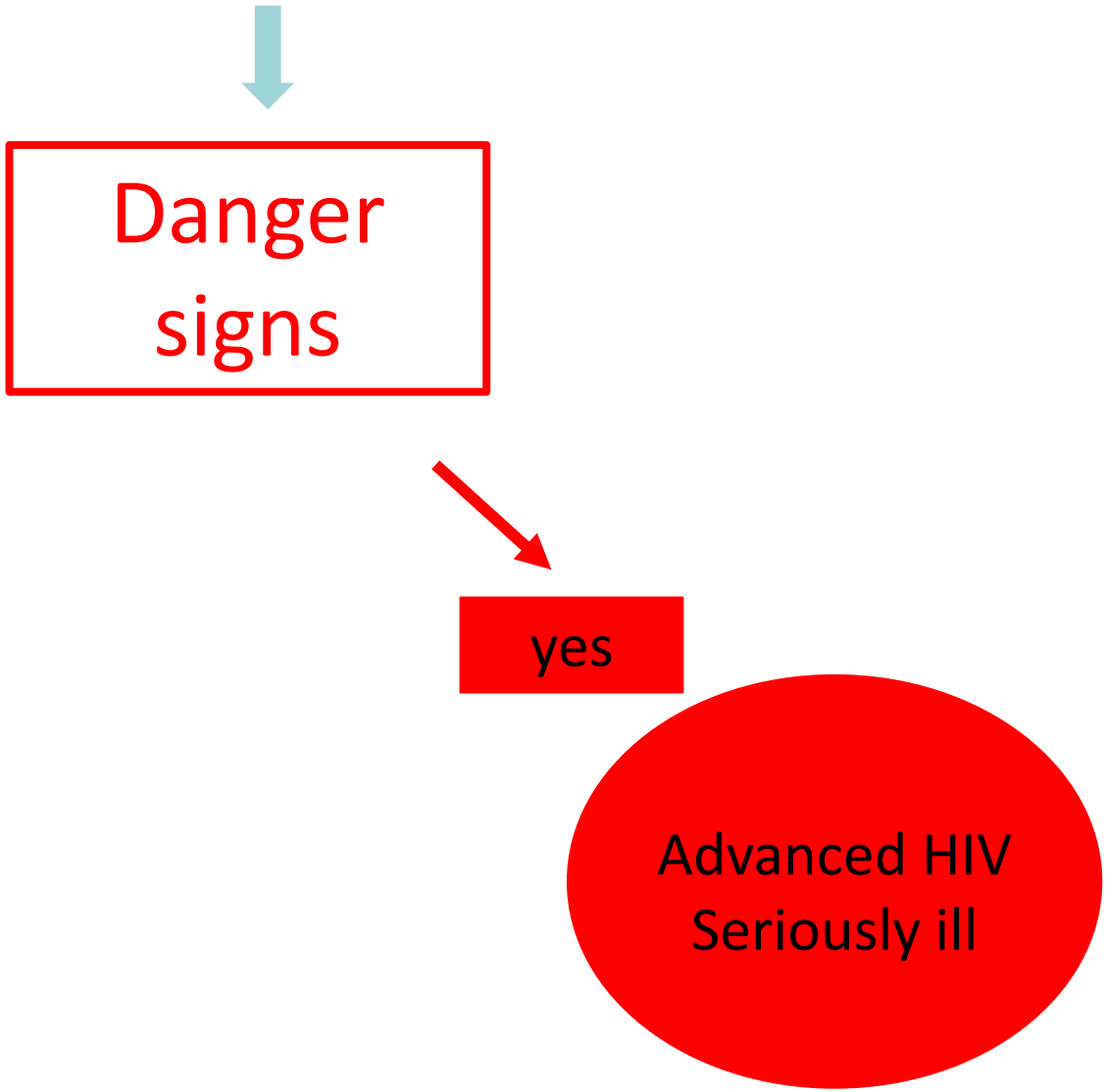
Remember the data:

- 37% mortality in hospital (mean CD4 84)
- 31% died within first 48 hours
- Severe wasting – 30% chance of dying

Whether in primary care or in hospital, identify patients at highest risk of mortality:

Danger signs

Whether in primary care or in hospital, identify patients at highest risk of mortality:



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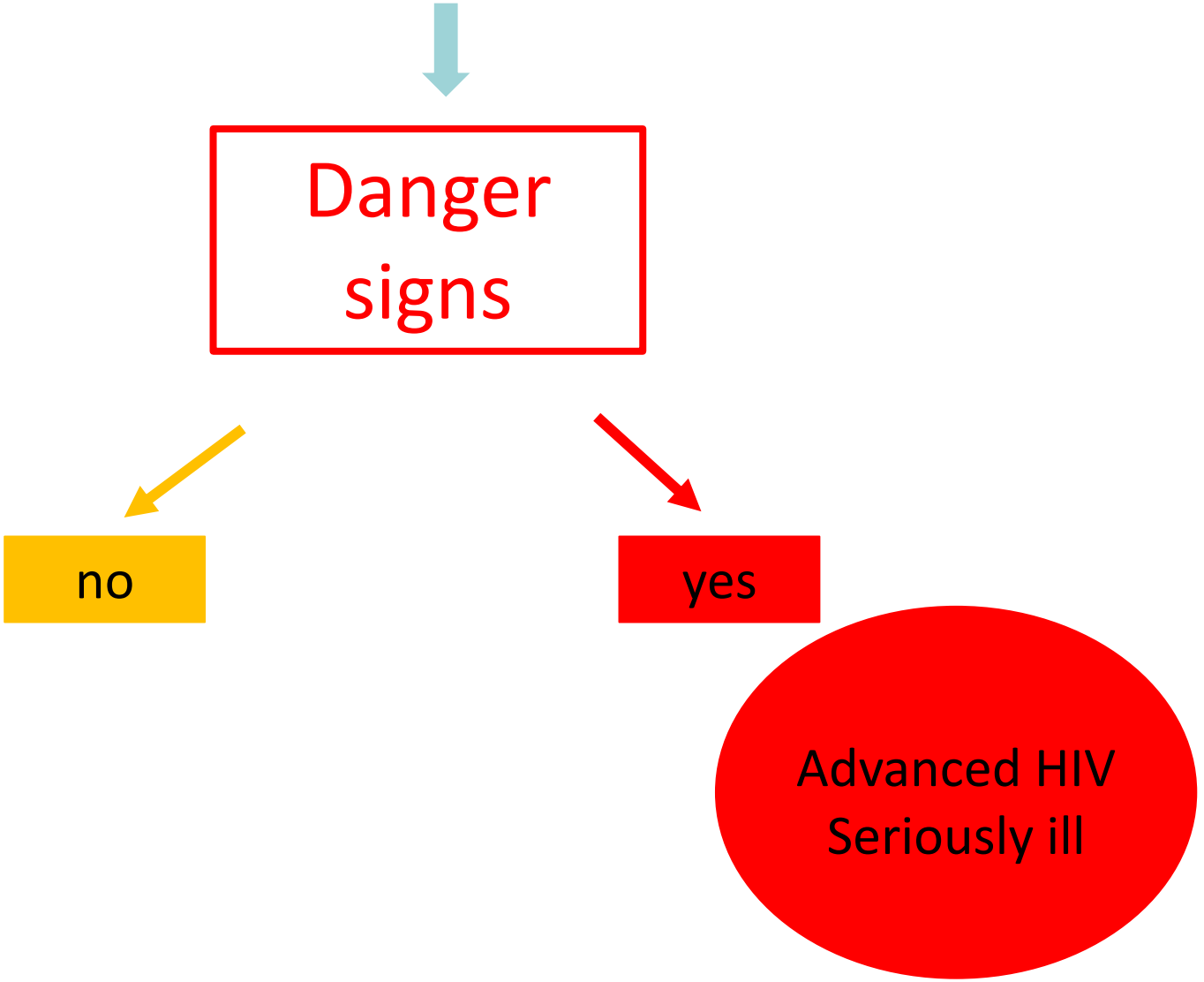

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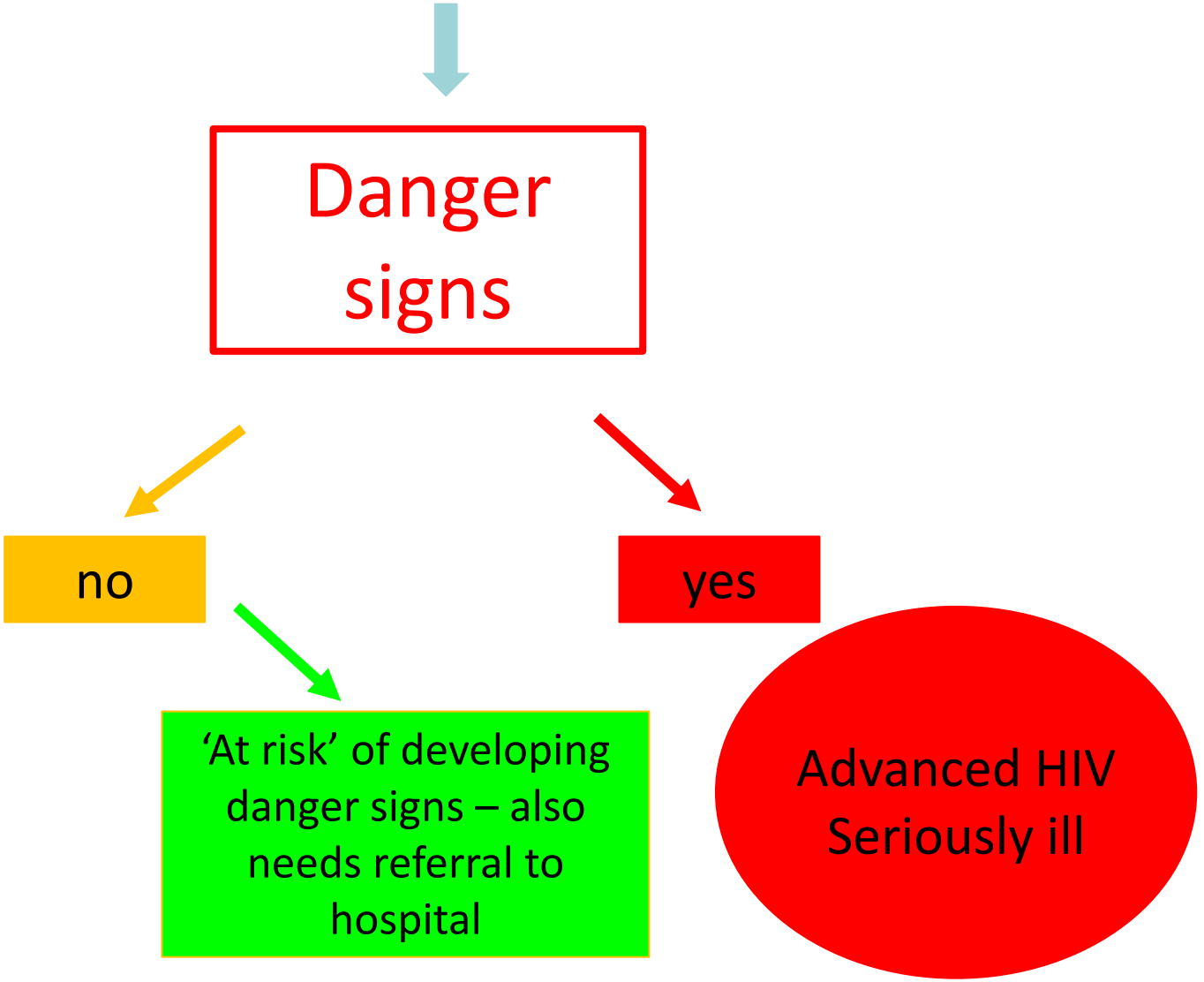
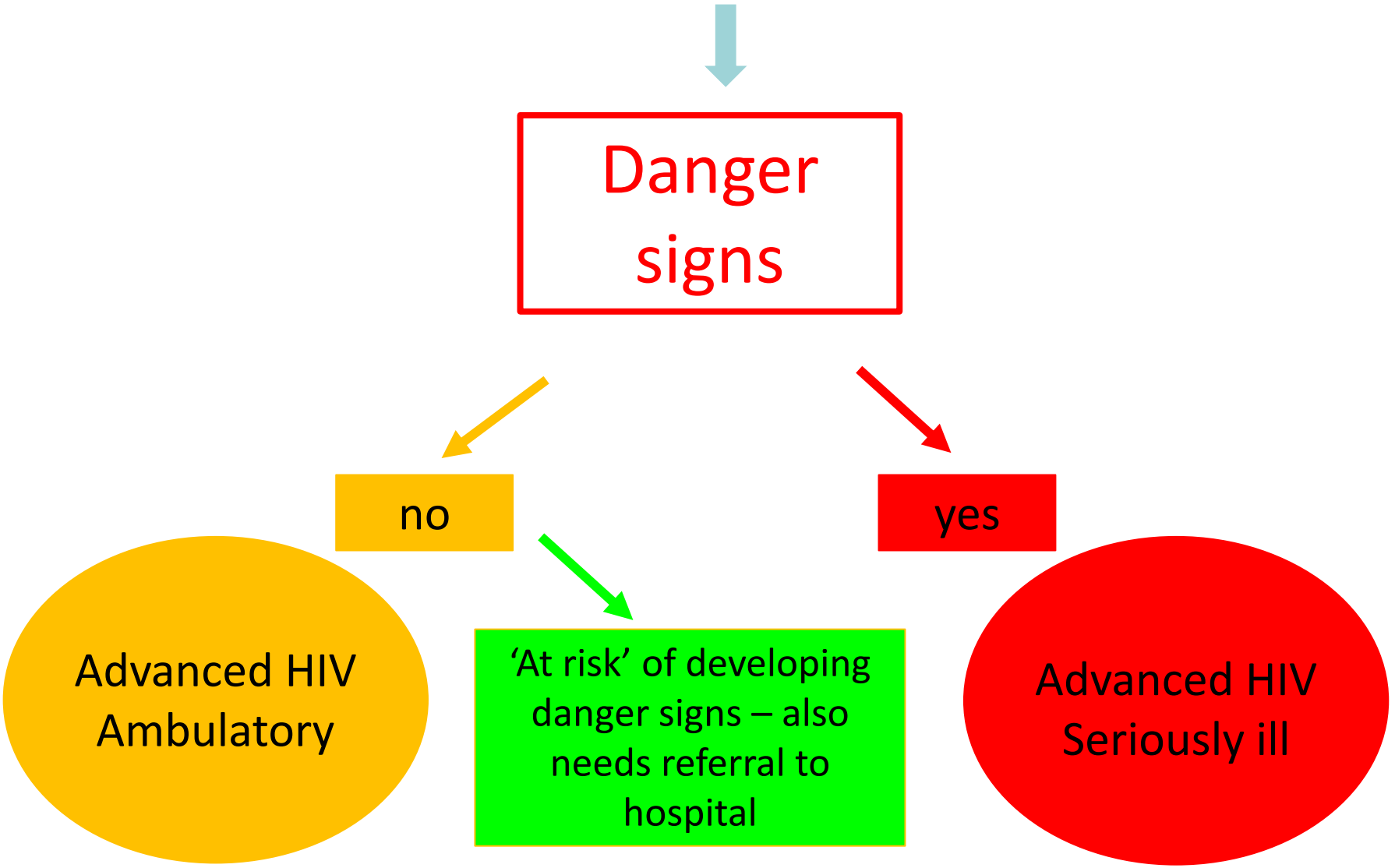


Whether in primary care or in hospital, identify patients at highest risk of mortality:



What are the danger signs in adults?

Write down as many as you can

Definition: seriously ill

1 or more danger signs:

- Respiratory rate > 30/min
- Saturation < 90%
- Temperature > 39°C
- Heart rate > 120/min
- Systolic BP < 90 mmHg
- Moderate or severe dehydration
- Incapable of walking unaided
- Altered mental state
- Any other abnormal neurology, including paralysis, seizures

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- Any other abnormal neurology, including paralysis, seizures

Who should know the danger signs?

Everyone should know about danger signs

Community

- Patients, families, community workers

General approach:

- Unable to walk unaided, confusion

Primary Care

- Reception staff
- Counsellors
- Nurses, medical staff – and educate patients
- **Everyone!**

Hospital

Everyone!

Referral to hospital

- **Refer ALL patients with danger signs**

  Stabilize as much as possible while organizing transfer: start first dose of essential medications – antibiotics, treatment for PCP, TB treatment…

And refer all with 'pre-danger signs': alert signs

All who will benefit from hospital care before they develop danger signs

Patients without danger signs needing referral to hospital: ‘alert signs’

- Needing investigations not available in clinic
- Needing action on results same day or within a few days
- Unable to return for repeated clinic visits within a few days
- Not responding to outpatient treatment: antibiotics, anti-diarrhoeal treatment

(Don’t give ‘routine’ follow up appointments to patients who are ‘unwell’- they need investigations and management)

- ……. another alert sign?

Would you refer this patient? Why or why not?

Patients without danger signs needing referral to hospital: ‘alert signs’

- Needing investigations not available in clinic
- Needing action on results same day or within a few days
- unable to return for repeated clinic visits within a few days
- not responding to outpatient treatment: antibiotics, anti-diarrhoeal treatment

(Don’t give ‘routine’ follow up appointments to patients who are ‘unwell’- they need investigations and management)

- **wasting, lethargy, or are generally ‘unwell’**

Homa Bay, Kenya study, 2015:

- **Severe wasting: 30% chance of dying**
- **If unable to stand to assess weight: 37% chance of dying**

Let's go back to our patient story:

- A 26 year old patient comes to your clinic. She started ART 2 years ago, but 4 months later returned to her village and was unable to continue treatment. She returned to your area a year ago, but was too scared to come to clinic because she thought the staff would be angry that she had stopped her treatment.
- She is complaining of a cough for 3 weeks, has lost weight and feels she sometimes has a fever.

Questions:

- Could she have advanced HIV disease?
- Does this make any difference to your approach to her management?
- What is her risk of mortality?

Summary of key points

- AHD is common; 50% of people look well
- Mortality rate in hospital is high:
  - up to 30% in studies
  - the lower the CD4 the higher the mortality
  - especially in first 48 hours
- All AHD patients need rapid assessment, including danger signs and rapid referral when indicated
- TB commonest cause of mortality but need to think (TRUNKKS) to look for other causes

Review Learning Objectives

On successful completion of AHD overview, you should now be able to:

- Correctly identify patients with advanced HIV
- Describe the mortality risks, and identify the common causes of mortality (TRUNKKS)
- Identify danger signs and refer immediately
- Identify the patients without danger signs who need referral to hospital

Strictly SEVEN minute break. Will start in exactly SEVEN minutes

Strictly SEVEN minute break.
Will start promptly