Differentiated Service Delivery for Hypertension

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Integrating non-HIV Services into HIV Programs

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COMMON CHALLENGES: WHY IT'S TIME TO DELIVER DIFFERENTLY

RECIPIENT PERSPECTIVE

HEALTH CARE WORKER PERSPECTIVE

Why should I keep taking treatment if I feel healthy and the clinic is full of people who are sick?

How am I going to provide quality care to 100 clients today?

Why must I queue to see a nurse and queue at the pharmacy if I'm only coming to collect my ART refill?

How can we support clients who are failing treatment if we are overwhelmed with adherent clients?

A reminder: Why differentiated service delivery for ART?

Recipient of care perspective

- I'm well and my condition is under control why do I need to see the nurse so often?
- I just need my drugs why do I need to queue to see the nurse?
- I have to travel a long distance to the clinic to get my medicines – is there no way of picking up my medicines closer to home

Health care worker perspectives:

- The queue is so long how can I provide quality care
- I need more time with people whose condition is not under control

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Definition

Differentiated Service delivery:

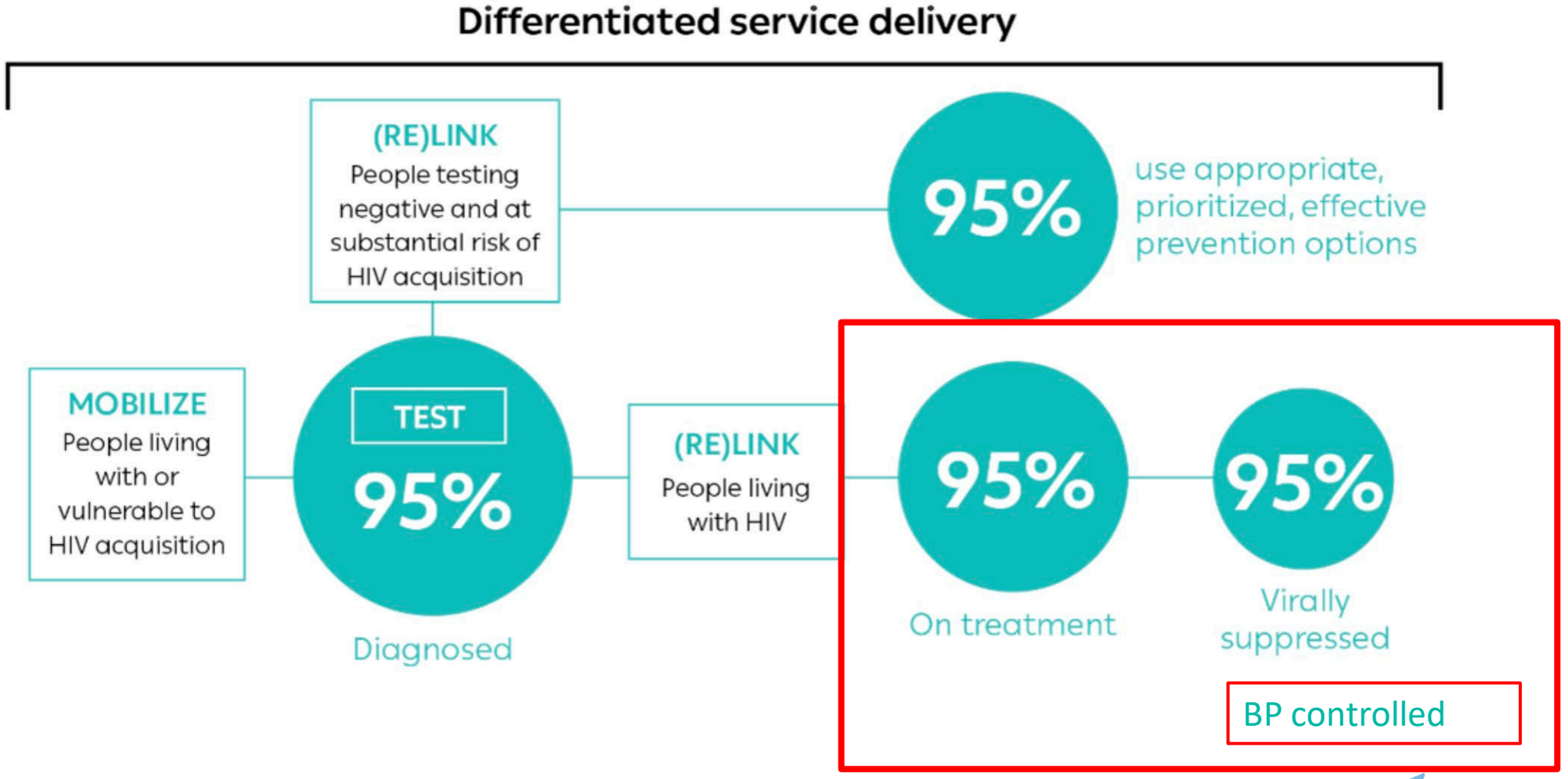
is a **client-centred approach** that simplifies and **adapts HIV services across the cascad**e to reflect the preferences and expectations of groups of **people living with HIV (PLHIV)** while reducing unnecessary burdens on the health system.

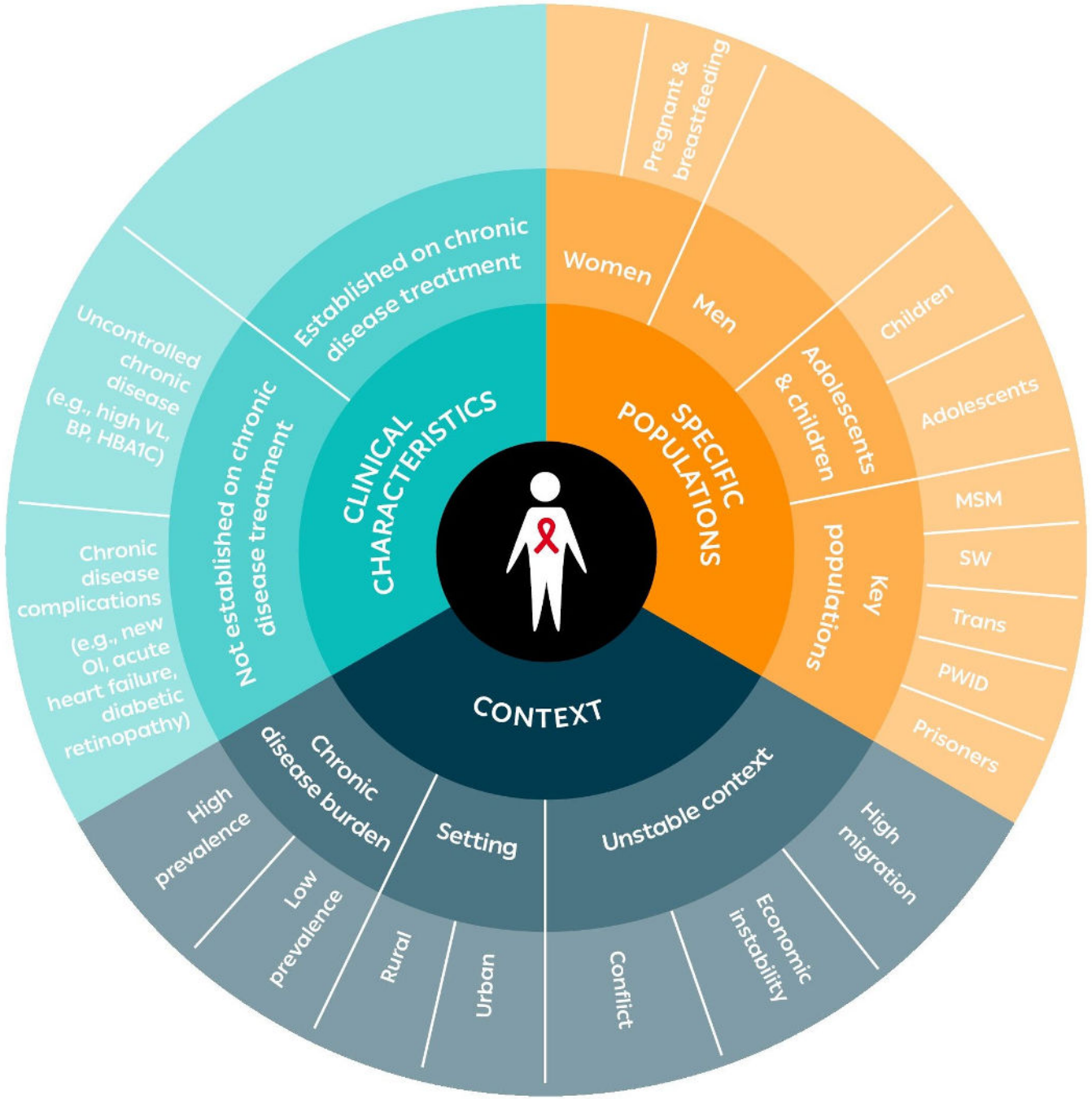
Definition

Differentiated Service delivery :

is a client-centred approach that simplifies and adapts chronic disease/HTN services across the cascade to reflect the preferences and expectations of groups of people living with chronic diseases/HTN while reducing unnecessary burdens on the health system.

DSD principles can be applied across the cascade





Who are we providing differentiated services for: The elements

1. Clinical characteristics
   - Established on HIV/HTN treatment
   - Not established on HIV/HTN treatment
2. Specific population
3. Context

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Describing the differentiated service delivery model using the building blocks:

When

- **Frequency of visit (clinical, refill, psychosocial)**
- **Time of day**

Where

- **Location of services**
- **Facility and out of facility**

Who

- **Cadre of HCW providing the service**
- **Opportunities for task sharing**

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We can use building blocks across the cascade:

	Screening	Diagnosis	Initiation of treatment	Up titration or switch	Clinical visit - established on treatment	Refill visit – established on treatment
WHEN						
WHERE						
WHO						

What about options for “integration”

CHRONIC DISEASE CLINIC

PEOPLE LIVING WITH HIV, HTN, DIABETES OR ANY COMBINATION OF CHRONIC DISEASES

DSD FOR CHRONIC DISEASE

INTEGRATION OF HTN CARE INTO AN EXISTING HIV SERVICE AND EXISTING HIV DSD MODELS FOR ART

Integrated management of HIV, diabetes, and hypertension in sub-Saharan Africa (INTE-AFRICA): a pragmatic cluster-randomised, controlled trial

RESEARCH ARTICLE

"*They just come, pick and go.*" The Acceptability of Integrated Medication Adherence Clubs for HIV and Non Communicable Disease (NCD) Patients in Kibera, Kenya

J Hum Hypertens. 2023; 37(3): 213–219.
Published online 2022 Mar 4. doi: 10.1038/s41371-022-00655-3
PMCID: PMC8896410
PMID: 35246602

Integrated multi-month dispensing of antihypertensive and antiretroviral therapy to sustain hypertension and HIV control

Is it really same time, same room, same HCW ?

Feedback from workshop on DSD for HTN and other chronic conditions: Harare December 2023

Country teams from Nigeria, Malawi, Uganda, Zimbabwe

- **MoH HIV DSD/ Integration lead**
- **MoH NCD Department**
- **HIV and NCD civil society representative**
- **HIV/NCD integration researchers**

Objective:

To apply the principles of DSD for anyone with a chronic condition (living with or without HIV) with a focus on hypertension (HTN) and diabetes (DM)

What do we need as key enablers to scale up DSD for ART/HTN

- Clinical enablers
- Policy enablers for each building block
- Definition of established on treatment
- Multi-month prescribing as well as where possible multi-month dispensing
- **Cohort monitoring (retention, outcomes); metric for integration**

Enablers for DSD for ART

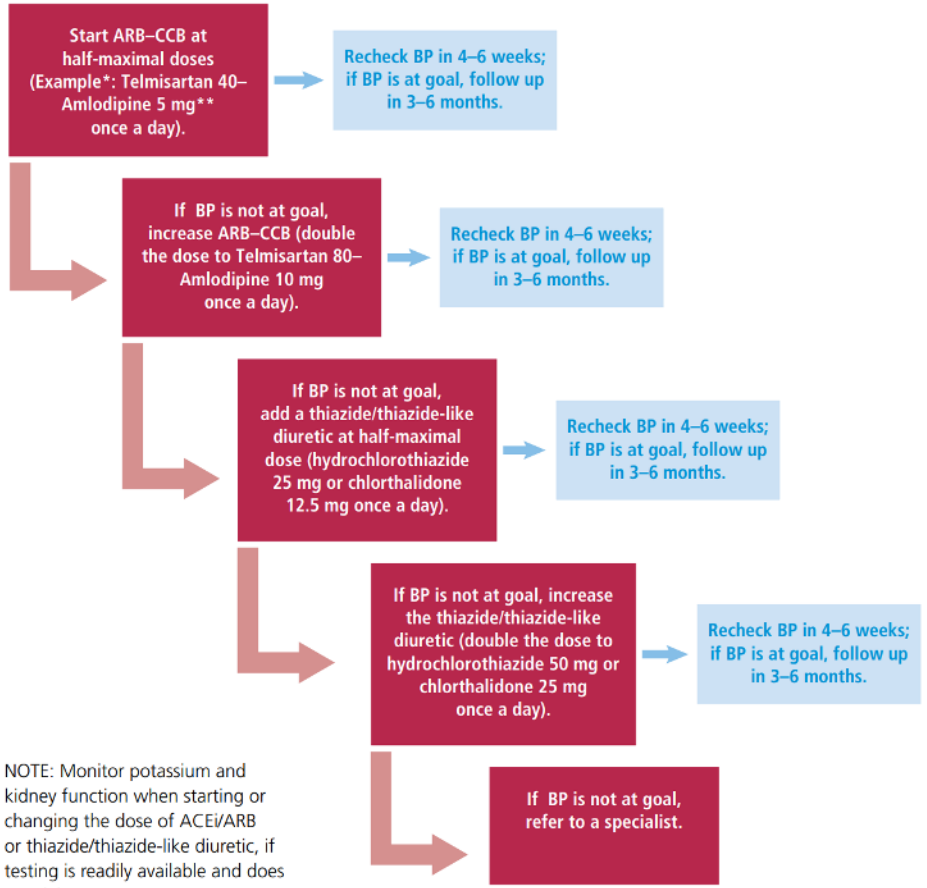
ENABLERS	HIV
Non- toxic regimen	TDF and DTG
Simplified clinical guidance	One preferred first line for all
Effective regimen **enabling faster time to control**	DTG
FDC	One pill once a day Simplified supply chain and reduces stock outs
Clinical monitoring tool to determine established on treatment	VL

Enablers for DSD for ART and HTN treatment

ENABLERS	HIV	Hypertension
Non- toxic regimen	TDF and DTG	Amlodipine +ARB (no cough, ok without monitoring if not available)
Simplified clinical guidance	One preferred first line for all	Algorithm with named preferred agents and titration steps (WHO 2021)
Effective regimen **enabling faster time to control**	DTG	Amlodipine/ARB
FDC	One pill once a day Simplified supply chain and reduces stock outs	FDC of ARB telmisartan and amlodipine
Clinical monitoring tool to determine established on treatment	VL	BP

WHO Algorithm: Named agents and time between steps to reach control

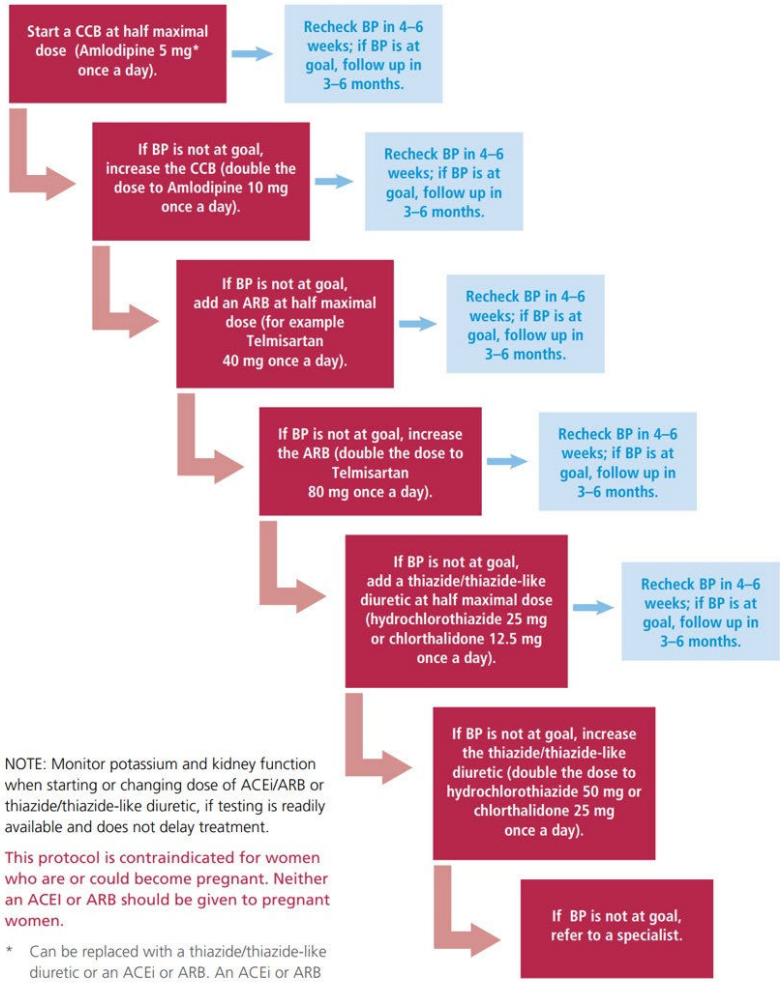
Fig. 5 Algorithm 1



NOTE: Monitor potassium and kidney function when starting or changing the dose of ACEi/ARB or thiazide/thiazide-like diuretic, if testing is readily available and does not delay treatment.

This protocol is contraindicated for women who are or could become pregnant. Neither an ACEI or ARB should be given to pregnant women.

Fig. 6 Algorithm 2



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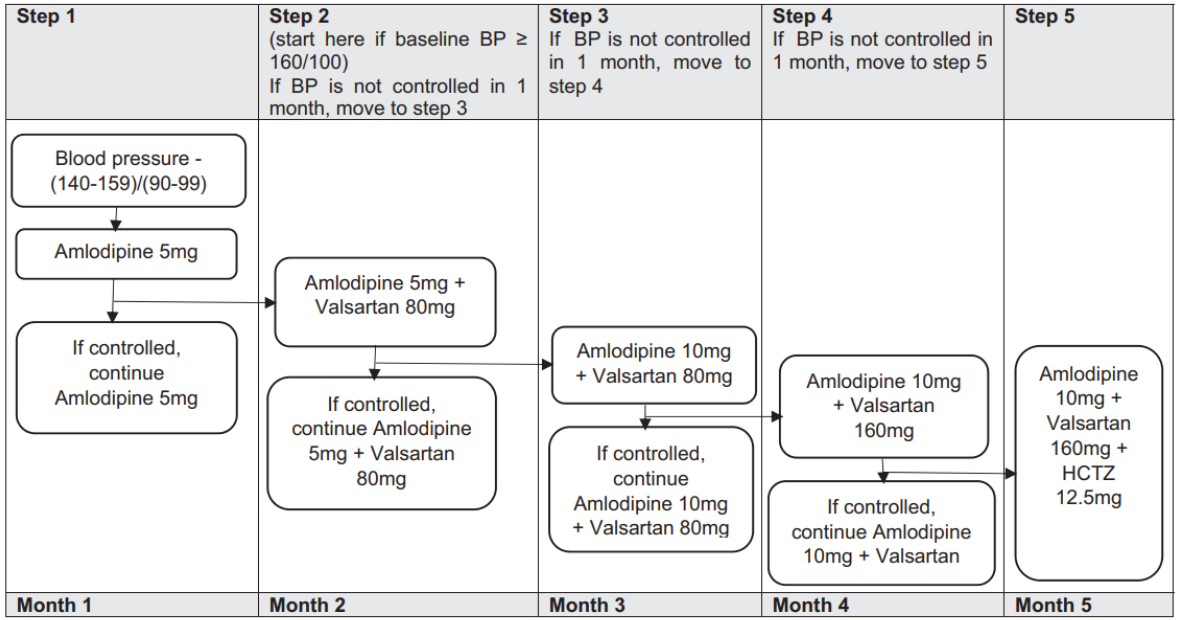
* Can be replaced with a thiazide/thiazide-like diuretic or an ACEi or ARB. An ACEi or ARB is preferred for patients with proteinuria.

Potential to reach BP control quicker enabling entry into DSD for clients established on HTN treatment

J Hum Hypertens. 2024 Feb 1. doi: 10.1038/s41371-024-00897-3. Online ahead of print.

Time to blood pressure control and predictors among patients receiving integrated treatment for hypertension and HIV based on an adapted WHO HEARTS implementation strategy at a large urban HIV clinic in Uganda



- **Drugs were free**
- **Care by non-physicians**
- **Of 877 PLHIV enrolled (mean age 50.4 years, 62.1% female), 30% received monotherapy and 70% received duo-therapy.**
- **In the monotherapy group, 66%, 88% and 96% attained BP control in the first, second and third months, respectively.**
- **For patients on duo-therapy, 56%, 83%, 88% and 90% achieved BP control in the first, second, third, and fourth months, respectively**
- In total of whole cohort only 156/877 (18%) were controlled on one drug amlodipine 5mg

Country Guidelines adopting the new WHO algorithm: Nigeria and Uganda

NIGERIA

Hypertension Treatment Protocol for Primary Health Care level

Federal Ministry of Health

Measure blood pressure of **all adults** ≥ 18 years of age.

High blood pressure: SBP ≥ 140 mmHg or DBP ≥ 90 mmHg.

Step 1 — If BP ≥140/90 mmHg,* **Start amlodipine 5 mg.**

Step 2 — After 1 month, measure BP again. If still high, **Treat with amlodipine 5 mg + losartan 50 mg.**

Step 3 — After 1 month, measure BP again. If still high, **Treat with amlodipine 10 mg + losartan 100 mg.**

Step 4 — After 1 month, measure BP again. If still high, **Treat with amlodipine 10 mg + losartan 100 mg + HCTZ 25 mg.**

Step 5 — After 1 month, measure BP again. If still high, **Refer for specialist hypertension management.**

*If initial BP ≥ 160/100 mg, but <180/110 mmHg, start at STEP 2.

*If initial BP ≥ 180/110 mg, give step 3 drugs and refer to the emergency unit of the nearest general hospital within 1 hour.

Notes:

- **Single pill combination of amlodipine plus losartan is preferred to free combination.**
- HCTZ= Hydrochlorothiazide.
- Telmisartan 40mg and 80mg if available is preferable to losartan.
- May substitute HCTZ 25mg with amiloride 2.5mg/HCTZ 25mg if HCTZ is unavailable.

Special populations

Pregnant women and women who may become pregnant

DO NOT GIVE losartan to pregnant women nor to women of childbearing age who are not on effective contraception.

If pregnant, refer to obstetric specialist

Stop tobacco use and harmful use of alcohol

Increase regular physical activity to at least 30 minutes daily.

If overweight, lose weight.

Eat a heart-healthy diet low in salt, trans fats and added sugar:

- Eat 5 servings of fruits and vegetables per day.
- Eat nuts, legumes, whole grains and foods rich in potassium.
- Eat fish at least twice per week.
- Use healthy oils like sunflower, flax seed, soybean, peanut and olive.
- Limit red meat to once or twice per week.
- Limit consumption of ultra-processed, canned and 'fast' foods.
- Avoid donuts, cookies, sweets, fizzy drinks and juice with added sugar.

Uganda

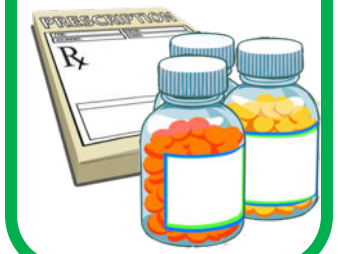
TREATMENT	LOC
Hypertension, stage 1 **Step 1: Lifestyle adjustments** ▸ Do not add extra salt to cooked food, increase physical activity/exercise, reduce body weight ▸ Stop smoking ▸ Decrease alcohol intake **If all the above fail (within 3 months), initiate medicine therapy** **Step 2:** ▸ Emphasize lifestyle changes with medicines ▸ Give amlodipine 5 mg once daily ▸ If not controlled after 1 month, treat as in stage 2	HC3
Hypertension, stage 2	
Step3 Give Amlodipine 5 mg once daily Plus ▸ Angiotensin II receptor blocker (ARB) e.g. Losartan 50mg (or Valsartan 80mg or Telmisartan 40mg) once daily ▵ **Note: Instead of ARBs, you can use angiotensin converting enzyme inhibitors (ACEI) like Lisinopril 20mg or Enalapril 5mg once daily.**	HC3

FDCs (SPCs) could improve every component of hypertension control: Included in WHO EML 2019

Protocol

Simpler treatment algorithm

Medication Supply



Fewer stockouts

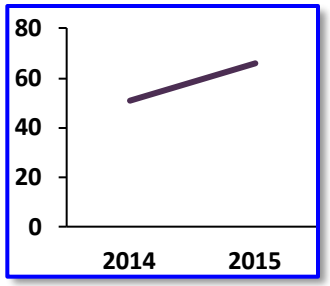
Community-Based Treatment

Enhanced task sharing

Patient-Centered Care

Lower pill burden

Information Systems



Better control rates

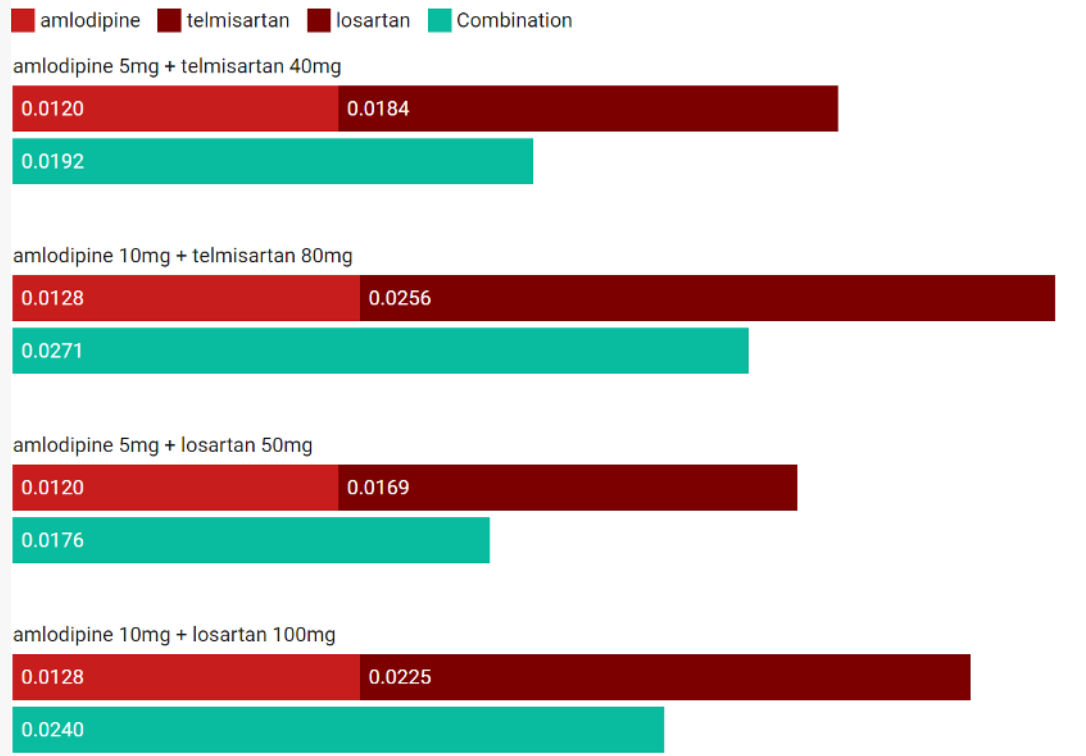
Estimated cost-based generic prices of key antihypertensive medicines compared to the lowest prices of key antihypertensive medicines across five LMICs

Formulation (tablet)	Estimated cost-based generic price (US$/ tablet)	South Africa (public)	South Africa (Private)	Nigeria (public)	Nigeria (private)	Lebanon (private/ public)	Phil* (private)	Brazil (private)
amlodipine 5mg	0.012	0.0082	0.112	0.017	0.026	0.2152	0.02	0.0717
amlodipine 10mg	0.0128	0.01184	0.168	0.024	0.03	0.3635	0.035	0.1363
hydrochlorothiazide 12.5mg	0.0118	0.010049	N/A	N/A	0.041	N/A	price not collected	N/A
hydrochlorothiazide 25mg	0.0124	0.0107	0.035	0.017	0.023	0.2296	0.071	0.033
losartan 25mg	0.0141	N/A	N/A	0.097	0.07	N/A	price not collected	0.1147
losartan 50mg	0.0169	0.01972	0.136	0.082	0.08	0.3194	0.06	0.0647
losartan 100mg	0.0225	0.04201	0.144	0.161	0.087	0.4385	0.06	0.2132
telmisartan 40mg	0.0184	N/A	0.31	0.073	0.146	0.393	0.16	0.3924
telmisartan 80mg	0.0256	N/A	0.31	0.091	0.138	0.4481	0.28	0.8431
losartan + amlodipine 50mg + 5mg	0.0176	N/A	0.481	0.231	0.195	N/A	0.079	0.0933
losartan + amlodipine 100mg + 5mg	0.0232	N/A	0.481	N/A	0.682	0.619	price not collected	0.6847
losartan + amlodipine 100mg + 10mg	0.024	N/A	N/A	N/A	N/A	0.6416**	price not collected	N/A
telmisartan + amlodipine 40mg + 5mg	0.0192	N/A	0.651	0.244	0.095	N/A	0.81	0.7005
telmisartan + amlodipine 80mg + 5mg	0.0263	N/A	0.651	0.696	0.287	0.9027	price not collected	0.8972
telmisartan + amlodipine 80mg + 10mg	0.0271	N/A	0.741	0.357	0.341	0.9513***	price not collected	0.8972

[Under Pressure: Strategies to improve access to antihypertensive medicines | Médecins Sans Frontières Access Campaign (msfaccess.org)]

Price comparison: SAPs vs SPCs

In some settings single-pill combinations (SPCs) are already less costly to use than the sum of the price of their equivalent single agent pills (SAPs). The chart below shows the benchmark or target price (known as the estimated cost-based generic price) of the sum of two single agent pills compared to the single pill combination.



SPCs could be cheaper than SAPs

Policy enablers for the building blocks

WHEN

WHO

7. RECOMMENDATIONS ON FREQUENCY OF ASSESSMENT
WHO suggests a monthly follow up after initiation or a change in antihypertensive medications until patients reach target.
Conditional recommendation, low-certainty evidence
WHO suggests a follow up every 3–6 months for patients whose blood pressure is under control.
Conditional recommendation, low-certainty evidence

8. RECOMMENDATION ON TREATMENT BY NONPHYSICIAN PROFESSIONALS
WHO suggests that pharmacological treatment of hypertension can be provided by nonphysician professionals such as pharmacists and nurses, as long as the following conditions are met: proper training, prescribing authority, specific management protocols and physician oversight.
Conditional recommendation, low-certainty evidence

ALREADY SUGGESTS 6 MONTHLY CLINICAL VISIT AND POTENTIAL FOR 6 MONTHLY MULTI MONTH PRESCRIBING

INCLUDING INITIATION, TITRATION TO REACH CONTROL AND MAINTENANCE

Policy enablers for the building blocks

WHERE

HTN care should be provided at primary care level including initiation and titration

Can HTN care (distribution minimum) be provided at out of facility settings?

Are all HTN medicines classes within the algorithm available at primary care and out of facility settings ?

Definition of established on treatment

Criteria for established on treatment	HIV (WHO 2021)
Time on treatment	Receiving ART for at least six months
Other current illness	no current illness, which does not include well-controlled chronic health conditions
Evidence of treatment success	at least one suppressed viral load result within the past six months (if viral load is not available: CD4 count >200 cells/mm3 or CD4 count >350 for children 3-5 years or weight gain, absence of symptoms and concurrent infections)
Adherence	good understanding of lifelong adherence: adequate adherence counselling provided

Definition of established on treatment for HTN in national guidance

Nigeria National Hypertension guidelines :

The following criteria can be used to identify a 'stable' patient:

- Must have been on anti-hypertensive treatment for at least six months.
- Must be on current medication combination for at least three months.
- Have their BP under control – BP < 140/90mmHg at the last two consecutive visits/measured on two occasions at least one month apart.
- Patients must generally be well, without acute illness/co-morbidity requiring intensive follow-up.
- Absence of any adverse drug reaction (ADR) and side effect that requires constant monitoring.
- A good understanding of life-long treatment and adherence.

Criteria for established on treatment
Time on treatment
Other current illness
Evidence of treatment success
Adherence

Zimbabwe 2022 Operational and Service Delivery Manual

Table 30: Criteria for established on treatment for HTN and DM

CONSIDERATION FOR INTEGRATION	HTN	DM
Control target	<140/90 measured on two occasions at least one month apart	HbA1C <7% recorded in the last 3 months Or Fasting blood sugar (FBS) < 7 mmol/L recorded in the last 3 months
Duration on current regimen	At least three months on current regimen	At least three months on current oral regimen
Other co-morbidities	No other uncontrolled co-morbidities requiring more frequent clinical interventions	No other uncontrolled co-morbidities requiring more frequent clinical interventions
Adherence	Good understanding of lifelong adherence: adequate adherence counselling provided	Good understanding of lifelong adherence: adequate adherence counselling provided

What do we do differently when clients are established on ART or HTN treatment ?

V

Separate the clinical and refill visit

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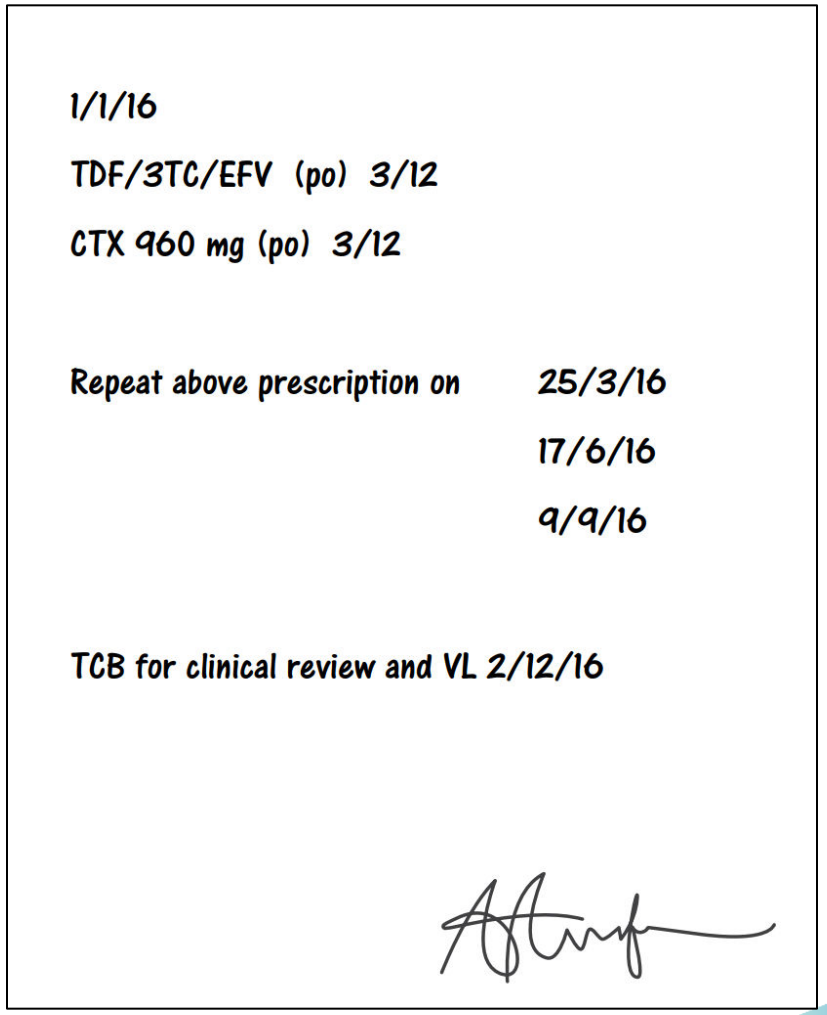
Multi-month prescribing versus multi-month dispensing

Limitation of drug supply (either stocks within public facility or limitation of amount client can pay at one time out of pocket) should not stop multi-month prescribing

- **Prescribing** – script length, by a qualified prescriber
- **Dispensing** – amount of drug given, from a qualified dispenser
- **Distributing** – providing pre-packed dispensed medications, by anyone including peers/lay providers



The 4 models of delivering the ART / HTN medicine refill

GROUP MODELS

INDIVIDUAL MODELS

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Example: Building blocks for ART and HTN in an out of facility individual model

	ART/HTN meds Clinical Visit	ART/HTN meds Refill Visit
WHEN	6 monthly	6 monthly scripting 3-6 monthly dispensing
WHERE	Facility	Community pharmacy Health post Mobile clinic
WHO	Trained HCW	Trained HCW CHW Lay worker / Peer
WHAT	Full Clinical Review as per national Guidelines for HIV and HTN	ART and HTN meds drug pick up ONLY

Common action points from Harare Workshop

- **The principles of DSD can be applied to other chronic diseases including HTN**
- **Clinical guideline updates**
- **Policy guidance**
  - **Definition of established on treatment**
  - **WHEN: Frequency of clinical and refill visits for HTN/DM**
  - **WHERE: What medicines located where in the health system**
  - **WHO: Task-sharing policies needed to enable nurses to initiate, titrate and maintain HTN treatment**
- **Capacity building of staff**
- **The medicines**
  - **If harmonised guidance are there, provides for opportunities for pooled procurement**
  - **But also, how do we enable OOP costs to be as low as possible and support purchase at cost reflecting cost of production**

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Thank You!