FAST-TRACK CITIES

IAPAC-ITPC Community Peer Educator Training to Optimise HIV Prevention, Treatment and Care

Training slides

Sponsored by

ITPC INTERNATIONAL TREATMENT PREPAREDNESS COALITION

IAPAC INTERNATIONAL ASSOCIATION OF PROVIDERS OF AIDS CARE

In partnership with

UNAIDS

Through support from

USAID FROM THE AMERICAN PEOPLE

Training Objective

To strengthen the capacity of PLHIV communities to promote quality HIV prevention, care, treatment and support services in Fast-Track Cities

Curriculum Outline
Modules

1. The Science of HIV Infection
2. Treating HIV Infection
3. Monitoring the Treatment of HIV Infection
4. Preventing HIV Infection
5. HIV & TB Co-Infection
6. Advocating for Increased Access to Quality, Non-Stigmatizing HIV Care
7. Living Healthy with HIV

MODULE 1

The science of HIV infection

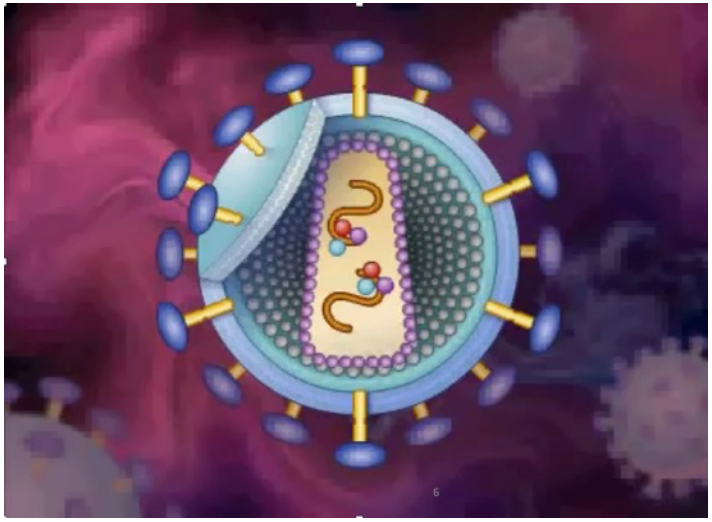
Objective

To build an understanding of the basics of HIV infection

Topics

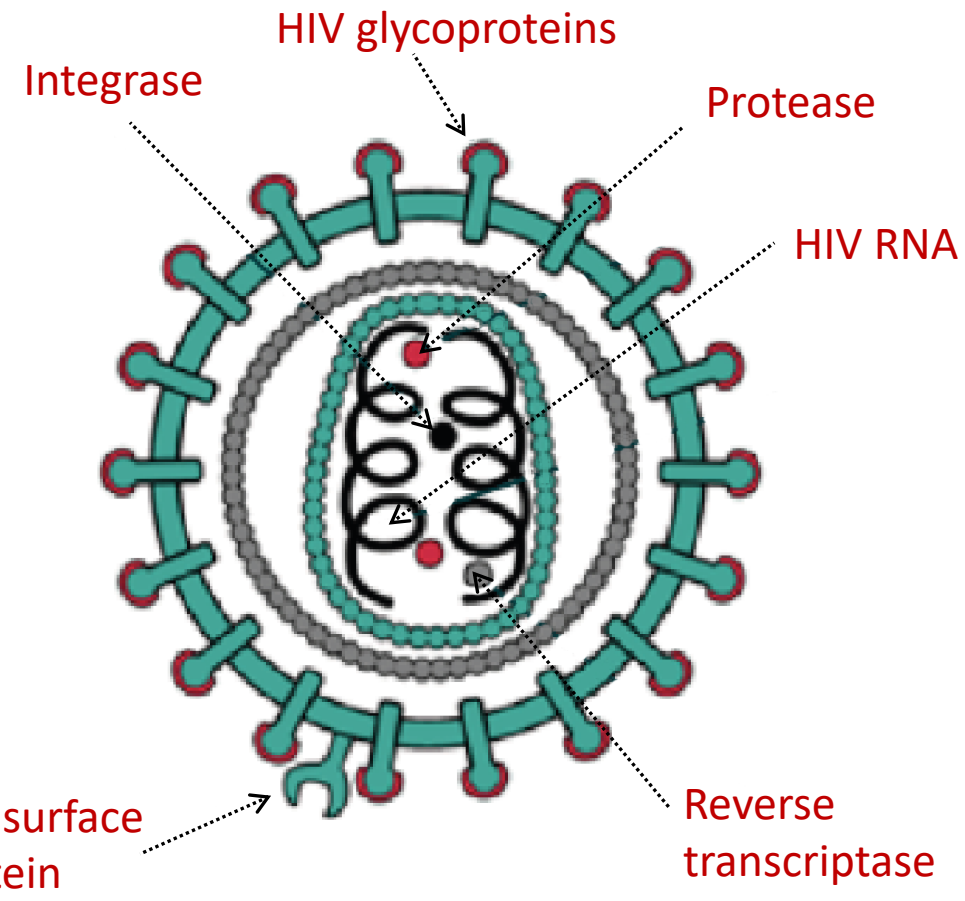
- What is HIV? How is it transmitted?
- How is HIV diagnosed (testing)?
- What is the HIV lifecycle?
- How does the body respond to HIV infection?
- What happens to the body after HIV infection?

What is HIV?
HIV = Human Immunodeficiency Virus



Click on the image to play the animated video

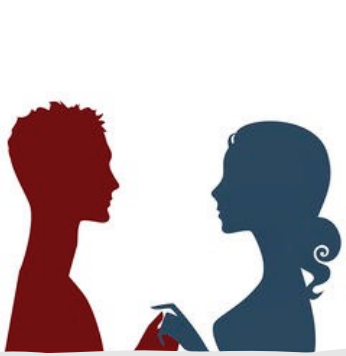
Figure 1: Structure of HIV



How is HIV transmitted?

HIV is transmitted through a person's **body fluids:**

Blood | **Semen** | **Vaginal fluid** | **Breast milk**



Unprotected sexual intercourse with an infected partner

Vertical transmission
(from mother to child)

- in utero
- during delivery
- breastmilk

Injection drug use
(rare: infected blood/blood products)

HIV Infection

How is HIV transmitted?

Unprotected (without using a condom) vaginal or anal sexual intercourse with a person who is living with HIV.

This can happen if an HIV-positive person is not on HIV treatment, or if their HIV treatment is not working.

How is HIV transmitted?

A mother who is living with HIV can pass the virus to her baby during pregnancy, delivery or breastfeeding.

- HIV treatment lowers this risk (from 15% - 45% to <5%)
- Sharing an unsterilized needle, syringe and other injection equipment with a person who is living with HIV
- Getting a transfusion of blood that is infected with HIV
- Direct contact with needles, knives and other sharp objects that have blood from a person who is living with HIV on them

Risk of HIV infection

Some factors affect a person's **risk of infection**

Viral load of the person who is living with HIV
How much virus they have in their body

Frequency of exposure
How often HIV risks occur

Duration of exposure
How long-lasting the HIV risks are

Condition of barriers that protect against HIV
Such as skin and tissue in the lining of the vagina and anus

Remember HIV is **not** transmitted by…

HIV Diagnosis

An HIV test is done with a small amount of blood or oral fluid.

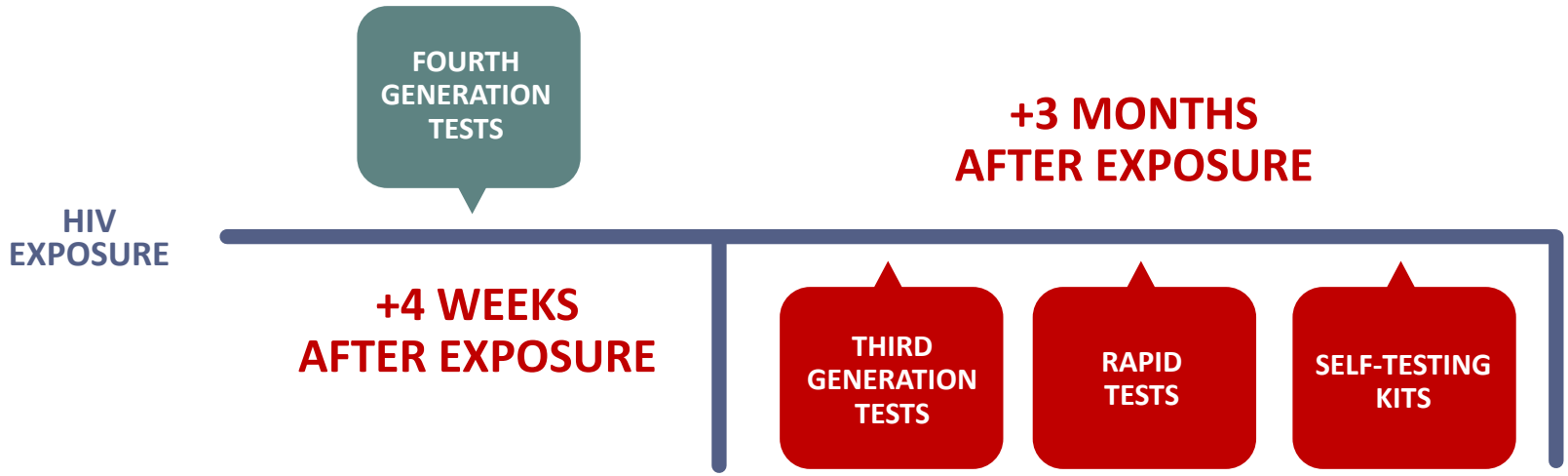
Antibody tests (such as rapid tests) look for antibodies - "signs" - against HIV:

A **positive test result from a rapid test** means that a person may have HIV and will need a confirmatory test.

A **negative test result** means that either a person does not have HIV, or that they were so recently infected that they have not made antibodies yet. (This is called "the window period.") People with a recent HIV risk who have a negative test result will need follow-up testing.

Usually, a person can get their antibody test results on the same day that they were tested, which makes it easier for them to start HIV treatment right away.

Window periods – when can HIV be detected?



Your healthcare worker will help you decide which test is best to take

Other HIV tests

Sometimes, other tests are used to diagnose HIV

Combined Antibody and Antigen test

Becoming more common, but this test can only be done with blood

Nucleic Acid Test (also called RNA, PCR, or viral load test)

Identifies the presence and amount of HIV virus in blood; it is used for diagnosing children who are <18 months old (since they still have their mother's antibodies)

Understanding HIV Testing

3 Components of differentiated HIV testing services

Mobilizing

- Mass/group
- Network-based
- Partner notification and index testing

Testing

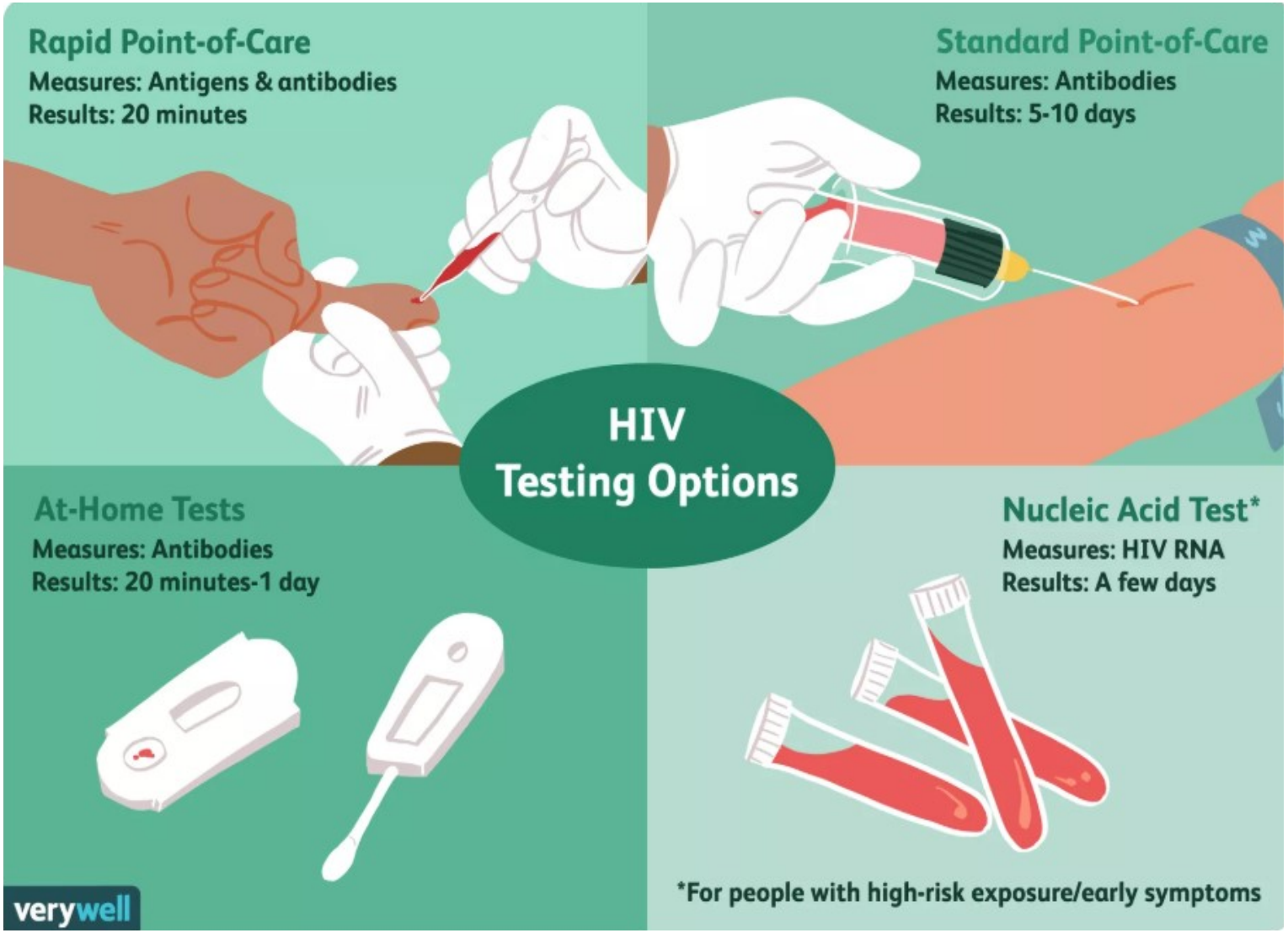
- Health facility
- Non-health facility
- Community
- Self-testing

Linking

- Peer navigators
- Compensation/ incentives
- Same-day ART initiation
- Friendly services
- Tracing

*Source: International AIDS Society (IAS) - A Decision Framework for HIV Testing Services – www.differentiatedcare.org

Testing for HIV



Understanding HIV Testing

Indirect

- Home
- Community
- Facility

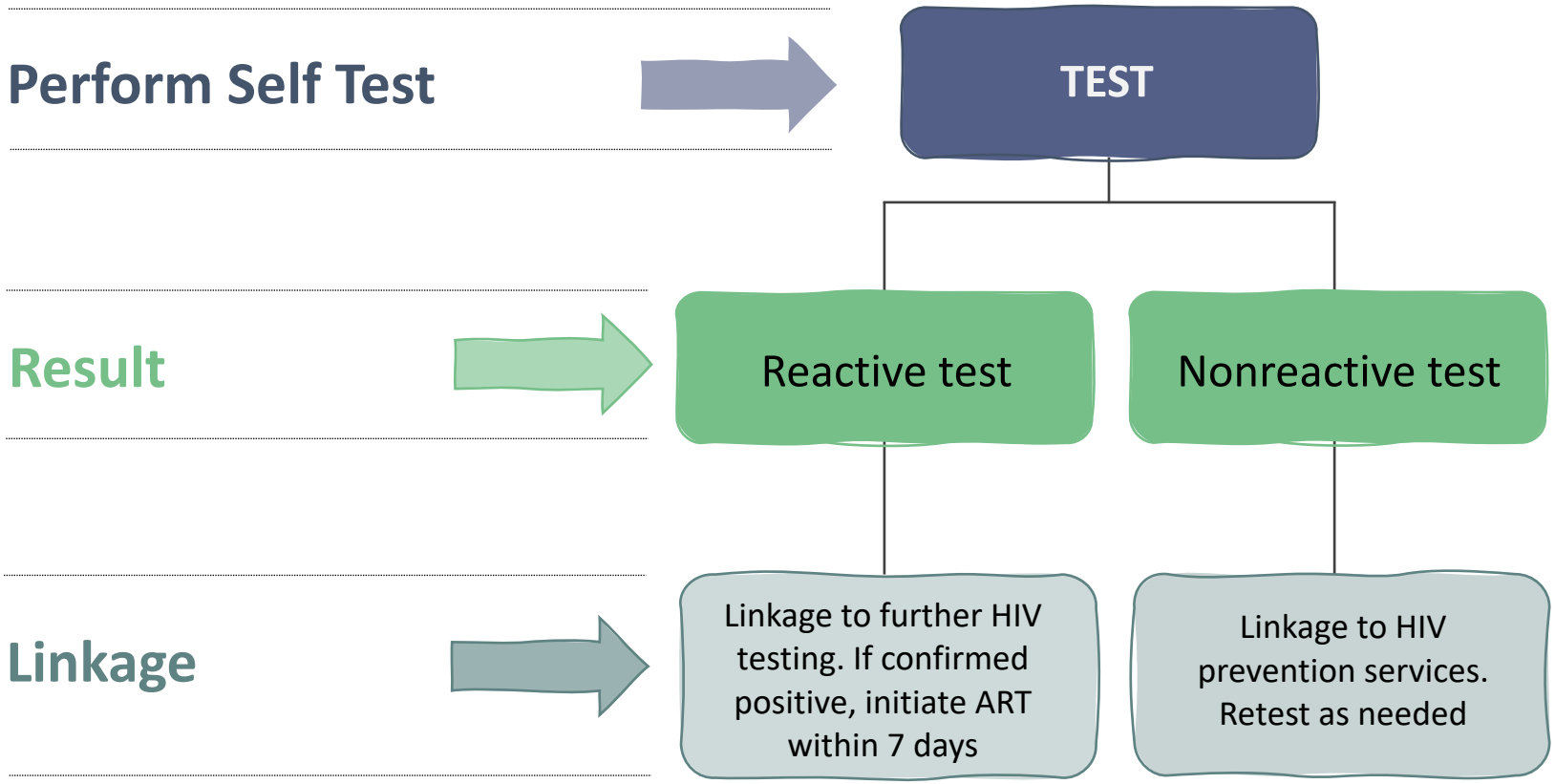
Direct

- Facility

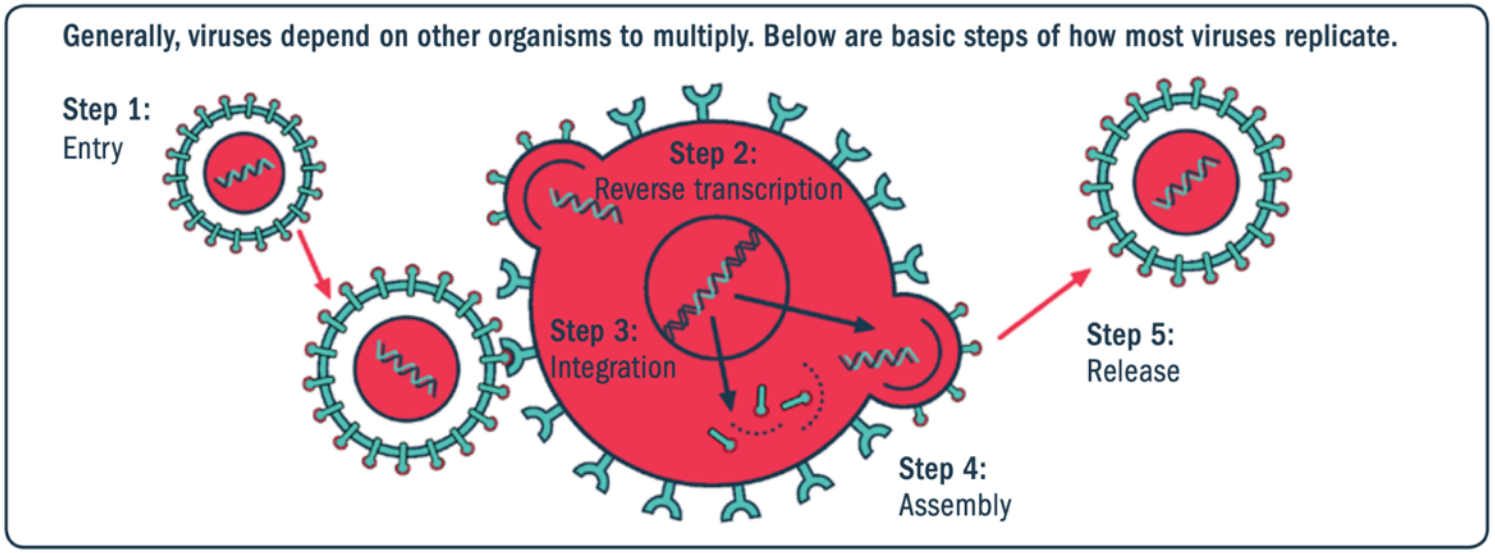
Self testing
Oral test (saliva)
Skin prick

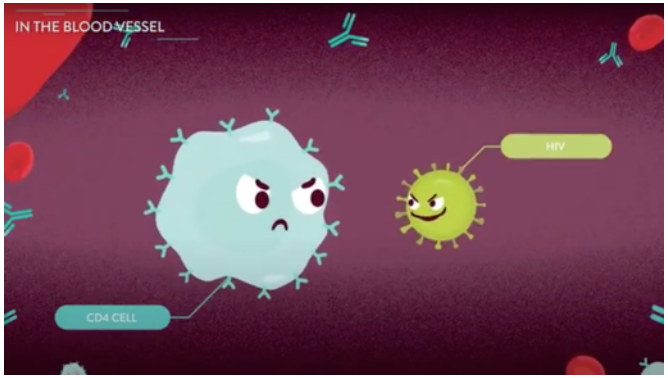
Health care testing
Blood draw
Finger stick

HIV Self Testing



The HIV Life Cycle





HIV Life Cycle animation video (English)

How Does HIV interact With the Body?

After HIV enters a person's body, it infects cells.

Within hours, these infected cells carry HIV to the lymph nodes, which are full of CD4 cells.

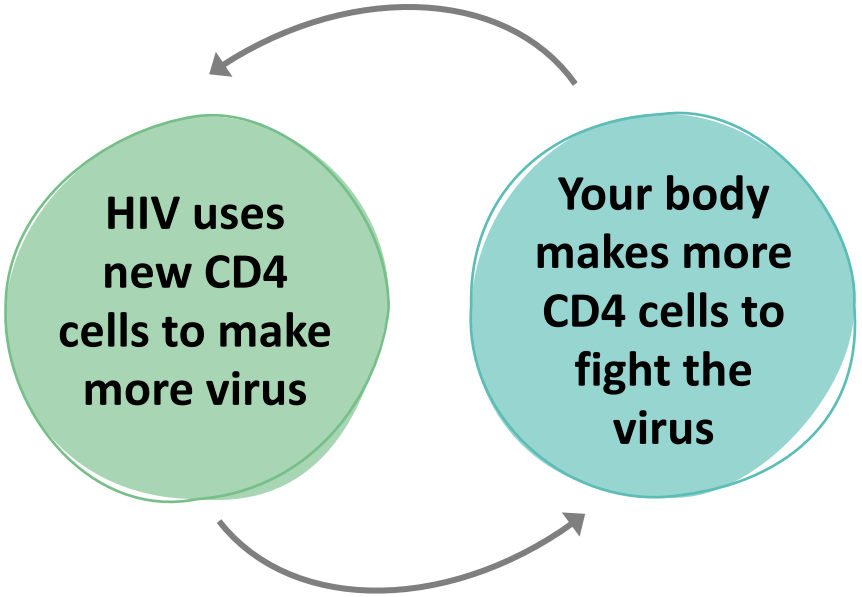
CD4 cells are an important part of the immune system.

They **send signals** to other infection-fighting cells and organize them to fight off germs that can make people sick.

HIV and CD4 cells

CD4 cells fight HIV, but they cannot get rid of it.

As the body makes more CD4 cells to defend itself, HIV enters and infects them.

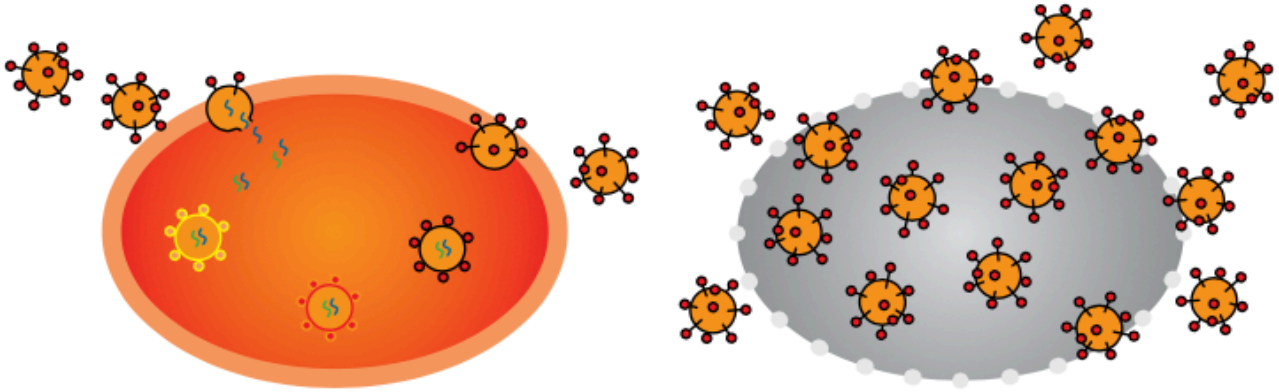


Source: HIV i-base: The HIV life cycle in detail http://i-base.info/guides/art-in-pictures/the-hiv-lifecycle-in-detail

HIV and CD4 cells

CD4 cells fight HIV, but they cannot get rid of it.

Your body is making more CD4 cells to fight HIV, but HIV is using them to make more copies of itself. (Each HIV-infected CD4 cell can make about 300 new HIV viruses; these new viruses enter the bloodstream and infect more CD4 cells).



HIV and CD4 cells

CD4 cells fight HIV, but they cannot get rid of it.

As the body keeps making CD4 cells, over time (years), HIV keeps destroying them.

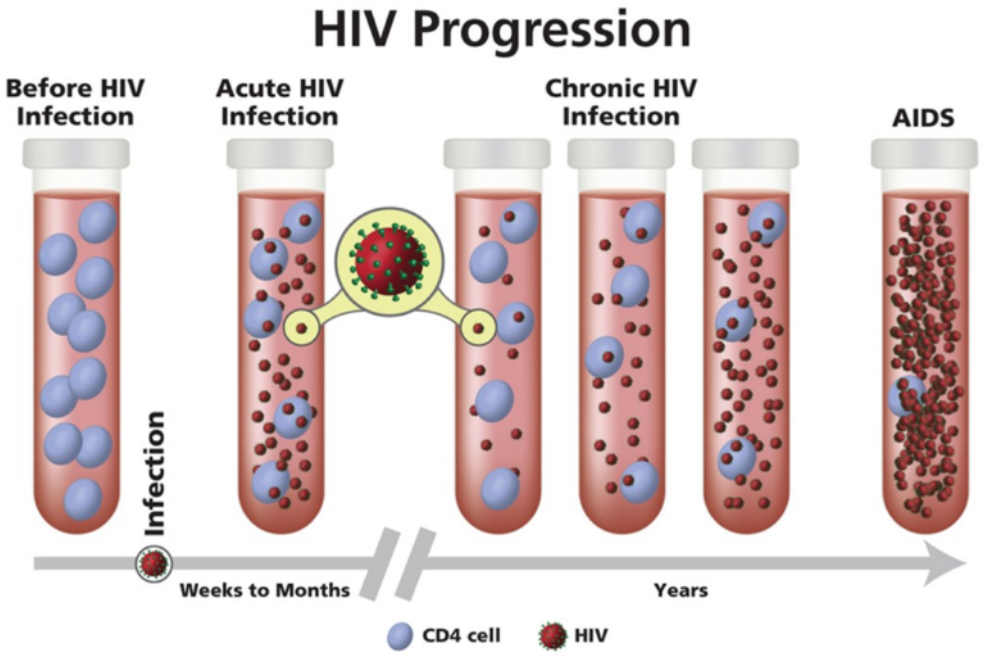
Over time, without treatment, HIV weakens the immune system.

Natural progression of HIV
(without treatment)

Without treatment, HIV will keep multiplying, while it weakens the immune system by killing CD4 cells.

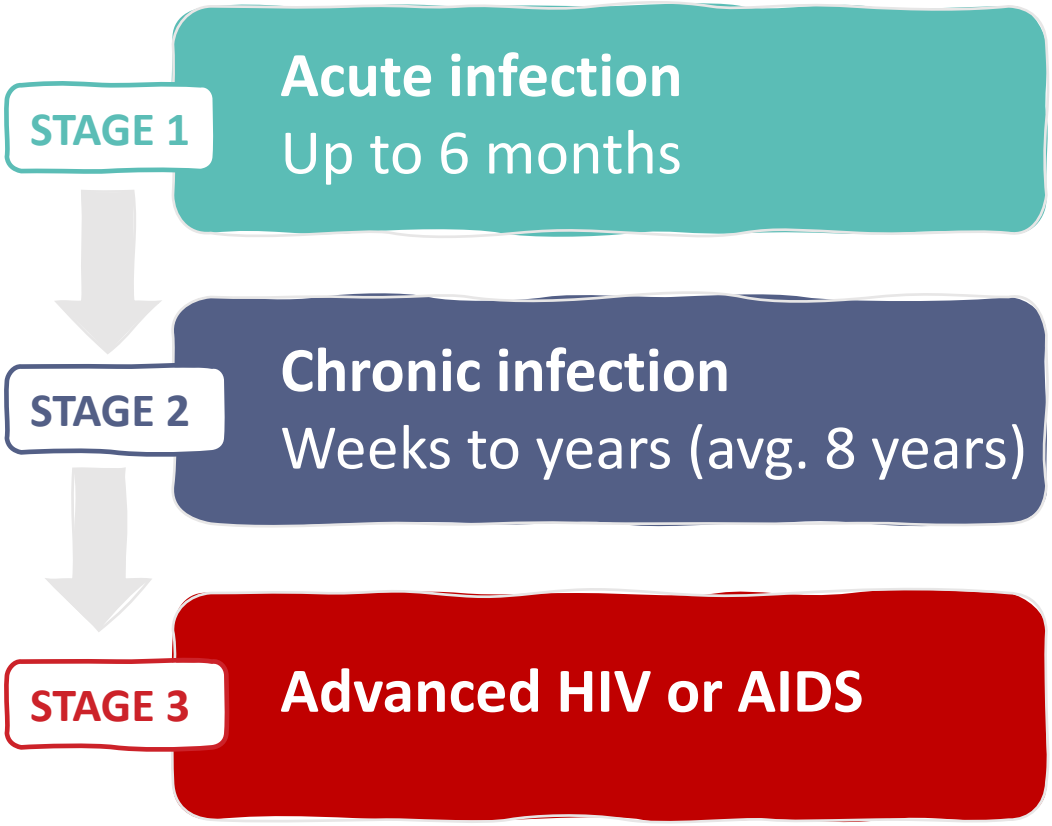
This is called the **natural progression** of HIV.

Over time, as the immune system is getting destroyed, a person will not have enough CD4 cells to fight off germs – and they will become ill.



Source: HIV Overview. AIDS Info. US Department of Health and Human Services.
https://aidsinfo.nih.gov/understanding-hiv-aids/fact-sheets/19/46/the-stages-of-hiv-infection

HIV progression



HIV progression

STAGE 1

Acute infection (Up to 6 months)

Flu-like symptoms within first few weeks:
sore throat, rash, swollen lymph nodes, headache, fatigue, fever, appetite loss, vomiting and/or muscle pain.

Virus is multiplying **rapidly**, with increasing viral load, which means that there is a high risk of transmitting infection.

It is best to begin HIV treatment (ART) during this phase.

HIV progression

STAGE 2

Chronic infection (weeks to years)

People may feel healthy, but without treatment HIV is progressing and can be transmitted.

Over time, HIV is destroying CD4 cells faster than the body can replace them.

Treatment can stop this from happening.

HIV progression

STAGE 3

Advanced HIV or AIDS

In adults, advanced HIV occurs when the CD4 cell count drops to <200 cells/mm^3 and/or if they become seriously ill with certain conditions. All children living with HIV who are less than 5 years old are considered to have advanced HIV.

People with advanced HIV or AIDS are at risk for severe illnesses and death, even after they start HIV treatment.

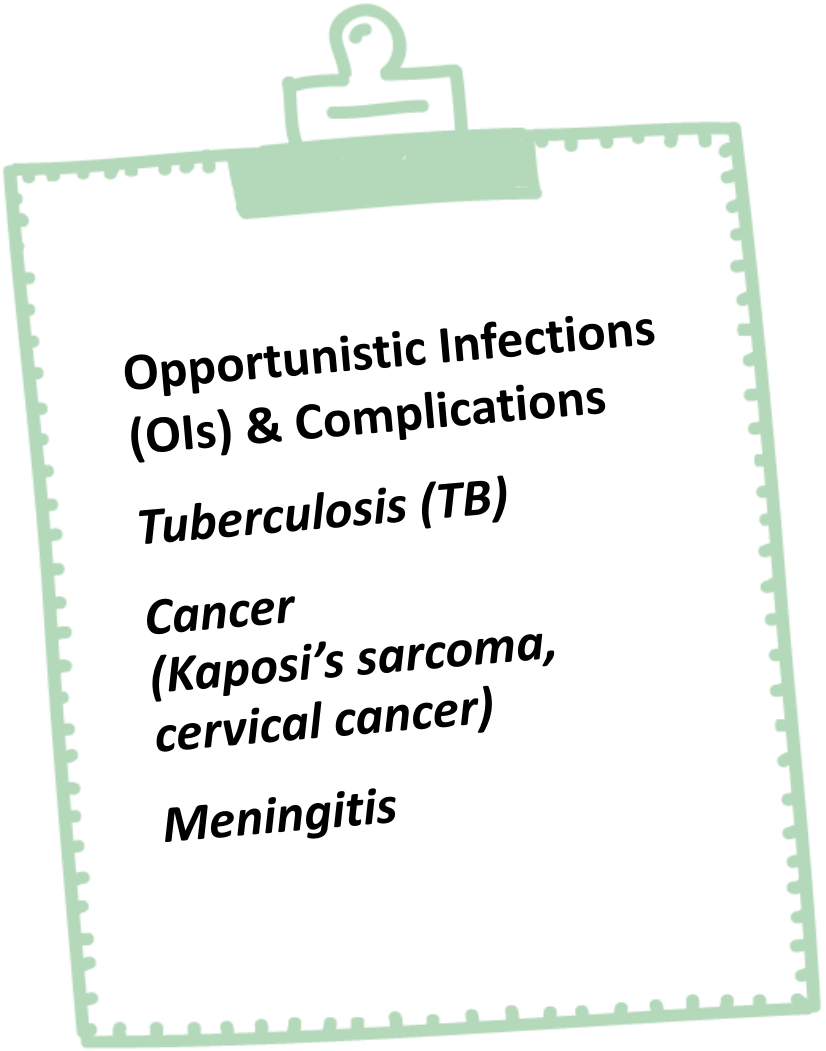
People with advanced HIV survive for an average of 2 years without treatment.

Symptoms

Without HIV Treatment (ART), the following may occur

Symptoms

Without ART, these illnesses can occur



MODULE 2

Treating HIV infection

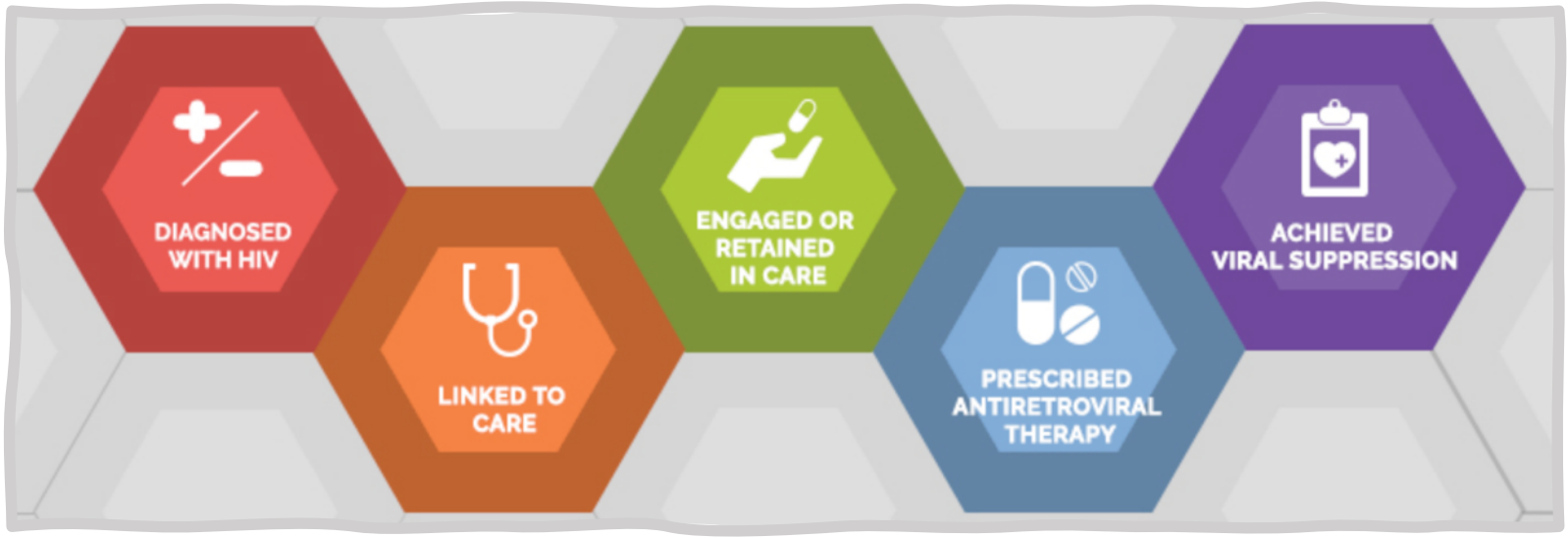
Objective

To build an understanding of how HIV infection is treated

Topics

- What is the HIV treatment cascade?
- How do antiretrovirals (ARVs) interrupt the HIV life cycle?
- What are the different types of antiretroviral medicines?
- What do WHO guidelines recommend for treating HIV?
- What are the side effects of HIV treatment?

The HIV Treatment Cascade



Holistically, HIV treatment needs to be part of a 'package' of prevention, care and support for people living with HIV.

This package includes psychological, emotional, nutritional and social support – all of which are vital for effective HIV treatment.

“Treat All”

In 2015, the World Health Organization recommended that all adults, adolescents, children and infants living with HIV start antiretroviral therapy (ART) as soon as possible – ideally, right after diagnosis, but within a maximum of 7 days.

WHO also recommended that, as a priority, ART should be initiated in all children, adolescents and adults with severe or advanced HIV disease, adults with a CD4 count ≤ 350 and children < 5 years of age with WHO clinical stage 3 or 4 (meaning serious illness) or CD4 count ≤ 750.

Effective treatment stops HIV from reproducing, and it reduces the amount of virus in a person’s body to levels so low that tests cannot pick it up. This is known as undetectable.

What is HIV treatment?

HIV treatment, called **antiretroviral therapy or ART**, saves lives - and improves the quality of life for people living with HIV

Antiretrovirals (ARVs) are drugs that stop HIV from multiplying—although they cannot completely get rid of it. Blocking HIV reproduction allows the immune system to rebuild.

Drugs that can prevent and/or treat opportunistic infections and cancers that affect people living with HIV can also be part of treatment.

The Goal of ART

Treatment can be managed, but not cure, HIV

The goal of HIV treatment is to stop the virus from reproducing (called **viral suppression**)

When HIV stops multiplying, the immune system has a chance to recover, becoming strong enough to fight off infections.

- This increases overall health, quality and length of life among PLHIV – and it is closing the 'survival gap'

An additional benefit of viral suppression from HIV treatment is that it **prevents transmission.**

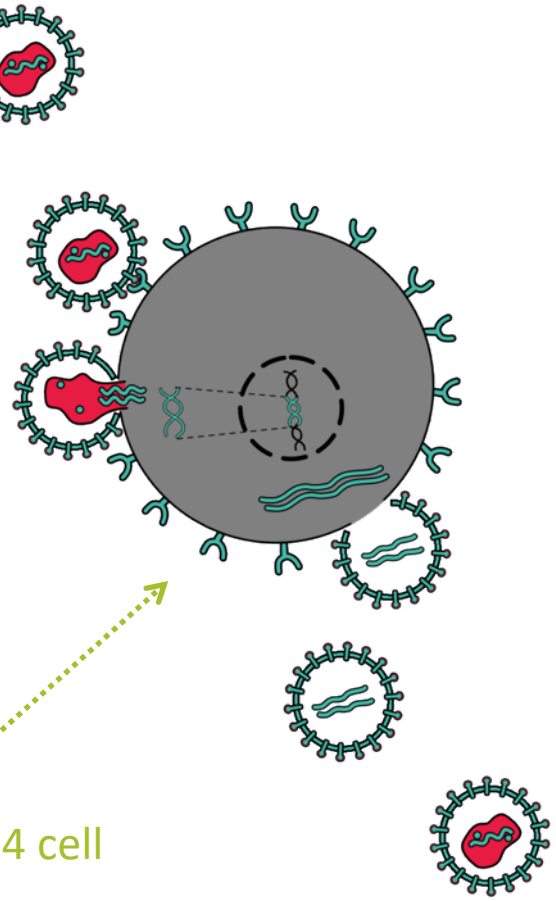
ART: Treatment But Not a Cure

HIV treatment cannot get rid of all the HIV in the body

This is because HIV can hide inside of resting immune system cells, including CD4 cells (this is called ***latent infection***).

These CD4 cells rest until they are needed to fight a specific germ- then they become activated.

- HIV does not reproduce in resting CD4 cells – and ART only stops the virus in CD4 cells that are activated, when HIV is multiplying.



ART: Treatment But Not a Cure

HIV can hide in resting cells for decades

When resting cells become activated, HIV starts to reproduce

This is why HIV rebounds when people stop taking ARVs

For several years, researchers have been working on a cure for HIV – including ways to activate resting cells

How does HIV treatment work?

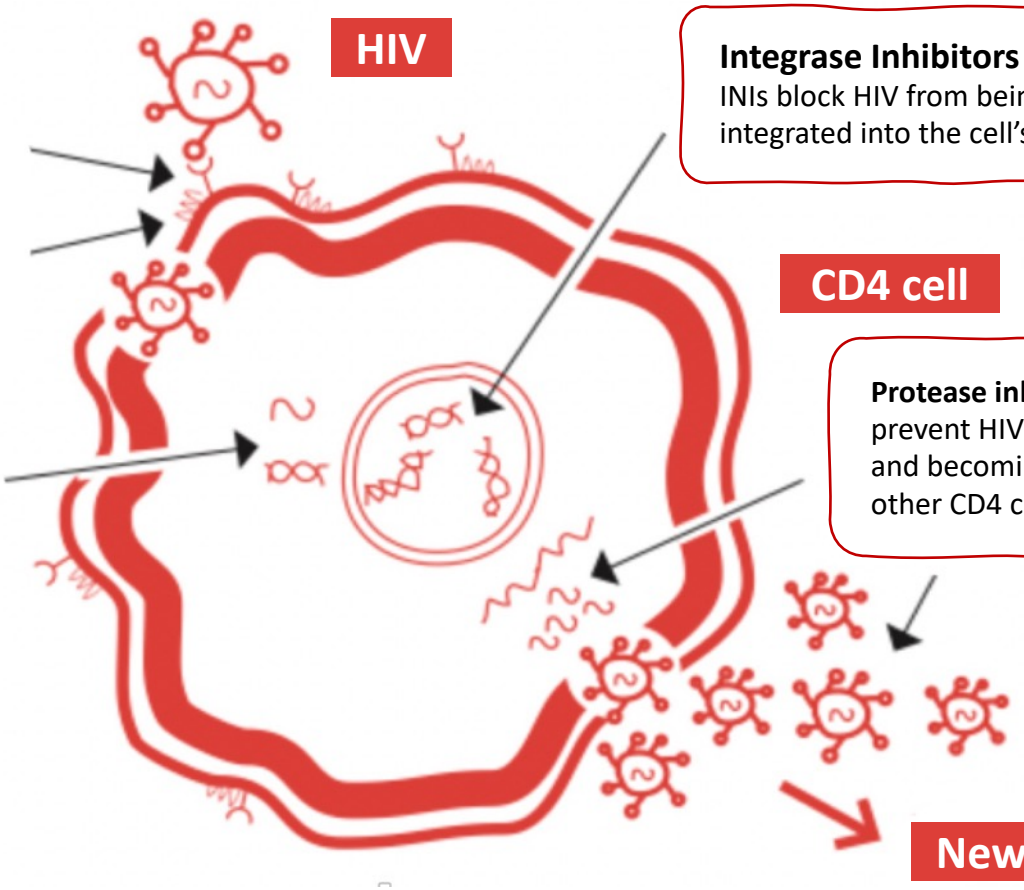
There are different classes, or families, of ARV drugs

- They work by stopping different steps of the HIV life cycle.
- For HIV treatment to be effective, a combination of ARVs (usually three drugs, from at least two classes – sometimes put together in a single pill) must be taken together
- This called is ***combination therapy***.

Effective treatment requires a combination of drugs from different classes to target different stages in the HIV life cycle.
This stops the virus from multiplying.

Entry Inhibitors
Attachment inhibitors block HIV from connecting to the CD4 cell. T-20 is a type of attachment inhibitor called a fusion inhibitor. CCR5 inhibitors block attachment to a co-receptor called CCR5

Nukes & non-nukes (NRTIs & NNRTIs)
These types of drugs stop HIV from changing a single strand of its RNA into a double strand of DNA



Integrase Inhibitors (INIs)
INIs block HIV from being integrated into the cell's DNA

Protease inhibitors (PI)
prevent HIV from maturing and becoming able to infect other CD4 cells

Source: HIV i-base. Treatment Training Manual. 3.5 How HIV Drugs Work – main types of drugs.
http://i-base.info/ttfa/section-3/5-how-hiv-drugs-work-main-types-of-drugs/

ARV Classes

WHO-recommended ARVs in bold

ARV Class	How It Works	Drugs In This Class
Fusion /entry inhibitors	Stops HIV from attaching to or entering CD4 cells (not commonly used)	enfuvirtide (T20), maraviroc (MVC)
Nucleoside/nucleotide reverse transcriptase inhibitors (NRTIs)	Interfere with a process called reverse transcription that is essential to HIV reproduction	**abacavir (ABC), emtricitabine (FTC), lamivudine (3TC),** tenofovir alafenamide (TAF)*, **tenofovir disoproxil fumarate (TDF), zidovudine (AZT)**
Non-nucleoside reverse transcriptase inhibitors (NNRTIs)	Also prevent reverse transcription	doravirine (DOR), **efavirenz (EFV),** etravirine (ETV), nevirapine (NVP)* rilpivirine (RPV)
Integrase inhibitors (INSTIs)	Prevents HIV from integrating into the CD4 cell's DNA	bictegravir (BIC, **dolutegravir (DTG)** elvitegravir (EVG) raltegravir (RAL)*
Protease inhibitors (PIs); must be 'boosted' with another drug (ritonavir or cobicistat)	Blocks the HIV protease enzyme from cutting up HIV to make new viruses	**atazanavir (ATV/r),** darunavir (DRV/r).* **lopinavir (LPV/r)**

***WHO-recommended in specific circumstances such as for neonates, or in third-line regimens**

WHO-recommended First-Line Treatment

(July 2019)

Population	Preferred first-line regimen	Alternative first-line regimen(s)
Adults and adolescents	TDF + 3TC (or FTC) + **DTG**	TDF + 3TC + EFV 400mg

Source: Update of Recommendations on First- and Second-line Antiretroviral Regimens WHO, July 2019

July update
Caution on the Use of Dolutegravir (DTG)

Effective contraception should be offered to women and adolescent girls of childbearing age or potential

DTG <u>can</u> be prescribed to:

women and adolescent girls of childbearing age or potential

- *who wish to become pregnant or*
- *who are not using consistent contraception*

If they are fully informed of the slightly increased risk of neural tube defects (NTD) among babies born to women who took DTG at conception and until the end of the first trimester

If women are past the first trimester of pregnancy

- *DTG should be initiated or continued for the duration of the pregnancy*

Source: Update of Recommendations on First- and Second-line Antiretroviral Regimens WHO, July 2019

DTG and Weight Gain

With DTG, weight gain is greater than with EFV, and it continues over time, especially in Black African women, and people who had low CD4 cell counts and high viral loads before starting ART.

In the ADVANCE trial (which compared DTG-based regimens to EFV + 3TC + TDF), after 144 weeks of treatment, women gained an average of 7.4 kg on DTG+TDF/FTC

Weight gain may increase the risk for cardiovascular disease, diabetes, and high blood pressure

Sources: Venter WDF, et al. Dolutegravir plus Two Different Prodrugs of Tenofovir to Treat HIV. 2019. https://www.nejm.org/doi/full/10.1056/NEJMoa1902824; Venter WDf et al; l. The ADVANCE trial: Phase 3, randomised comparison of TAF/FTC+DTG, TDF/FTC+DTG or TDF/FTC/EFV for first-line treatment of HIV-1 infection. 23rd International AIDS Conference Virtual. July 6-10, 2020. Abstract OAXLB0104.

WHO-Recommended First-Line HIV Treatment for Children and Infants (July 2019)

Populations	Preferred first line regimen	Alternative first line regimen(s)	Special situations
Children	ABC + 3TC + DTG	ABC + 3TC + LPV/r ABC + 3TC + RAL	ABC + 3TC + EFV (or NVP) AZT + 3TC + EFV (or NVP) AZT + 3TC + LPV/r (or RAL)
Neonates	AZT + 3TC + RAL	AZT + 3TC + NVP	AZT + 3TC + LPV/r

Up to 50% of children born with HIV will die before the age of 2 if not treated

As part of the treat all policy, WHO recommends that ART should be initiated immediately **in all children living with HIV**

Side effects of HIV treatment

Most, but not all, people will experience some side effects.

Most side effects are **mild**, **temporary** and **treatable**.

Common side effects of ART are:

Diarrhea

Nausea

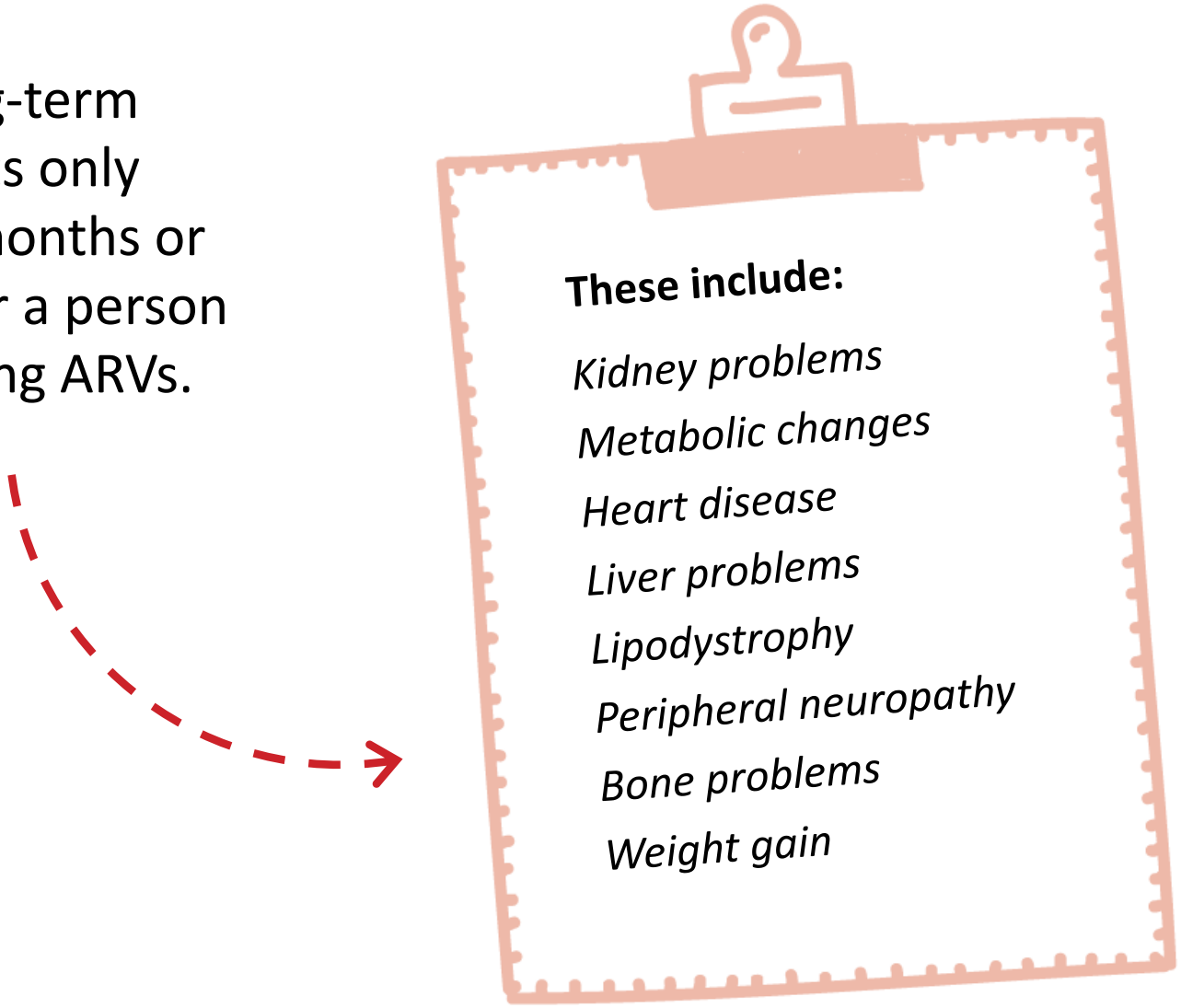
Mood & sleep problems

Rash

Tiredness

Long term side effects of HIV treatment

Some long-term side effects only develop months or years after a person starts taking ARVs.



Monitoring Side Effects

Clinical Monitoring

- Observe any changes (signs & symptoms associated with ARV use)
- Report any changes to your health care worker

Laboratory Monitoring

- Monitoring of the liver, kidneys and blood cells
- According to national guidelines

Optimal HIV Treatment

Efficacy
Must work well

Tolerable
Least side effects

Robust
Least possibility of resistance

Acceptable
Easy and convenient to take

Accessible
As close and reachable as possible

Affordable

MODULE 3

Monitoring the Treatment of HIV Infection

Objective

To build community understanding of goals and benefits of HIV treatment, the importance of adherence, consequences of drug resistance, and how to monitor treatment effectiveness

Topics

- How do you monitor HIV treatment?
- What do WHO guidelines say about monitoring HIV?
- What is a viral load testing cascade?
- What does U=U mean?
- Why is it important to adhere to HIV treatment?
- What is resistance to HIV treatment?

Monitoring HIV: Viral Load Testing

A viral load test measures the **amount of HIV in blood**

A viral load test is the best way to tell if ARV treatment is working

A viral load test tells a person what amount of HIV is in their blood after they start, and while they are taking HIV treatment.

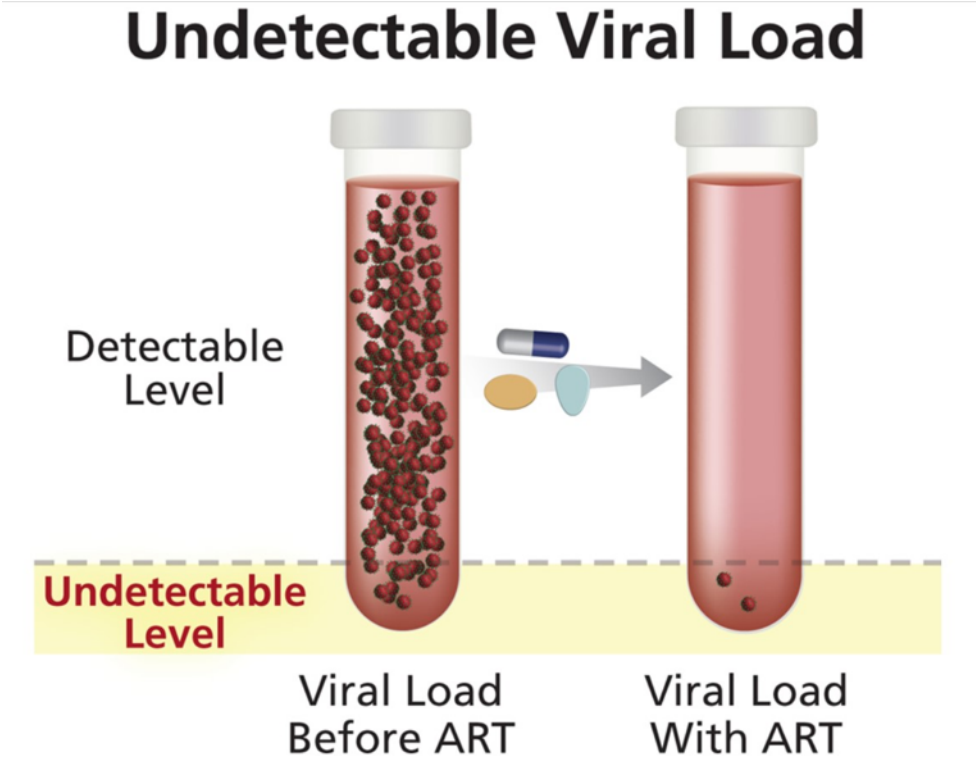
Viral load testing is used routinely in developed countries, but in many resource-limited countries it is not available, due to cost and other barriers

Viral Suppression

An **undetectable viral load** is less than 200/50/40/20 copies per mL, depending on the type of test and machine that are used.

It means:

- that there is so little HIV in a small sample of your blood that the test cannot find it that your treatment is working.
- and, having an undetectable viral load prevents HIV transmission to sex partners



Source: HIV Overview. AIDS Info. US Department of Health and Human Services.

What do viral load test results mean?

A **viral load that is 1000 copies/mL or higher** means that HIV is still reproducing while someone is on ART.

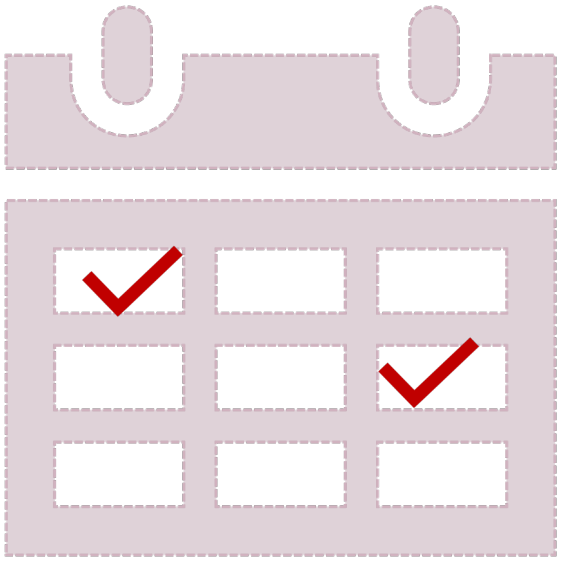
If a person's viral load hasn't fallen to an undetectable level within 3 to 6 months of starting HIV treatment, it means that the treatment is not working properly.

The **most common reason** for having a viral load >1000 copies while on ART is that the person is struggling to take their treatment properly (to stay **adherent**).

WHO-recommended Viral Load Monitoring

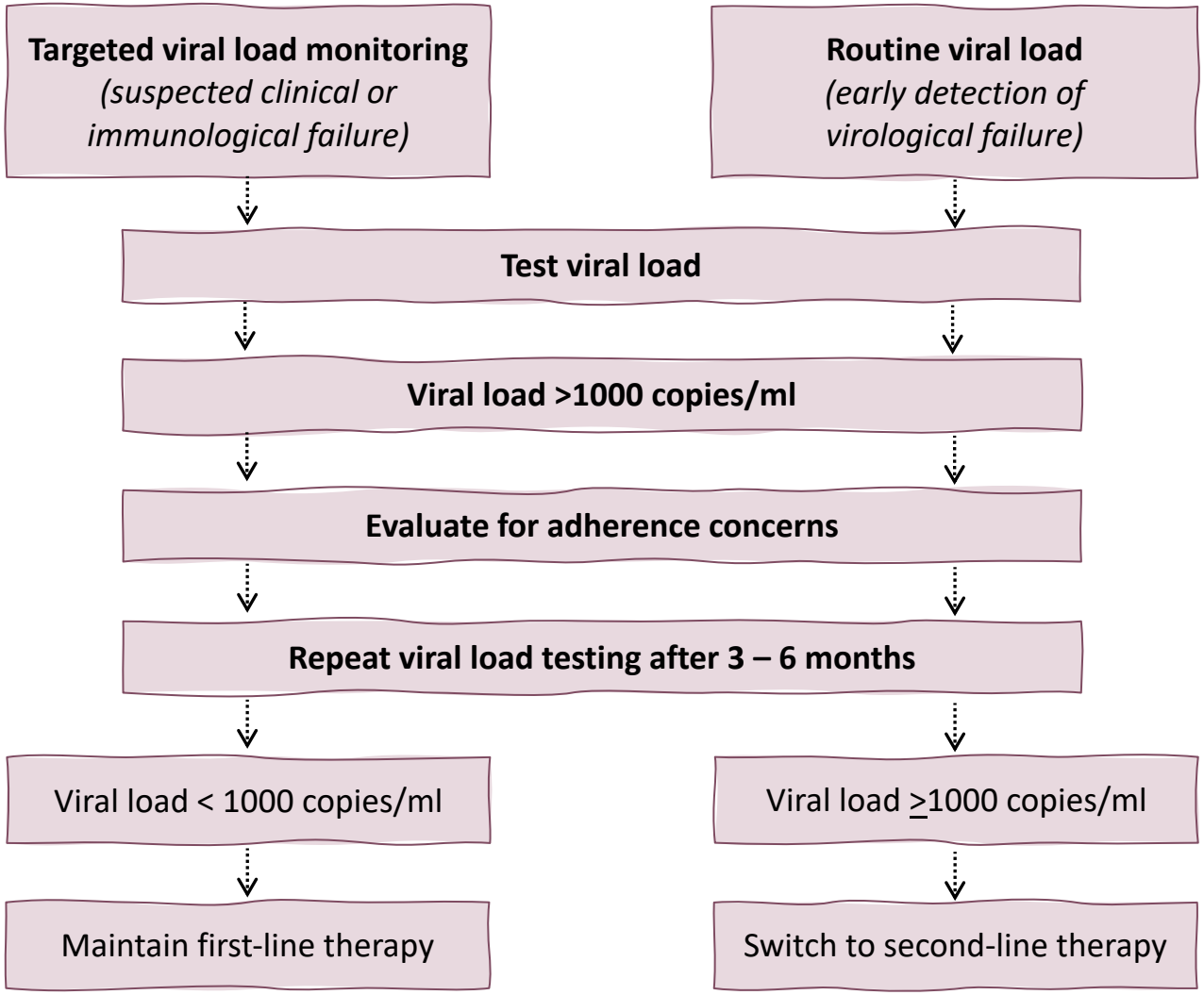
Routine Viral Load Testing (RVLT) is recommended for all people on ART, at:

- ✓ 6 months after starting ART,
- ✓ 12 months after starting ART,
- ✓ every 12 months thereafter, for people who are stable on ART



If a person has a viral load >1000 copies, the test should be repeated in 3 months, and they should get adherence counseling and support.

WHO viral load recommendations



WHO. Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection. Second Edition. June 2016. Available from: http://apps.who.int/iris/bitstream/10665/208825/1/9789241549684_eng.pdf?ua=1

Access to Viral Load Testing

- Viral load tests are often not available in HIV clinics.
  - *The equipment is expensive and needs infrastructure, electricity and laboratory technicians.*
- Products needed for testing often run out because of poor planning and re-stocking management.
- It is **important** to raise awareness about the importance of viral load monitoring.
- It is **important** to understand why routine viral load testing is not available in your country.
- Mapping out these reasons will help inform the advocacy priorities.

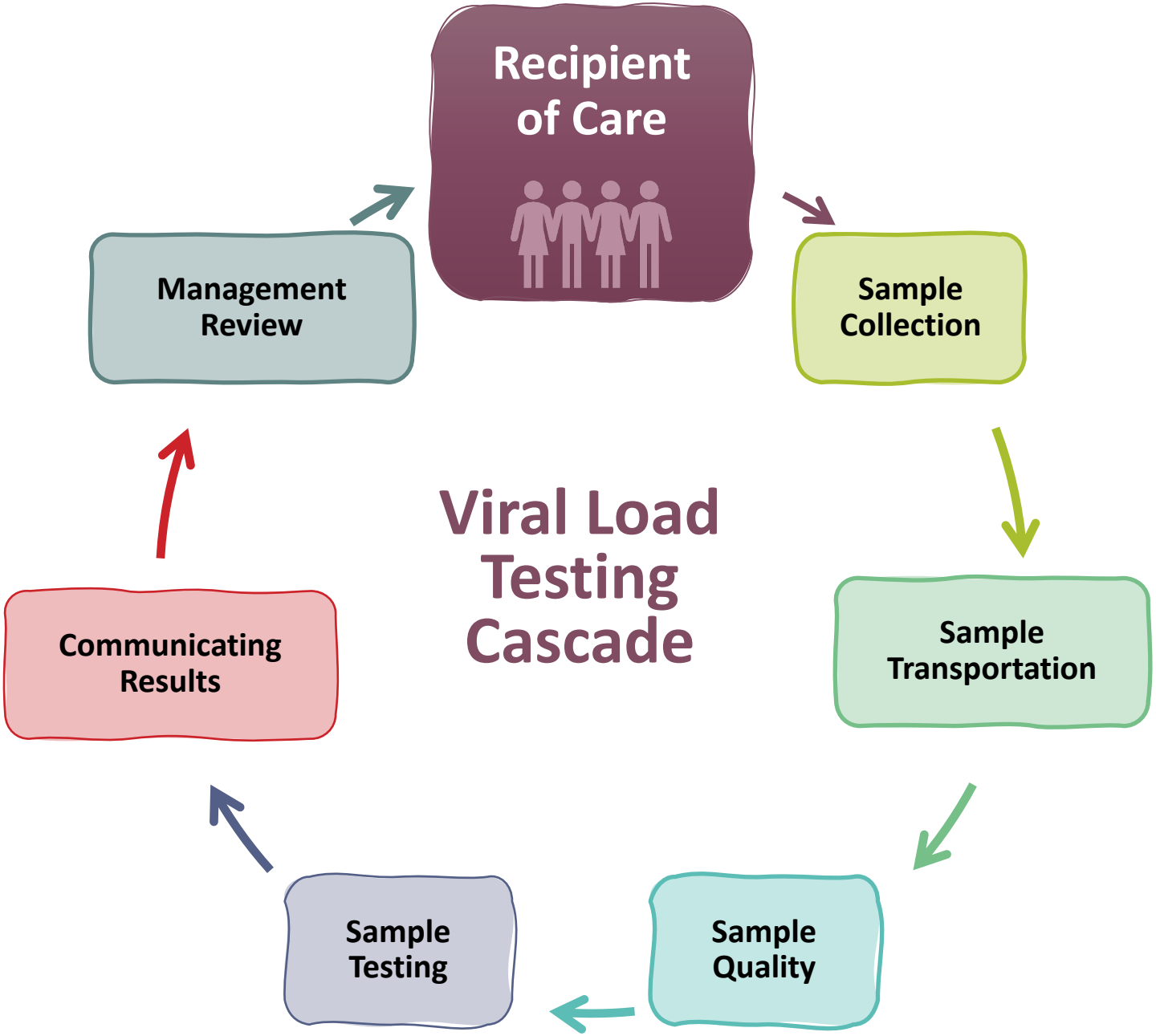
Point-of-Care Viral Load Testing

Most viral load testing is laboratory-based

- *This can delay results. People can be lost to follow up or fall out of the HIV treatment cascade because they need to return to the health facility on a different day for their viral load test results.*

There is a GLOBAL MOVE TO DEMAND a viral load test that can be used and analyzed in decentralized health facilities.

This is called POINT-OF-CARE (PoC) viral load testing


Recipient of Care
Sample Collection
Sample Transportation
Sample Quality
Sample Testing
Communicating Results
Management Review
Viral Load Testing Cascade

Viral load results – Advocacy Messages

- It's important for people to get their viral load test result
- They many need adherence support and/or to switch their ARVs if they have a high viral load
- On the other hand, it's good for people to know when their viral load is undetectable, so they know ART is working.

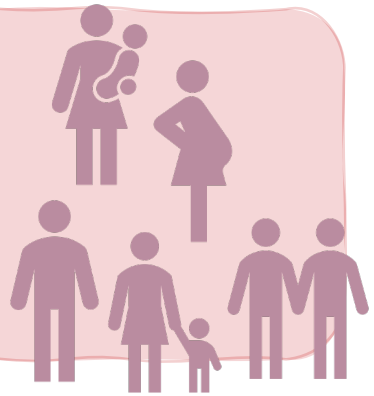
U equals U

Undetectable = Untransmittable

2 things are very important for people taking ART:

1. *Treatment adherence*
2. *<u>and</u> access to routine viral load monitoring*

People who take their ARVs every day,
and have had an undetectable HIV viral load
(meaning less than 200 copies/mL)
for 6 months, ***do not transmit HIV to their sex partners.***



U = U Research

The **PARTNERS study** followed nearly 900 heterosexual and gay male HIV sero-different couples for years;

The **OPPOSITES ATTRACT** study followed 358 gay male sero-different couples.

Both studies found that people on ART with an undetectable viral load **did not transmit HIV to their sex partners during condomless sex.**

- in PARTNERS, after 58,000 times and
- in OPPOSITES ATTRACT, after almost 17,000 times.

Source: Collins S. The evidence for U=U (Undetectable = Untransmittable): why negligible risk is zero risk. HIV Treatment Bulletin. HIV i-base. October 2017. Available from: http://i-base.info/htb/32308

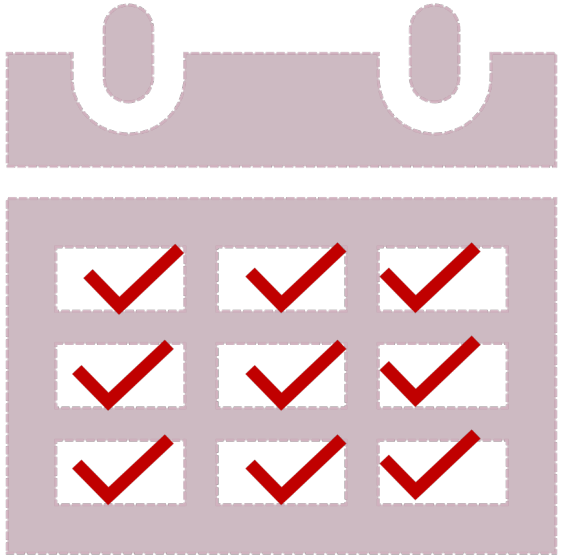
Viral load test results cannot explain **WHY** treatment is failing!!!

HIV Treatment Adherence

The most important thing a person can do to make sure that their HIV treatment is working is to **take it every day**.

This is called **adherence.**

ART is currently lifelong, so adherence can be challenging, and people may need support to stay adherent.



Adherence Problems

People face different adherence challenges, since ART is lifelong.

- ARV shortages or stockouts can make adherence impossible
- Negative experiences with the healthcare system can discourage people from seeking support and remaining in care

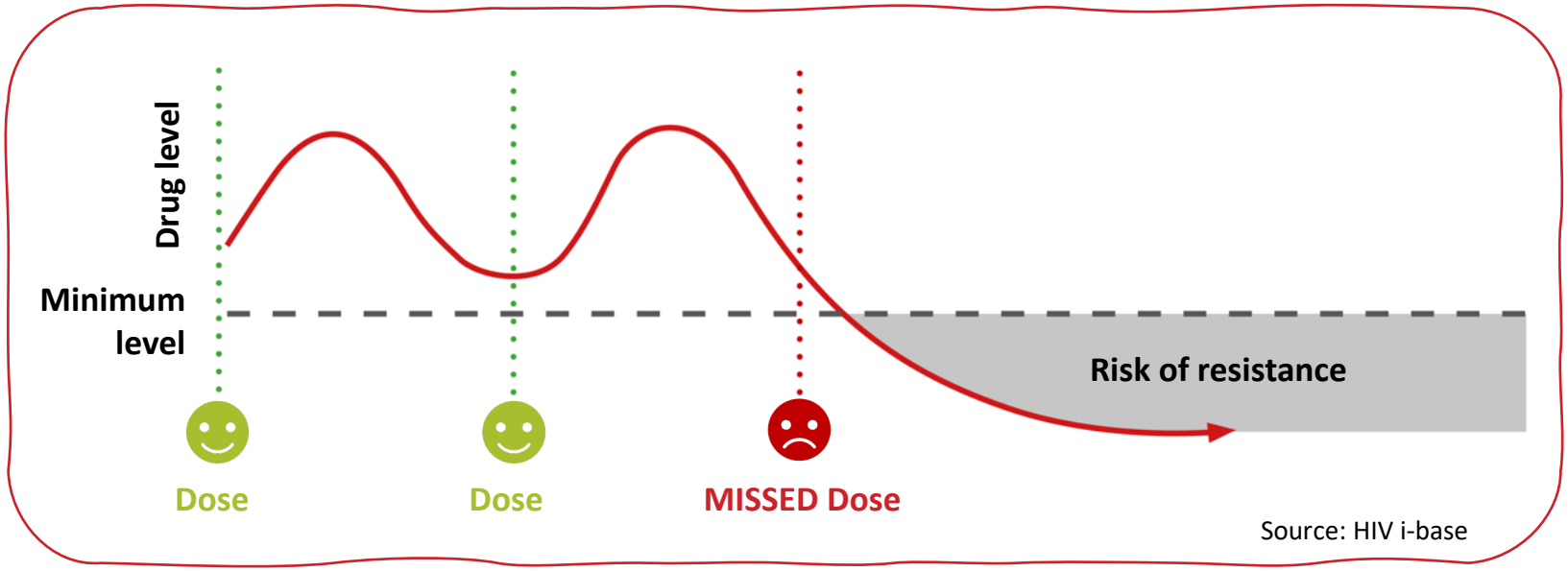
Adherence Problems

Sometimes, side effects from ARVs make adherence challenging.

- Some side effects lessen or disappear over time.
- Others can be managed.
- Some people may need to switch their ARVs because of side effects.
- Peer supporters and healthcare workers can help with adherence problems.

Why Adherence Matters

For ART to work, it has to be taken everyday so that there is enough of it in your bloodstream to stop HIV from multiplying. If the level of drugs in your body gets too low, ART won't work.

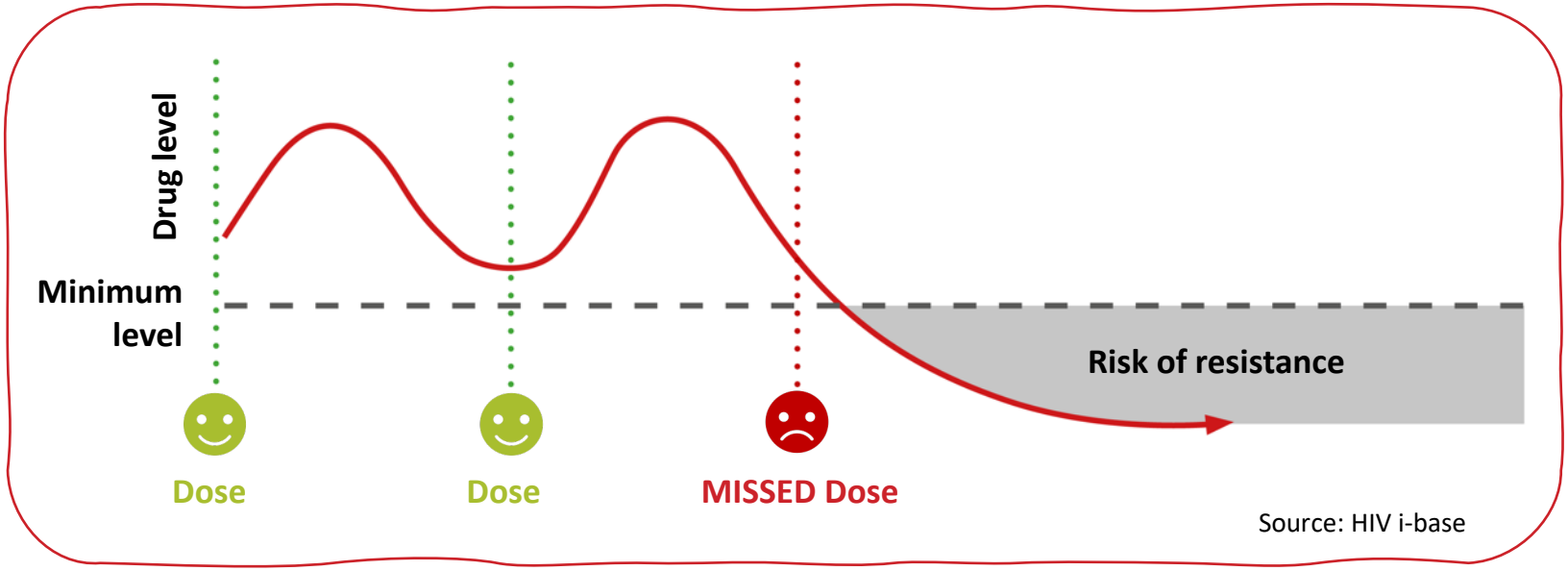


Why Adherence Matters

Each time a person misses a dose of their ARVs, the virus gets a chance to make more copies of itself.

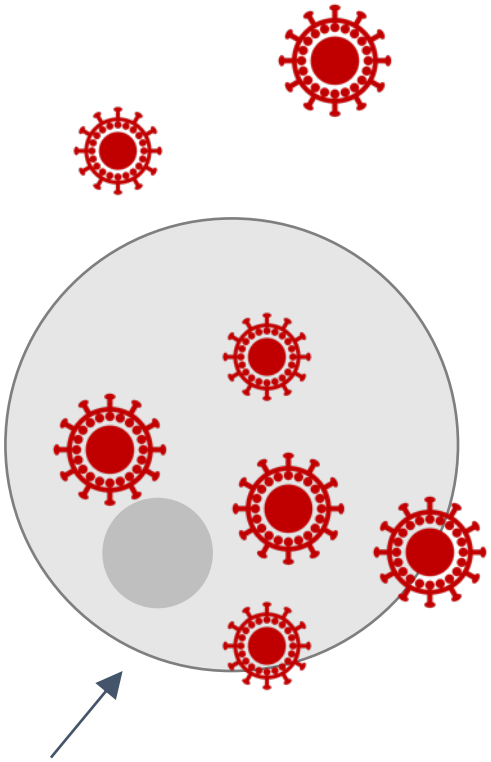
Some of these copies have changes, called mutations, that can prevent ARVs from working.

The next time a person takes their ARVs, the drugs may not be able to stop the virus that has mutated from multiplying. This is called **drug resistance.**



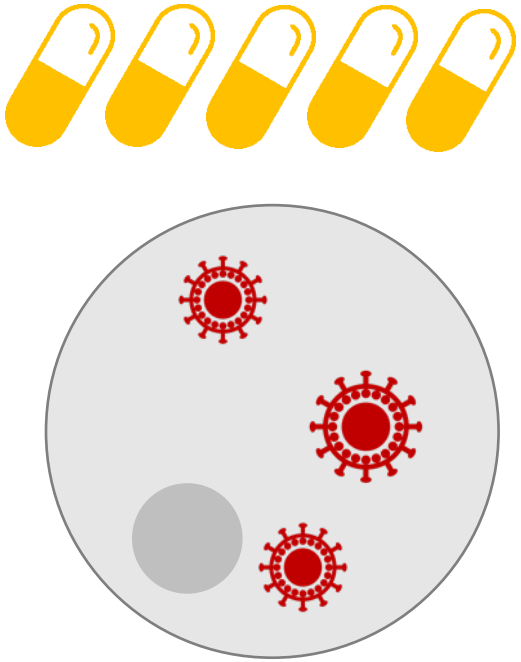
Disrupting Viral Reproduction

HIV reproducing inside of a CD4 cell

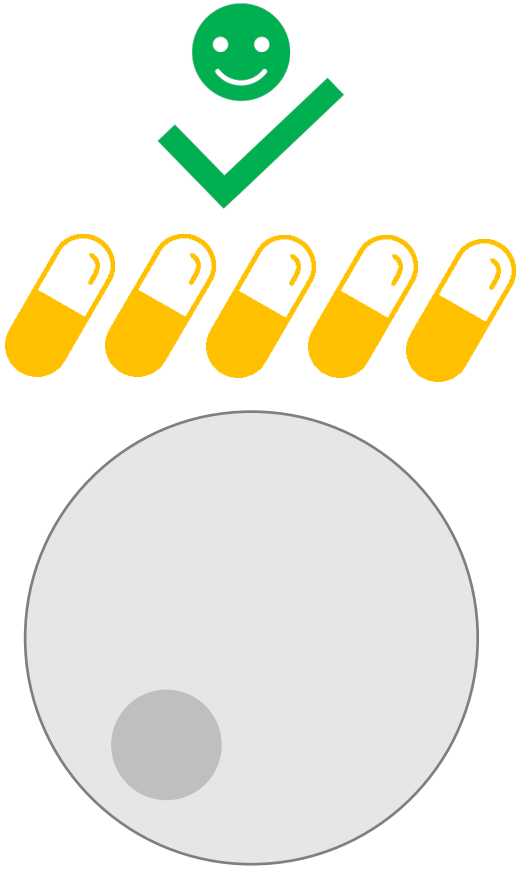


CD4 cell

ARV dose taken regularly



Drugs work effectively



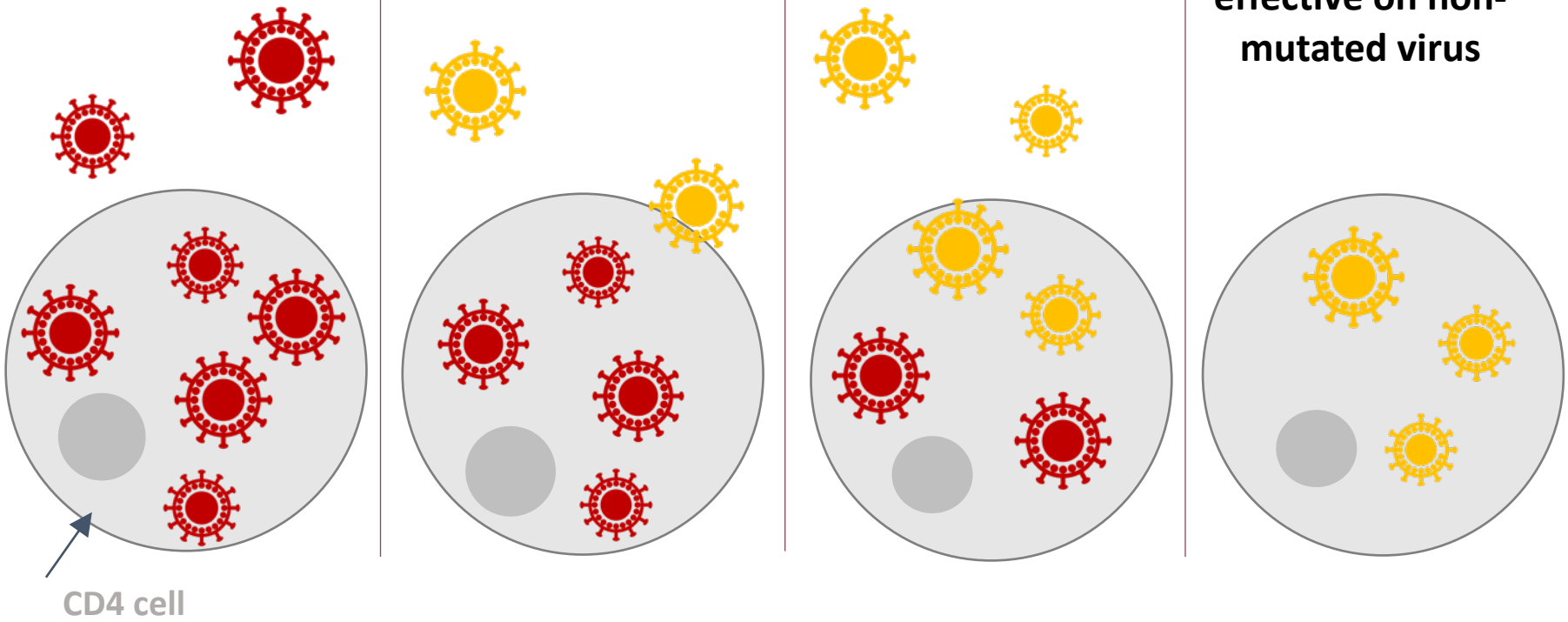
HIV Drug Resistance

HIV reproducing inside of a CD4 cell

ARV dose missed, *virus mutates*

Mutated virus is DRUG RESISTANT

ARV dose taken and only effective on non-mutated virus



Drug resistance is the ability of an organism to grow in the presence of a drug that would normally kill it or limit its growth; it can develop or emerge within days.

HIV Drug Resistance

Some people become infected with drug-resistant forms of HIV. This is called **transmitted drug resistance.**

Or, people acquire HIV drug resistance – usually from treatment interruptions or poor adherence.

This is called **acquired drug resistance (ADR).**

Pre-treatment Drug Resistance

Pre-treatment Drug Resistance (PDR) can be transmitted or acquired. It is becoming more common, especially among people who have already taken ART in the past – even if only for a short time - and are re-starting it.

Routine viral load monitoring is important, to find out if treatment isn't working, possibly because of **PDR** – or to see if people need more adherence support and/or to switch ARVs.

Consequences of HIV Drug Resistance

People with drug resistance are:

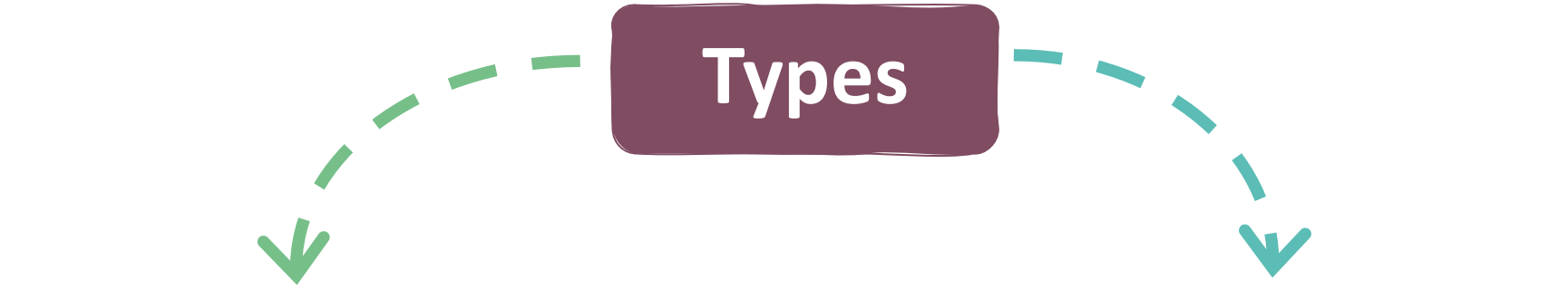
- *less likely to achieve **undetectable HIV***
- *more likely to have HIV **treatment failure***
- *more likely to **die***

This is why routine viral load monitoring – and other actions taken by and for people with detectable HIV – **are so important**.

HIV ARV Resistance Testing

- Confirms treatment failure
- Can explain why treatment has failed
- Helps modify treatment regimen

HIV ARV Resistance Testing



Genotypic

- Looks for particular genetic mutations that cause drug resistance
- Preferred to evaluate 1st & 2nd line failure
- Results in 1-2 weeks

Phenotypic

- Evaluates ability of the virus to grow (or not grow) in the presence of each drug
- Tries to determine the amount, or concentration, of drug needed to stop HIV from reproducing
- Used to evaluate extensive resistance
- More comprehensive
- Results in 2-4 weeks

MODULE 4

Preventing HIV infection

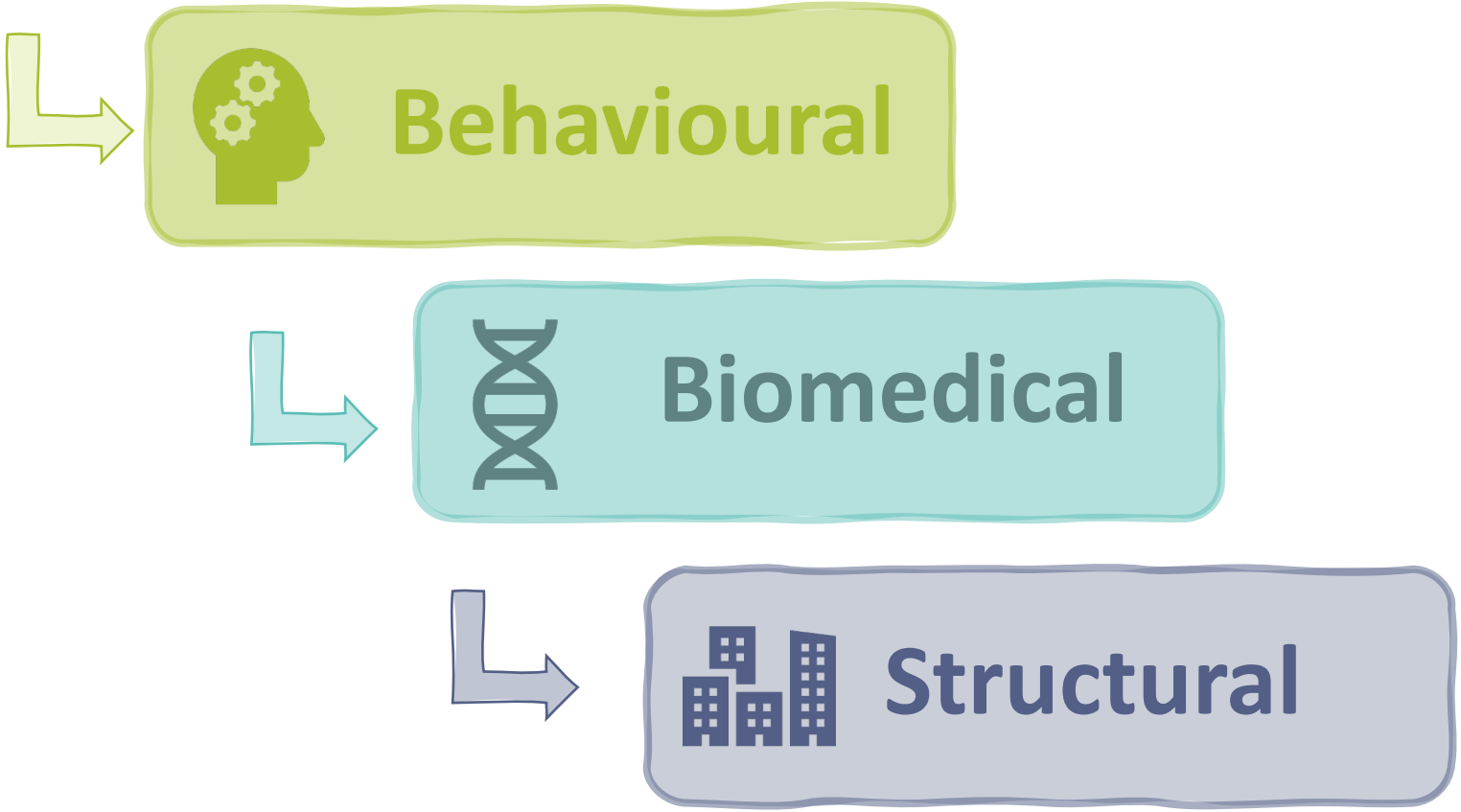
Objective

To build an understanding of how HIV infection can be prevented

Topics

- What are the methods of preventing HIV infection?
- How are antiretrovirals used to prevent HIV infection (PEP & PrEP)?

Combination of HIV prevention approaches



Combination prevention

Biomedical, behavioural and structural interventions that decrease the risk of acquiring HIV

Structural

- Policies
- Laws
- Regulatory environment
- Culture
- Cash transfers

Behavioural

- Education
- Counselling
- Stigma reduction
- Harm reduction
- Adherence interventions

Biomedical

- HIV testing
- Condoms
- VMMC
- PMTCT
- Treatment of STIs
- Antiretroviral therapy
- Pre-exposure Prophylaxis (PrEP)
- Post-exposure Prophylaxis (PEP)

This module examines PrEP and PEP

Adapted from Pre-Exposure Prophylaxis (PrEP) Training for Providers in Clinical Settings. New York: ICAP at Columbia University; 2016

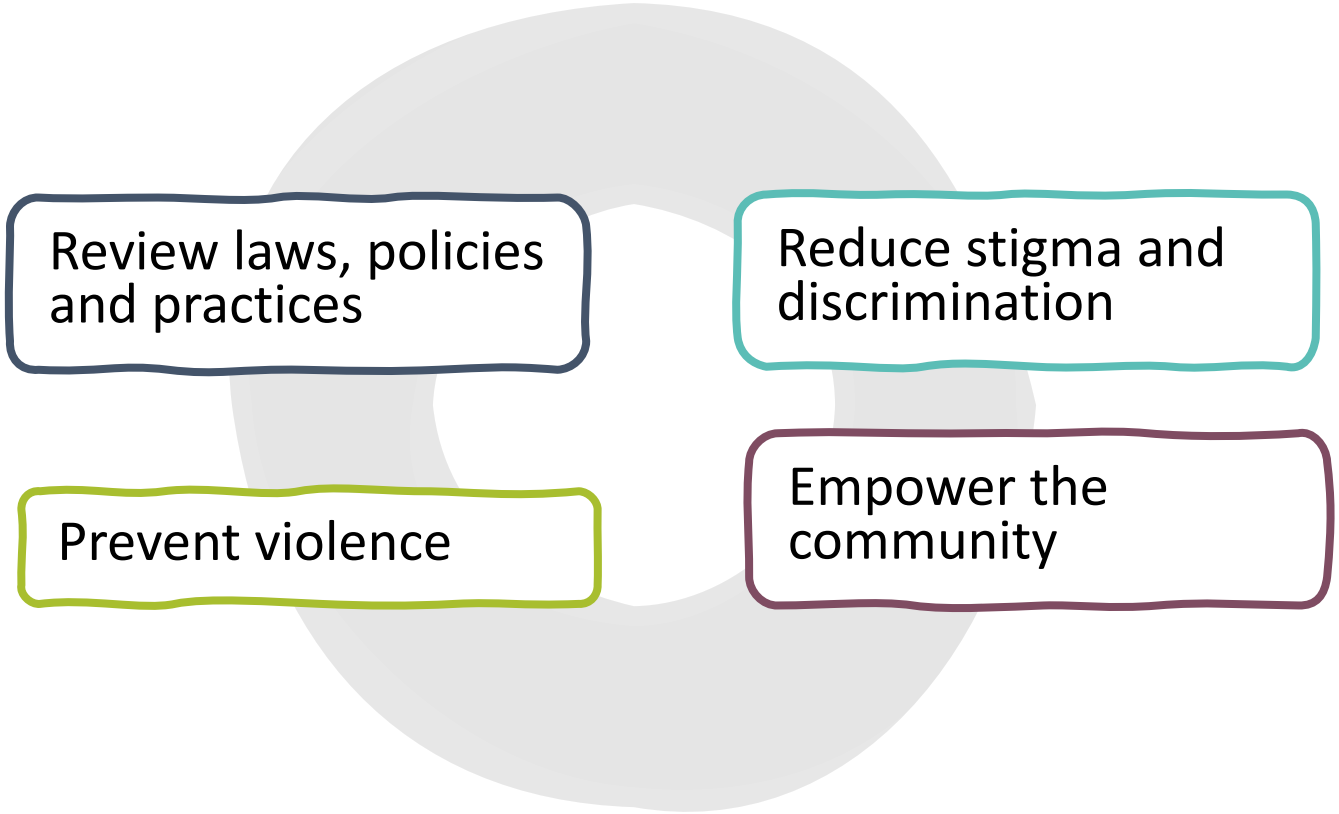
Combination HIV prevention

Direct provision of healthcare services:

- Condoms and lubricants
- Harm reduction
- HIV testing and counselling
- Behavioural interventions
- Voluntary medical male circumcision
- (PrEP, PEP and starting ARVs early)
- Using ART for prevention

Combination HIV prevention

Promoting an enabling environment



Combination HIV prevention

Review laws, policies and practices by

- decriminalising behaviours among key populations
- improving access to justice and legal support for key populations
- promoting good policing practices that support - and don't block - access to healthcare services for key populations

Reduce stigma and discrimination by

- implementing, enforcing anti-discrimination and other protective laws
- monitoring and confronting stigma and discrimination
- providing key-population friendly services
- training and sensitising health care

Critical Enablers

Prevent violence by

- preventing violence against key populations including violence perpetrated by the police
- supporting people who experience violence, including timely access to sexual health services
- monitoring and documenting incidents of violence

Empower the community by

- fostering and supporting community - led service provision
- promoting the meaningful participation of key populations in programming

SO LET'S TALK ABOUT ~~SEX BABY~~ PREP

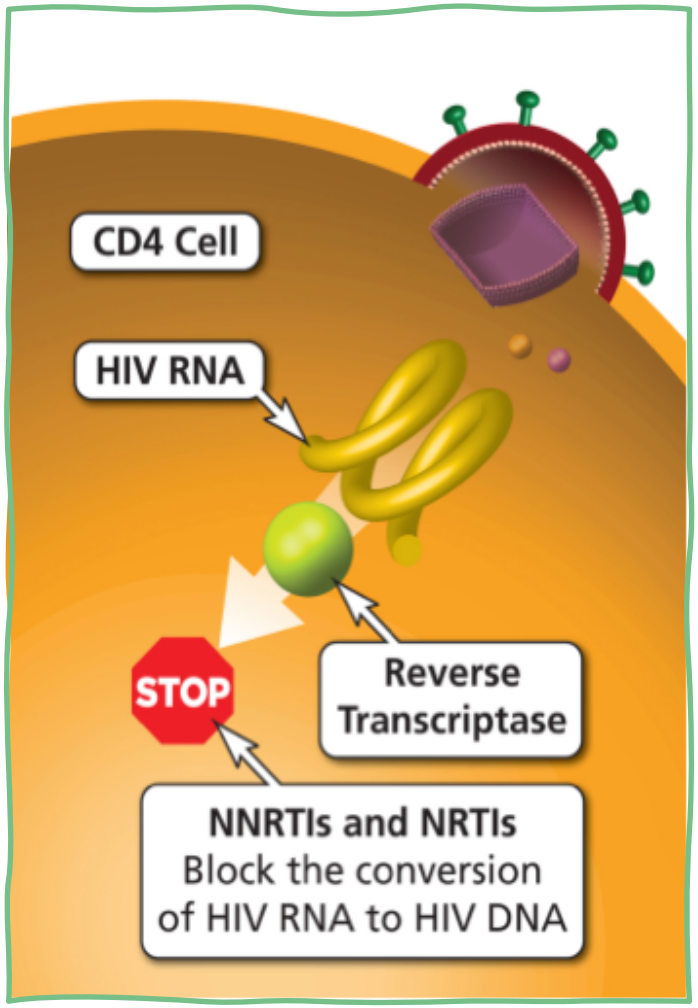
What is PrEP?

Pre-exposure prophylaxis – using of some of the same ARVs that treat HIV to prevent it

PrEP is taken orally by HIV – negative people to reduce their risk of HIV infection

ARVs used

- tenofovir (TDF)
- emtricitabine (FTC) / lamuvidine (3TC)



How is PrEP used?

PrEP is part of combination HIV prevention

PrEP is not meant to be a life-long treatment

It is recommended for:
HIV-negative people who are in a situation or a time of life that puts them at a high risk for HIV

This is sometimes called **situations** or **seasons of risk**

How effective is oral PrEP in preventing HIV infection?

When taken as directed, PrEP is very effective

PrEP reduces HIV risk by 92% - 99% for HIV-negative people who take it every day

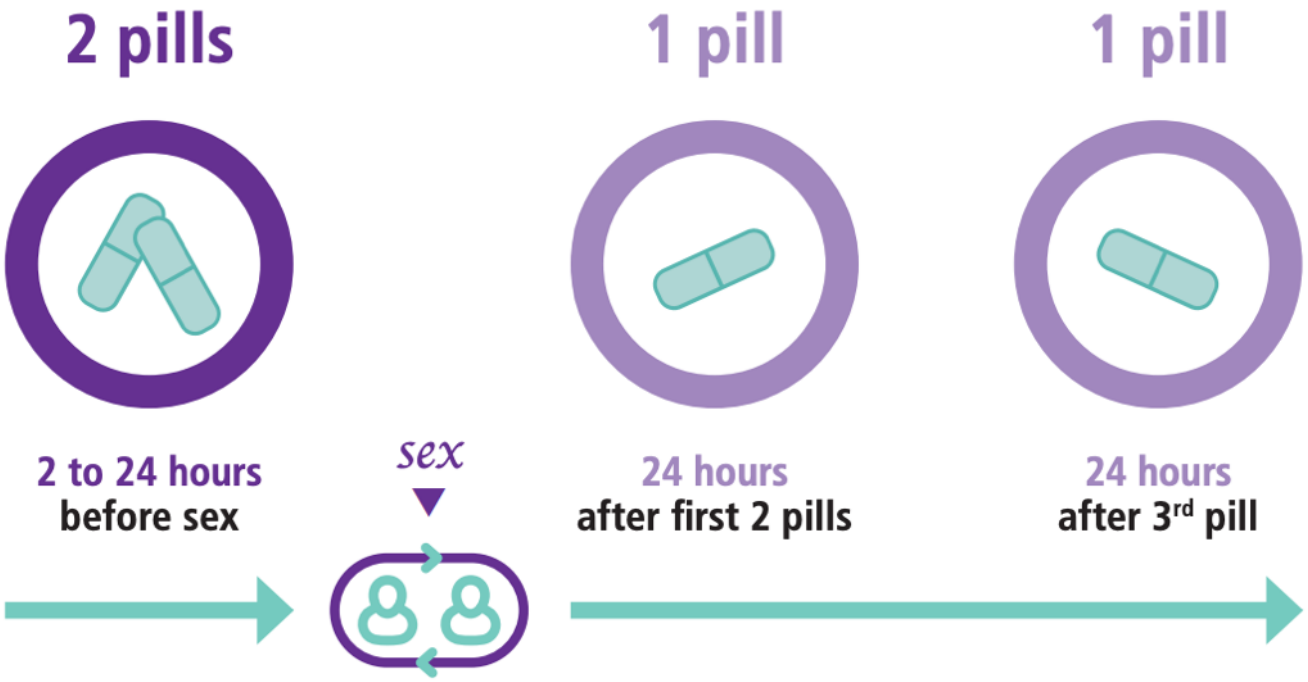
People who use PrEP correctly and consistently have high levels of protection against HIV

What is event-driven (ED) PrEP for MSM?

For whom is ED-PrEP appropriate?	For whom is ED-PrEP NOT appropriate?
A man who has sex with another man:	• Cisgender women or transgender women
• Who would find ED-PrEP more effective and convenient	• Transgender men having vaginal/frontal sex
• Who has infrequent sex (for example, sex less than 2 times per week on average)	• Men having vaginal or anal sex with women
• Who is able to plan for sex at least 2 hours in advance, or who can delay for at least 2 hours	• People with chronic Hepatitis B infection

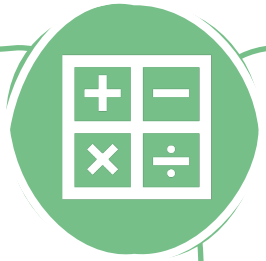
Source: WHO 2019 https://apps.who.int/iris/bitstream/handle/10665/325955/WHO-CDS-HIV-19.8-eng.pdf?ua=1

Event Driven PrEP for MSM



Source: WHO 2019 https://apps.who.int/iris/bitstream/handle/10665/325955/WHO-CDS-HIV-19.8-eng.pdf?ua=1

Tests while taking PrEP



INITIAL TESTS

Suggested by WHO

- HIV testing (mandatory)
- Serum creatinine
- Hepatitis B
- Screening for STIs
  – *Syphilis, gonorrhoea, chlamydia*
- Consider HCV testing for MSM

FOLLOW UP TESTS

Suggested by WHO

- Repeat HIV testing and STI screening (every 3 months)
- Serum creatinine (every 6 months)

Inability to perform the suggested tests should not be a reason for withholding PrEP in someone who is at substantial risk of HIV infection

Source: WHO Implementation tool for pre-exposure prophlaxis of HIV infection

How can PrEP prevent HIV infection?

PrEP can reduce the risk for HIV transmission during anal and vaginal sex

PrEP can reduce HIV risk among people who inject drugs when used with harm reduction:

- Sterile needles/syringes and other injection equipment
- Opioid substitution treatment

Does it mean that I no longer need to use condoms, get clean needles & syringes etc?

NO IT DOESN'T!

PrEP is part of combination prevention – it needs to be used with other available prevention tools: condoms, sterile needles and syringes, and voluntary medical male circumcision

How safe is PrEP?

Oral PrEP is safe!

One in 10 PrEP users have reported a few minor side effects

I am on hormonal contraception.
Will PrEP be safe and effective still and will it affect my birth control?

To be effective PrEP needs to be taken every day – and it will not make your birth control less effective

PrEP and Transgendered women

Can transgendered women use PrEP?

- PrEP can be used by transgendered women who are also using gender-affirming hormones
- PrEP does not affect gender-affirming hormone levels
- To be effective, PrEP needs to be taken every day

What is PEP?

PEP is post-exposure prophylaxis
It is a 28-day course of ART
following a possible exposure to HIV

PEP may be…

Occupational

- exposure to HIV while working
- such as from a needlestick injury

Non-occupational

- HIV exposure from sex or injection drug use
- Other possible exposure (contact with medical waste)

HIV Post Exposure Prophylaxis (PEP)

- PEP **should be offered** as soon as possible after exposure
  - *within 72 hours*

- If exposure is > 72 hours ago
  - *PEP **should not be offered***

- Continued for 28 days
  - WHO recommends TDF + 3TC/FTC + DTG

Source: World Health Organization Guidelines on Postexposure Prophylaxis for HIV: Recommendations for a Public Health Approach. Ford N, Mayer K 2015

MODULE 5

HIV and TB co-infection

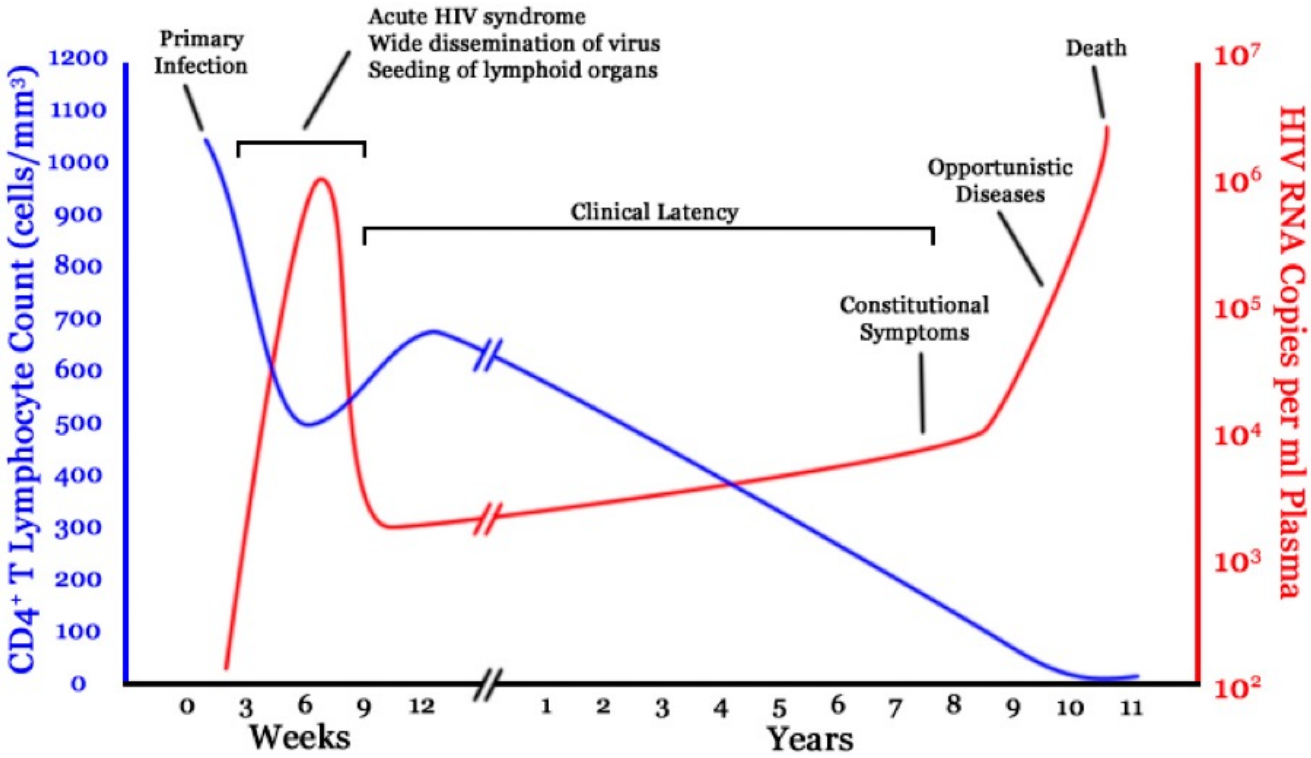
Objective

To build an understanding of other infections in a person living with HIV by looking at HIV & tuberculosis (TB)

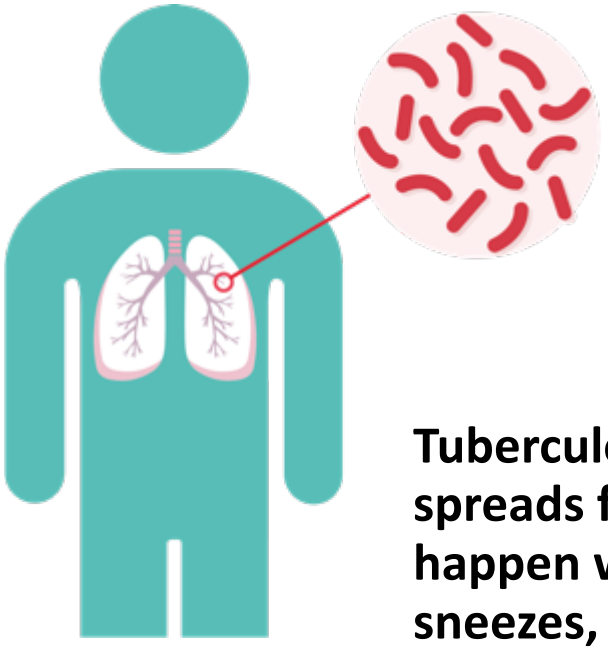
Topics

- What makes a person living with HIV vulnerable to other infections?
- What is TB and how is it transmitted?
- How is TB diagnosed?
- How is TB treated in general and in a PLHIV on ART?

What makes PLHIV vulnerable to other infections?



The course of HIV infection and how the viral load and CD4 count interact



What is TB?

Tuberculosis (TB) is a disease caused by bacteria that spreads from person to person through the air – this can happen when a person who has active TB coughs, sneezes, speaks or sings.

Once it enters the body, TB can be inactive or active

- *Inactive TB is called **latent TB infection***
- ***TB disease is also called active TB***

TB usually affects the lungs

- *but can attack any part of the body, including the kidneys, spine, or brain, except the hair and nails*

If not treated, TB disease can cause death

Source: U.S. Department of Health & Human Services May 2019

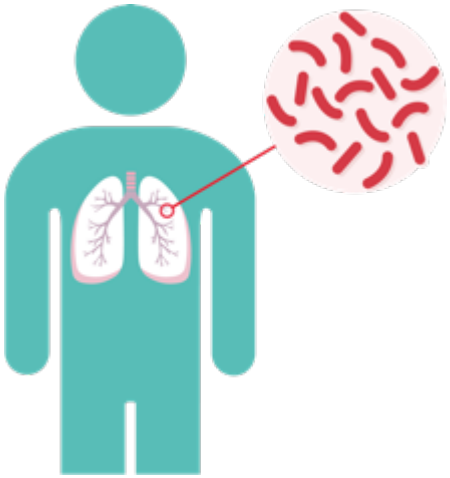
HIV and TB

HIV weakens the immune system

TB is an opportunistic infection

- *takes advantage of a weakened immune system*

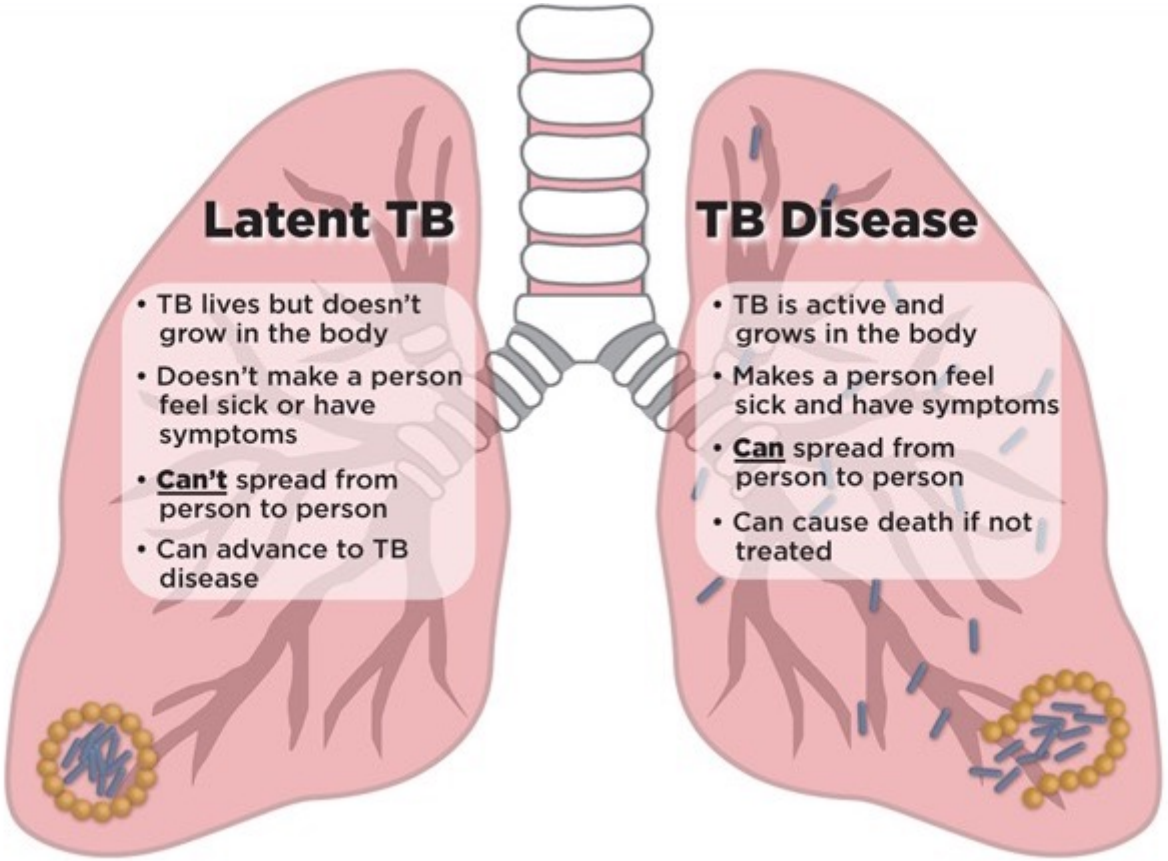
TB is the leading cause of death among PLHIV



People who have both HIV and TB ***should be treated for both diseases***

Source: U.S. Department of Health & Human Services May 2019

Latent TB and TB disease

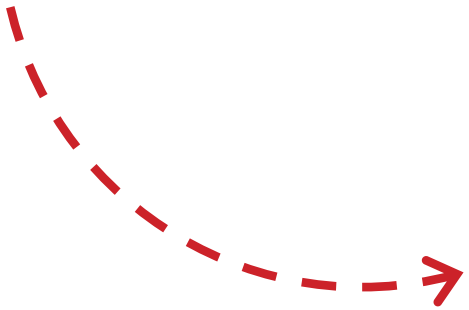


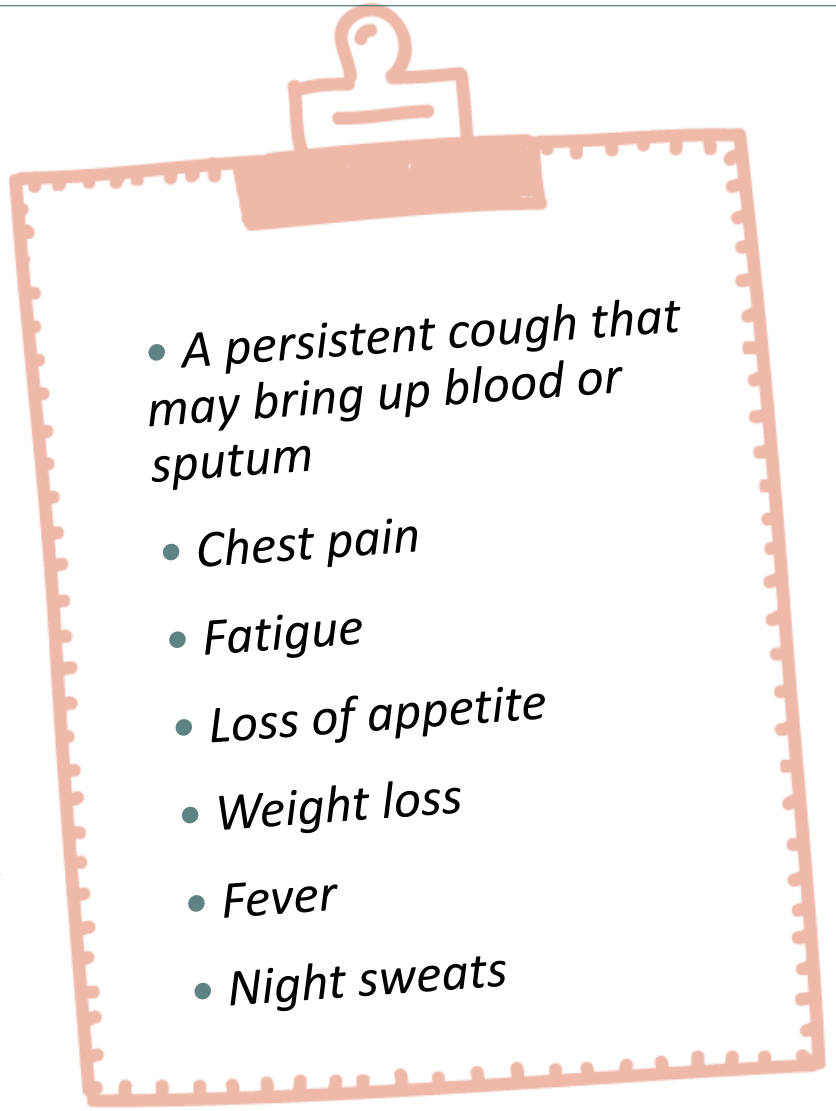
Source: U.S. Department of Health & Human Services May 2019

What are the symptoms of TB?

People with latent TB don't have any signs of the disease

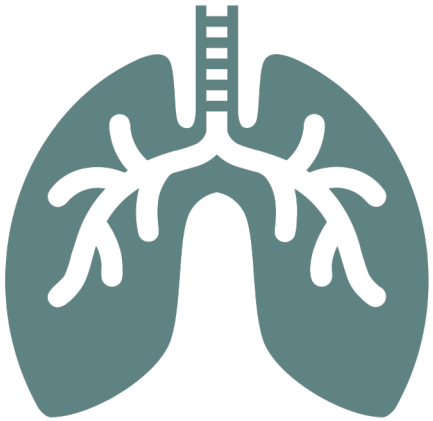
But if latent TB advances to TB disease, there will usually be signs of the disease





How is TB diagnosed?

Medical evaluation for TB includes the following…



– Medical History

– Physical Examination

– Tests for TB Infection

- *The Mantoux tuberculin skin test (TST) or a TB blood test can be used to test for latent TB infection*
- *Additional tests are required to confirm TB disease, such as Gene Xpert*

– Chest X-ray

– Diagnostic Microbiology

- *The presence of acid-fast-bacilli (AFB) on a sputum smear or other specimen often indicates TB disease but it is less reliable for PLWH. WHO recommends Gene Xpert.*
- *Culture is done to confirm the diagnosis*

Source: U.S. Department of Health & Human Services May 2019

What is GeneXpert® ?

- Detects TB and resistance to rifampin (one of the drugs used to treat TB) in less than 2 hours
- Cultures can take 2-6 weeks
- The Xpert assay uses a disposable cartridge and the GeneXpert Instrument System
- People with rifampicin-resistant (RR) TB need additional drug resistance testing

Source: A New Tool to Diagnose Tuberculosis: The Xpert MTB/RIF Assay CDC - National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention

Treatment of latent TB infection in PLWH

Someone with untreated latent TB infection and HIV is over 20 times more likely to develop TB disease than someone without HIV infection.

WHO recommends LTBI treatments for people with HIV

- Isoniazid for 6 to 9 months in adults and children in countries with high and low TB incidence or
- 3 months of rifapentine + isoniazid or
- 3 months of daily isoniazid plus rifampicin

Source: WHO. Operational Handbook on Tuberculosis: Module 1: Prevention: Tuberculosis Preventive Treatment. 2020. https://apps.who.int/iris/bitstream/handle/10665/331525/9789240002906-eng.pdf

Treatment of Drug-Sensitive TB Disease in PLHIV

In people with pulmonary (lung) TB

- *with no TB drug resistance*

6 months of treatment

- *4 TB drugs for 2 months*
- *2 TB drugs for 4 months*

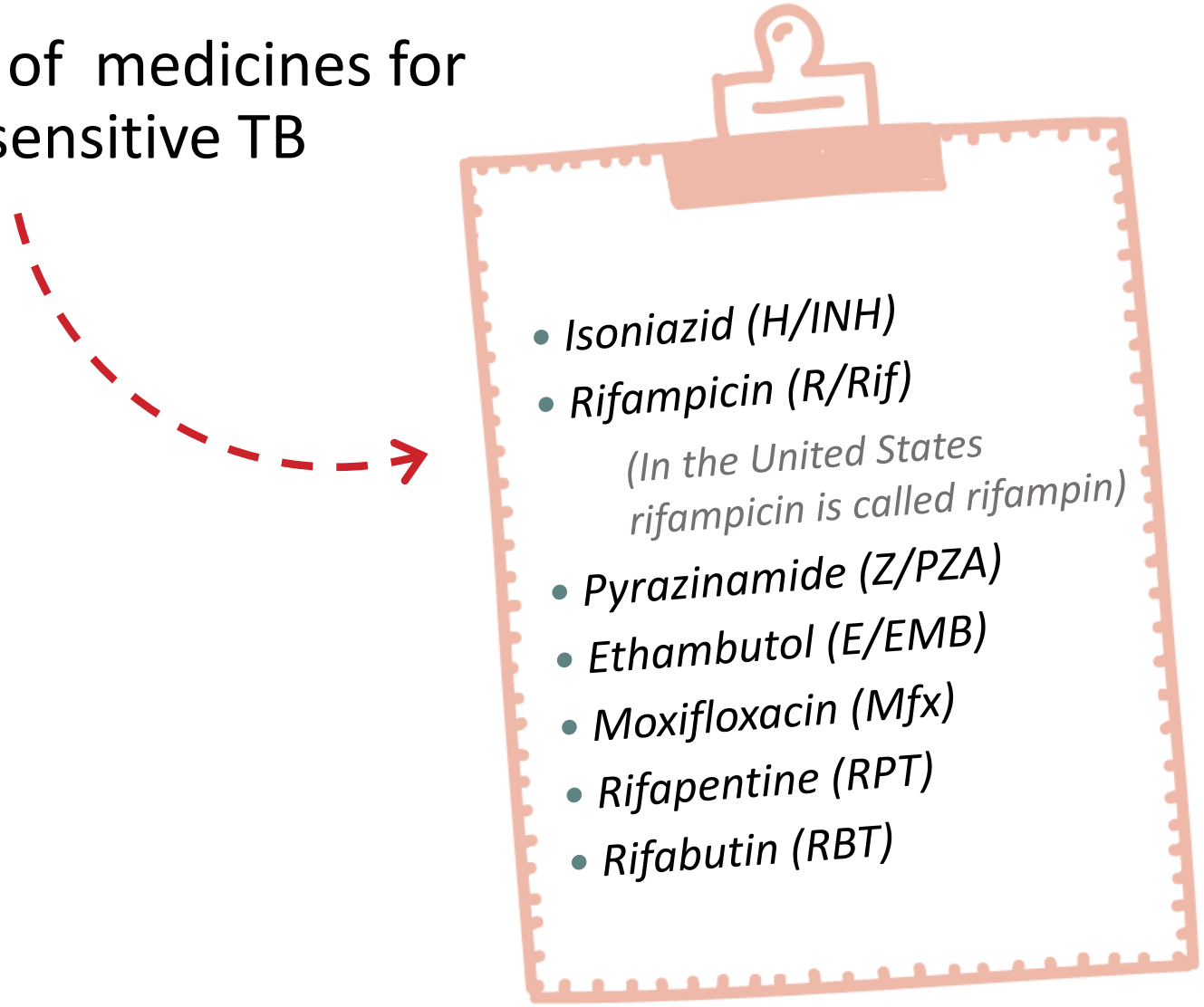
ART should be started in all PLHIV with TB

TB treatment should be started first

- *followed by ART as soon as possible and within the first 8 weeks of starting TB treatment*

WHO Guidelines for treatment of drug-susceptible tuberculosis and patient care, 2017 update

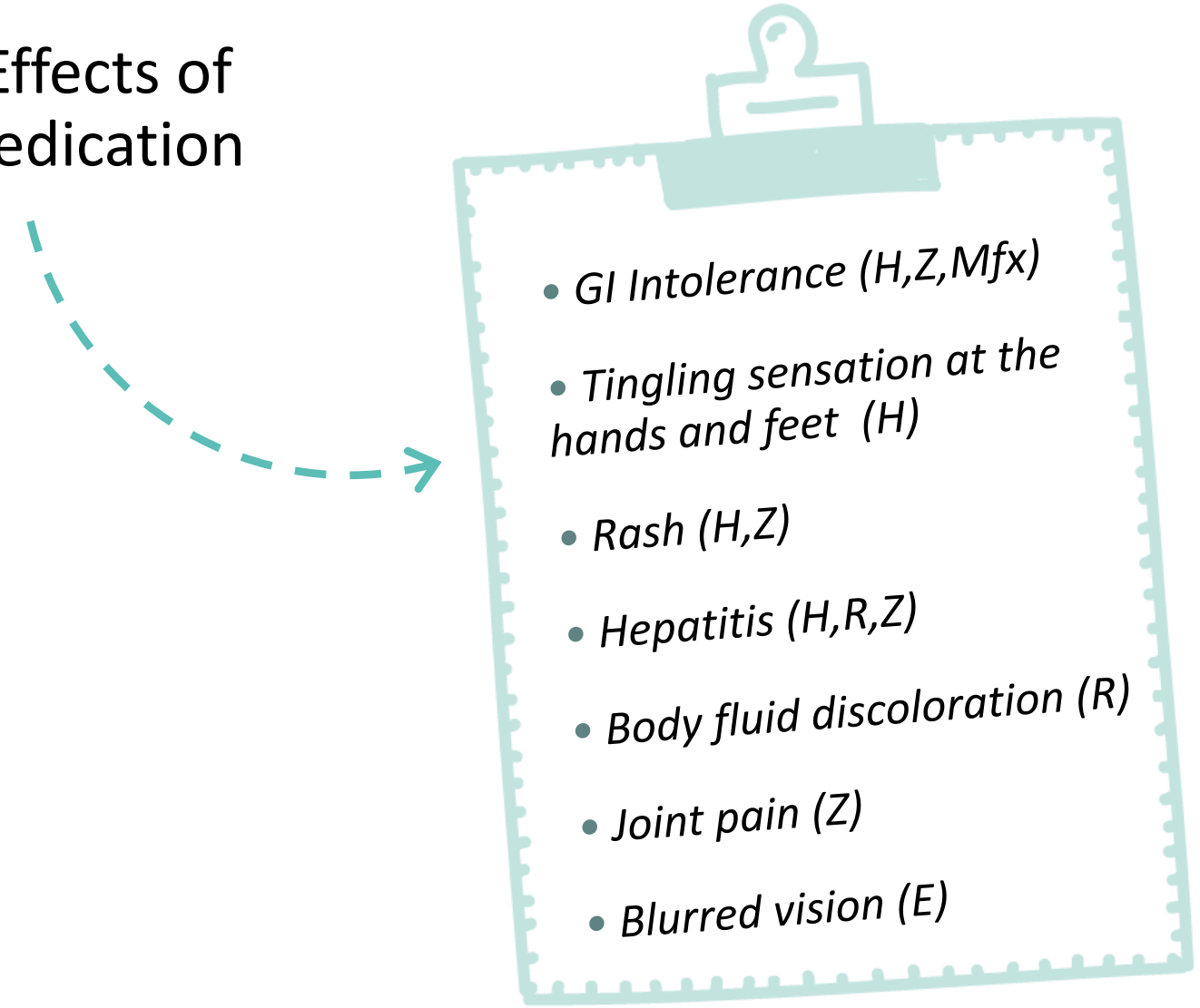
Types of medicines for drug-sensitive TB



- *Isoniazid (H/INH)*
- *Rifampicin (R/Rif)*

  (In the United States rifampicin is called rifampin)
- *Pyrazinamide (Z/PZA)*
- *Ethambutol (E/EMB)*
- *Moxifloxacin (Mfx)*
- *Rifapentine (RPT)*
- *Rifabutin (RBT)*

Side Effects of TB Medication



TB Drug Resistance

Some forms of TB have become resistant to one or more commonly used drugs.

People with rifampicin-resistant TB should be tested for resistance to other TB drugs. The type and length of their treatment will vary, based on the results from drug resistance testing.

WHO-Recommended Medicines for Drug-Resistant Forms of TB

- **Am** amikacin
- **Bdq** bedaquiline
- **Cfz** clofazimine
- **Cm** capreomycin
- **Cs** cycloserine
- **Dlm** delamanid

- **E/Emb** *Ethambutol*
- **ETO** ethionamide
- **Gfx** gatifloxacin
- **Imp–Cln** imipenem – cilastatin
- **Lfx** levofloxacin
- **Lzd** linezolid
- **Mpm** meropenem

- **Mfx** moxifloxacin
- **P** pretomanid*
- **PAS** p-aminosalicylic acid
- **Pto** prothionamide
- **Z/PZA** *Pyrazinamide*
- **S** streptomycin
- **Trd** terizidone

*recommended as part of BPaL regimen under operational conditions only

Source: WHO. Operational Handbook on Tuberculosis. Module 4: TreatmentD. rug-Resistant Tuberculosis Treatment 2020 https://www.who.int/publications/i/item/9789240006997

MODULE 6

Advocating for increased access to quality, non-stigmatizing HIV care

Objective

To build an understanding of the challenges recipients of care have in accessing and utilizing HIV services and discuss how PLHIV can get involved in improving access to care

Topics

- Is there a right to health and good quality of life?
- What are the rights of a recipient of HIV care?
- What role does stigma in a healthcare setting play in producing poor HIV outcomes?
- What is the role of the recipient of care in helping to eliminate stigma in health settings?
- How do you define optimal HIV care?

Understanding differentiated care/service delivery

- What is 90-90-90? What is HIV epidemic control?
- How do you identify gaps in the HIV care continuum – from testing to viral suppression?
- What is the role of the recipient of care in advocating for improved access to quality, non-stigmatizing HIV care?
- What is differentiated care?

Human rights in health

The Declaration of Geneva, adopted by the UN General Assembly of the World Medical Association in 1948, says that the right to health is a basic human right for all

The Declaration requires medical professionals make the following pledges, among others:

- *"The health of my patient will be my first consideration."*
- *"I will not permit considerations of religion, nationality, race, party politics or social standing to intervene between my duty and my patient."*

Health-related quality of life includes physical and mental health

+

The community-level resources, conditions, policies and practices that influence health outcomes

Know your rights

As are recipient of care, *you have the right to…*

- Accessible & high-quality services
- Non-discrimination & equality
- Privacy & confidentiality
- Respect for personal dignity & autonomy
- Meaningful participation in your care
- Accountability of your service provider in addressing stigma and discrimination at all levels

STIGMA ↔ DISCRIMINATION

Stigma is a belief or attitude

Discrimination is the action resulting from stigma

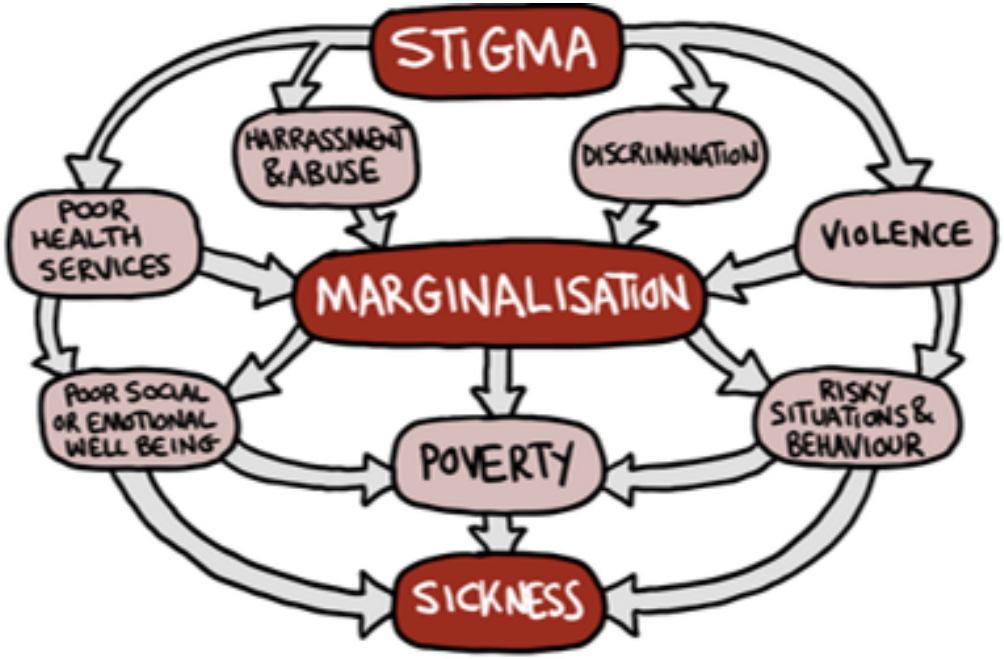
- People living with HIV being refused treatment in a health facility
- A patient's HIV status or sexual identity being revealed publicly

Discrimination takes many forms

- Denial of services
- Physical or verbal abuse
- Involuntary treatment
  - Forced contraception or abortion

Impact of stigma

In addition to poor health outcomes…



Stigma drives

- *Discrimination*
- *Harassment and abuse*
- *Poor social and emotional well being*
- *Marginalization*
- *Risky behavior*
- *Sickness and poverty*

Your role helping to eliminate stigma in health settings

Give Information
Teach participants about HIV and/or about stigma, its manifestations, and its effect on health

Skills-building activities
Involves creating opportunities for healthcare providers to develop the appropriate skills to work directly with the stigmatized group

Participatory learning approach requires participants (health facility staff or clients or both) to actively engage in the intervention

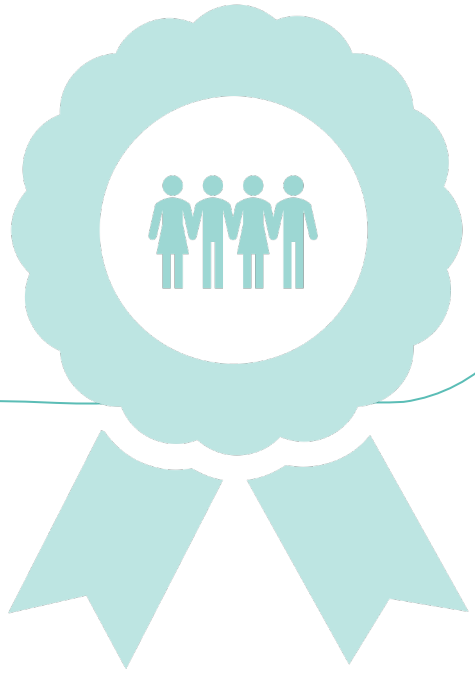
"Structural" or "policy change" approaches includes changing policies, providing clinical materials, redress systems, and facility restructuring

An "**empowerment**" approach used to improve client coping mechanisms to overcome stigma at the health facility level

Contact with stigmatized group relies on involving members of the stigmatized group in the delivery of the interventions to develop empathy, humanize the stigmatized individual, and break down stereotypes

Defining Optimal HIV Care

- ✓ Recipient of care centered
- ✓ Accessible to all who need it
- ✓ Free of stigma and discrimination
- ✓ Community and clinic based
- ✓ Integrated into primary care
- ✓ Differentiated care
- ✓ Maximizes the continuum of care
- ✓ Supports the UNAIDS 90-90-90 goals
- ✓ Supports HIV epidemic control



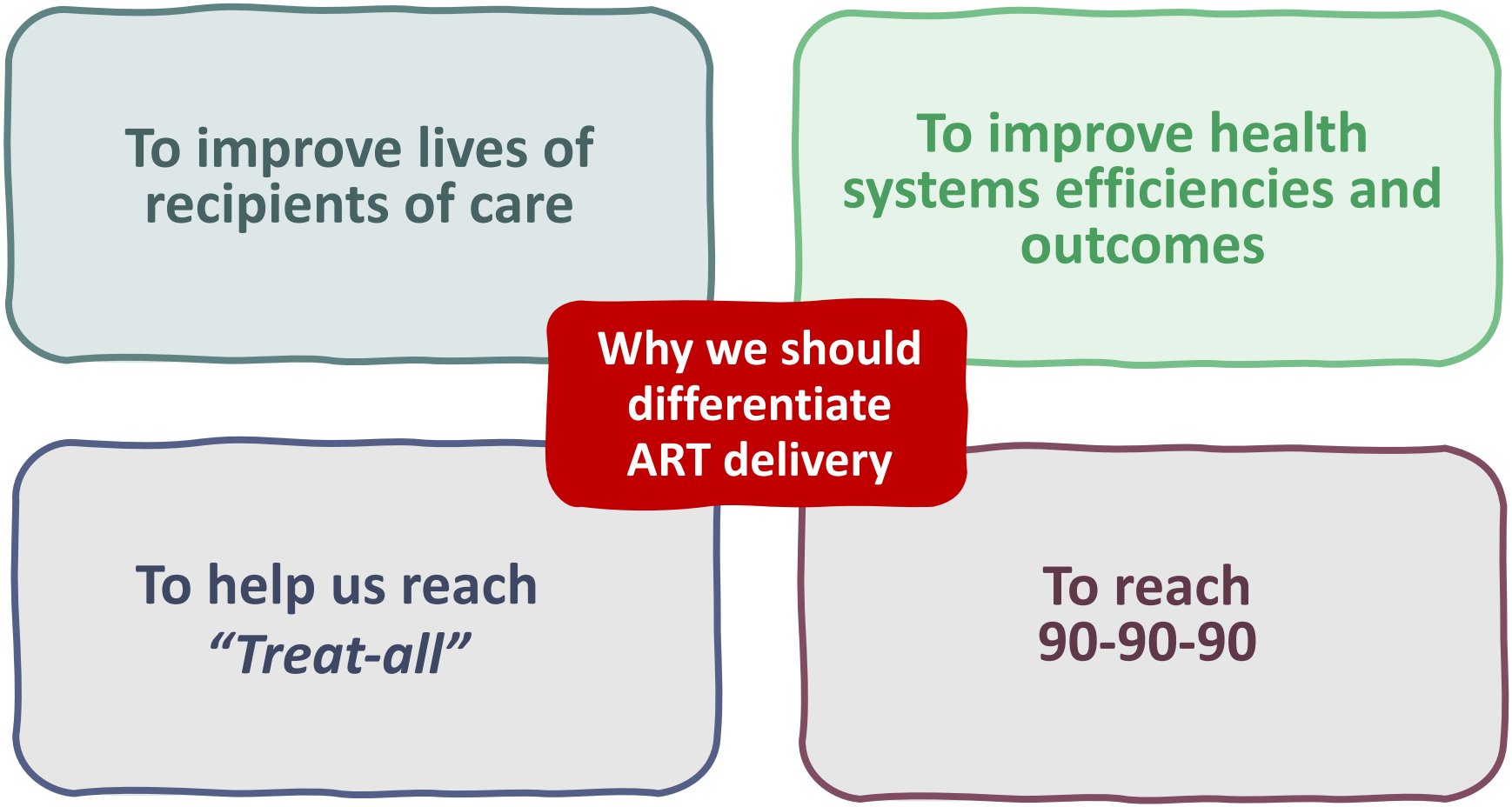
What is Differentiated Service Delivery?

A ***one-size-fits-all approach to HIV treatment can no longer work*** to meet increasingly diverse sets of needs among PLHIV across the HIV treatment continuum

"Differentiated care is a [recipient of care centred] approach that simplifies and adapts HIV services across the continuum to reflect the preferences and expectations of various groups of PLHIV while reducing unnecessary burdens on the health system."

(*WHO, Consolidated guidelines, 2016*)

Why We Should Differentiate Service Delivery



Building Blocks of Differentiated ART Delivery

There are **4 main questions** around which a differentiated model of service delivery can be built

1. **Who** can dispense and distribute ART?
2. **Where** can ART be delivered?
3. **When** (at what frequency, at what times) can ART be delivered?
4. **What** services should be offered?

Building Blocks of Differentiated ART Delivery

When

Monthly
Every 2 months
Every 3 months
Every 6 months

Where

HIV clinic / hospital
Primary care clinic
Other clinic
Community
Home

Client

Who

Physician
Clinical officer
Nurse
Pharmacist
Community health worker
Patient / peer / family

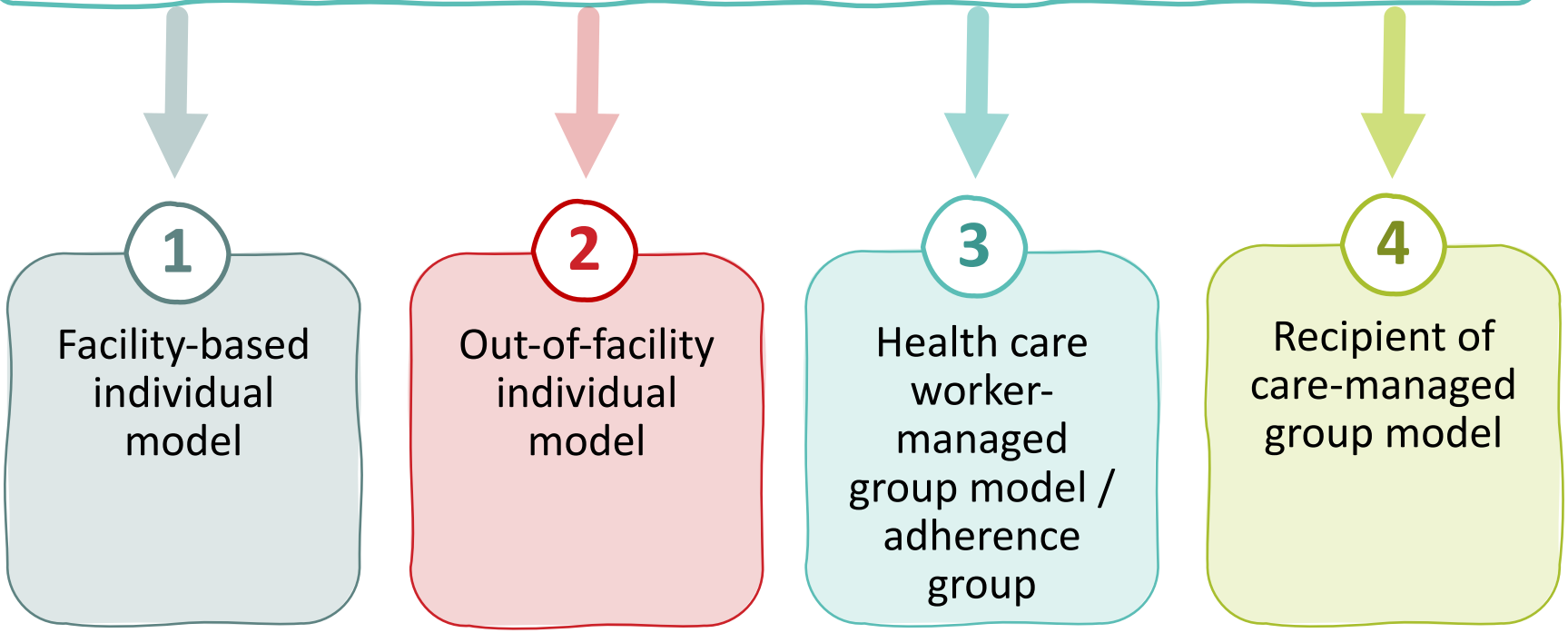
What

ART initiation /refills
Clinical monitoring
Adherence support
Laboratory tests
Oil treatment
Psychosocial support

Source: Adapted from International AIDS Society Differentiated Care For HIV: A Decision Framework for Antiretroviral Therapy Delivery 2016

Models of differentiated ART Delivery

There are **four** main models:



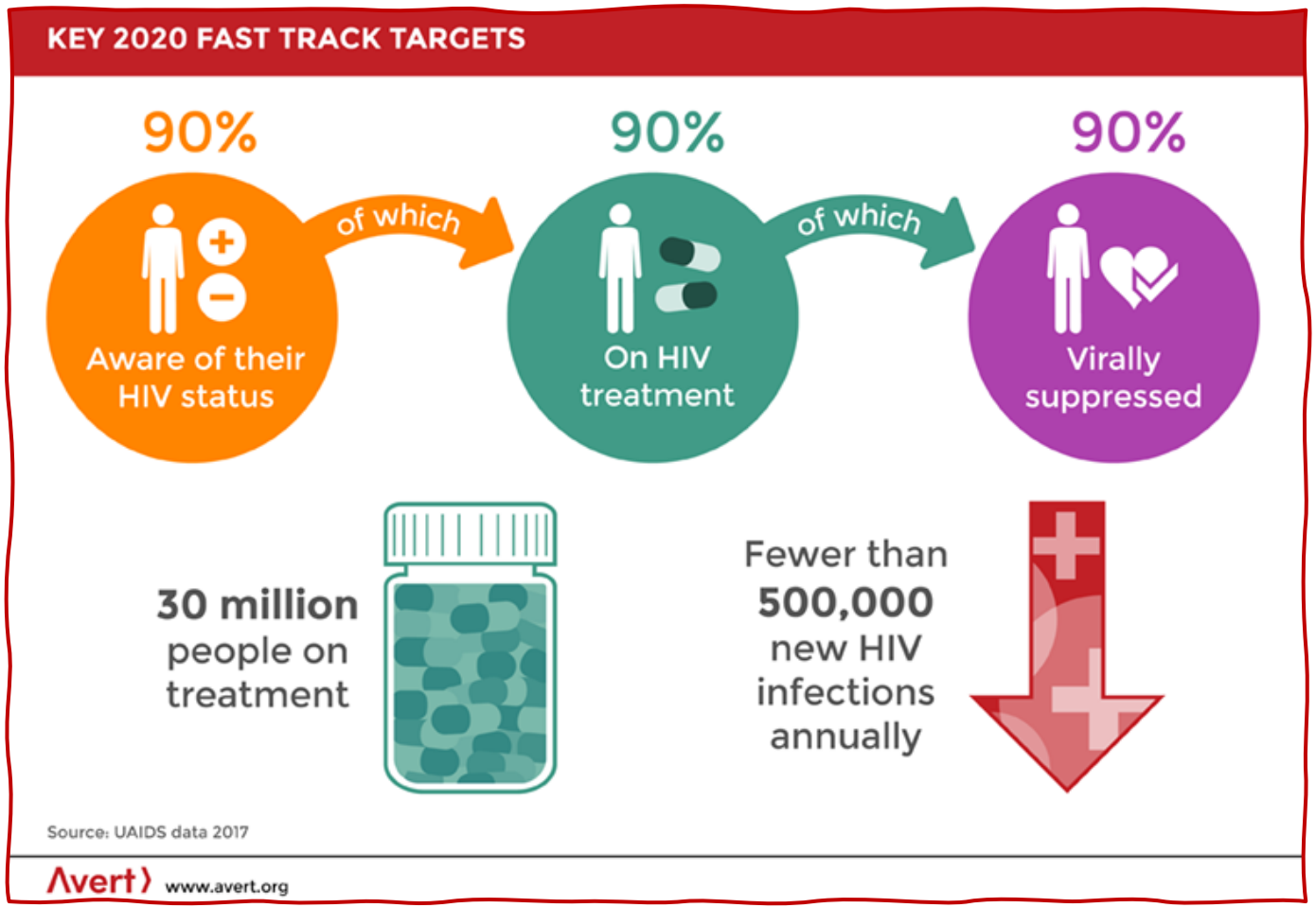
Key Points To Note

All recipients of care continue to have clinical consultations as part of their package of care

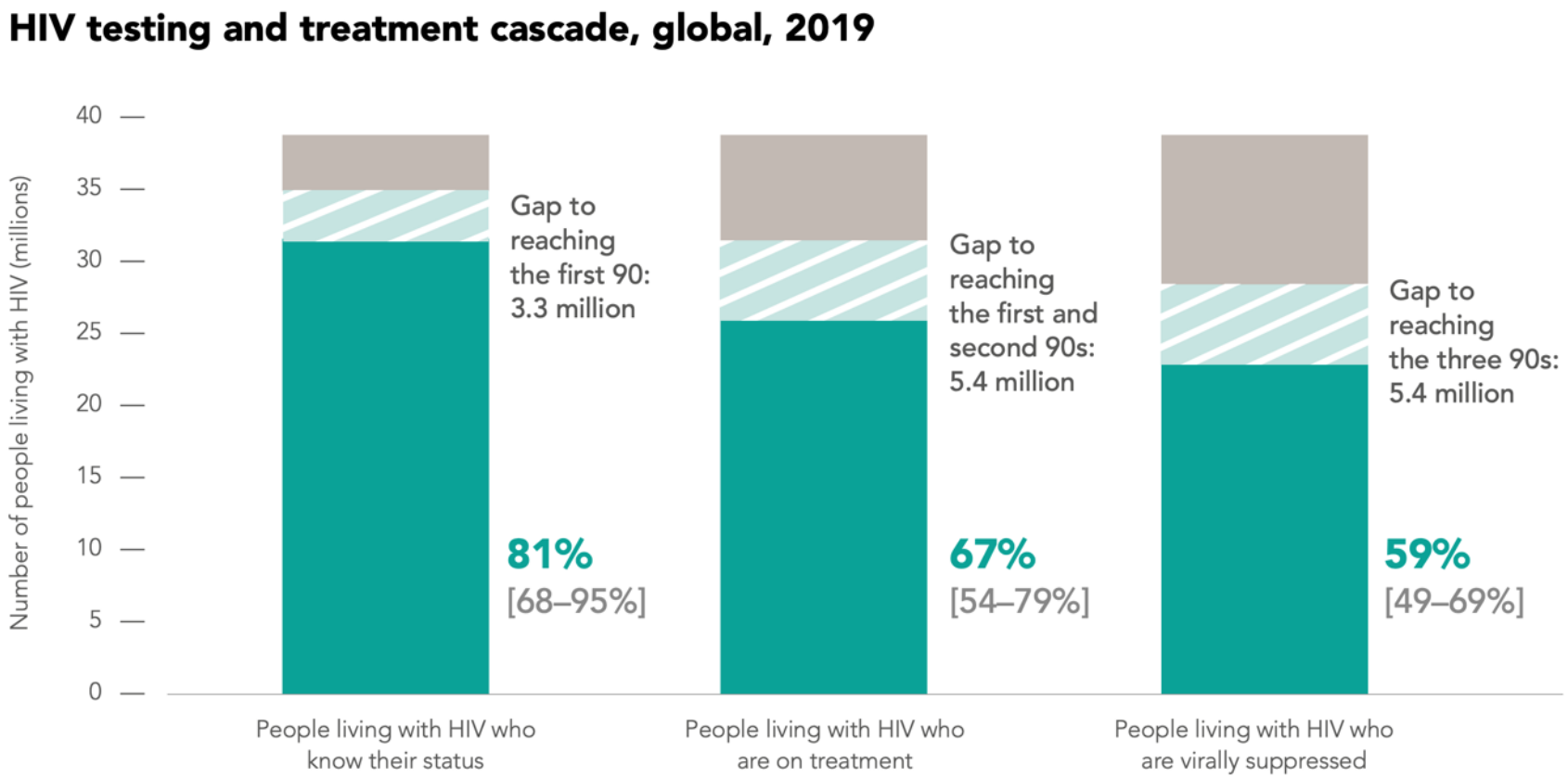
The models are adaptable and flexible – they can work in parallel so that an individual can move between them during the course of their lifetime

They can accommodate 'up referral,' meaning that individuals who may want or require more intense clinical care are catered to

UNAIDS 90-90-90 Goals



Inadequate Linkage to Care



Source: UNAIDS Global AIDS Update 2020. Seizing the Moment.
https://www.unaids.org/sites/default/files/media_asset/2020_global-aids-report_en.pdf

MODULE 7

Living Healthy with HIV

Objective

To build an understanding of the concept of 'living healthy with HIV,' addressing self-stigma, the role of PLHIV in their HIV care, adopting lifestyle and other interventions to maximize quality of life

Topics

- What is stigma? How can it be overcome?
- How can PLHIV disclose their HIV status? Help someone else to disclose?
- How can PLHIV actively engage in their HIV care?
- Is it possible to live healthy with HIV beyond achieving viral suppression?
- What lifestyle and other interventions should PLHIV pursue to live healthy with HIV?

Self-Stigma

Self-stigma or internalized stigma

Negative self-judgement

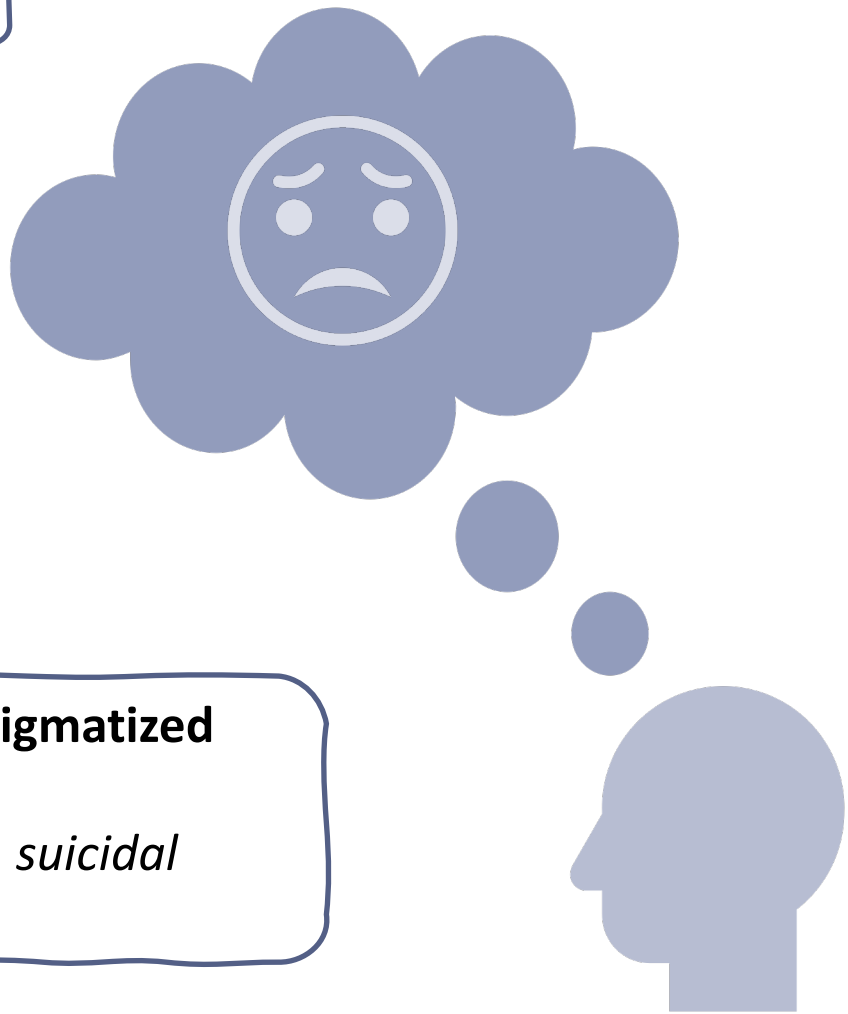
- can result in shame, worthlessness and isolation

Mental health issues

– such as depression
– common among PLHIV

Mental health issues are generally stigmatized

– common among PLHIV
– can manifest as depression, anxiety, suicidal thoughts, etc.



Overcoming Self-Stigma

- ✓ **Get on ART and stay on it**
- ✓ **Educate yourself about HIV**
  then you can get involved in your HIV care
- ✓ **Don't let stigma create self-doubt and shame**
- ✓ **Don't isolate yourself**
- ✓ **Don't equate yourself with your illness**
- ✓ **Join a support group**
- ✓ **Remove blame from discussions you have with yourself**
- ✓ **Remind yourself that HIV is a disease**
  not a moral consequence

Disclosure

When you are ready to speak with friends or family, take the time to prepare yourself

Consider possible reactions and the ways you might deal with them

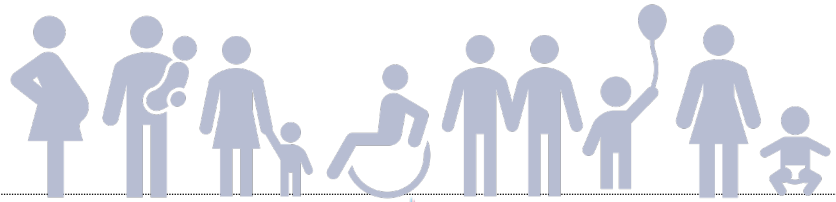
Try to work out in advance how you would answer questions like,

"How did you get it?"

"Why did you not use a condom?"

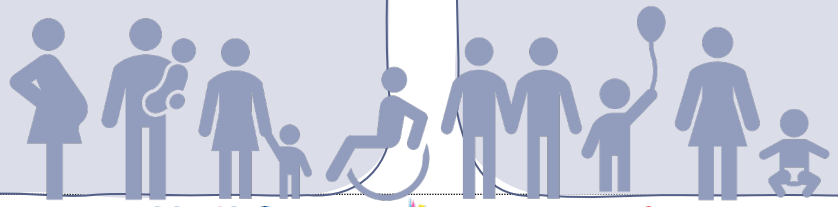
Community Engagement

"…a structured, supported, meaningful and accountable process that ensures ***that people living with HIV have a SEAT and a VOICE*** *in decision-making, planning, implementation, monitoring and evaluation, in order to achieve access to quality HIV care for all."*



Pillars of Community Engagement

- PLHIV Centered
- Meaningful
- Consistent
- Transparent
- Structured
- Observes Equity
- Is Supported and Practical
- Observes Accountability
- Is Sustainable

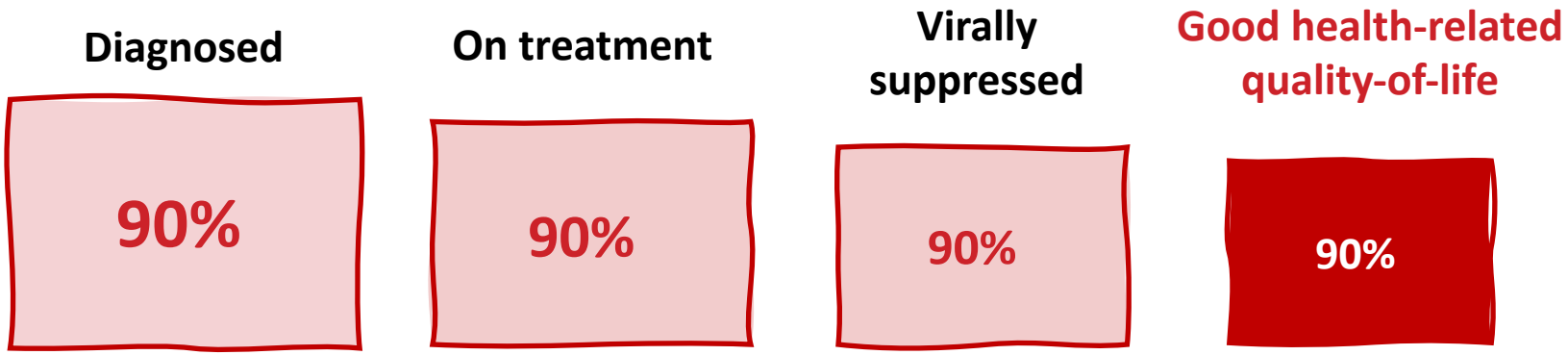


Community Engagement Framework

Areas of Engagement / Level of Engagement	Policy Level	Programmes Level	Community Level
Design	**What** to Engage in ✓ ✓	**What** to Engage in ✓ ✓	**What** to Engage in ✓ ✓
	How to Engage ✓ ✓	**How** to Engage ✓ ✓	**How** to Engage ✓ ✓
Implementation	**What** to Engage in ✓ ✓	**What** to Engage in ✓ ✓	**What** to Engage in ✓ ✓
	How to Engage ✓ ✓	**How** to Engage ✓ ✓	**How** to Engage ✓ ✓
Monitoring & Evaluation	**What** to Engage in ✓ ✓	**What** to Engage in ✓ ✓	**What** to Engage in ✓ ✓
	How to Engage ✓ ✓	**How** to Engage ✓ ✓	**How** to Engage ✓ ✓

The “Fourth 90” – Quality of Life

- **90-90-90** stops short of a target for *health-related quality of life*
- Even with viral suppression PLHIV face challenges such as…
  - *non-communicable diseases, e.g. heart disease*
  - *depression, anxiety, financial stress, HIV-related self stigma*
- A 4th 90 has been proposed



Beyond viral suppression of HIV – the new quality of life frontier Jeffrey V. Lazarus, et al BMC Medicine (2016) 14:94

What would you consider healthy living beyond VL suppression?

Take care of your mental health

Avoid substance use and abuse

Establish and maintain a healthy diet

Start an exercise program

Stop smoking

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