



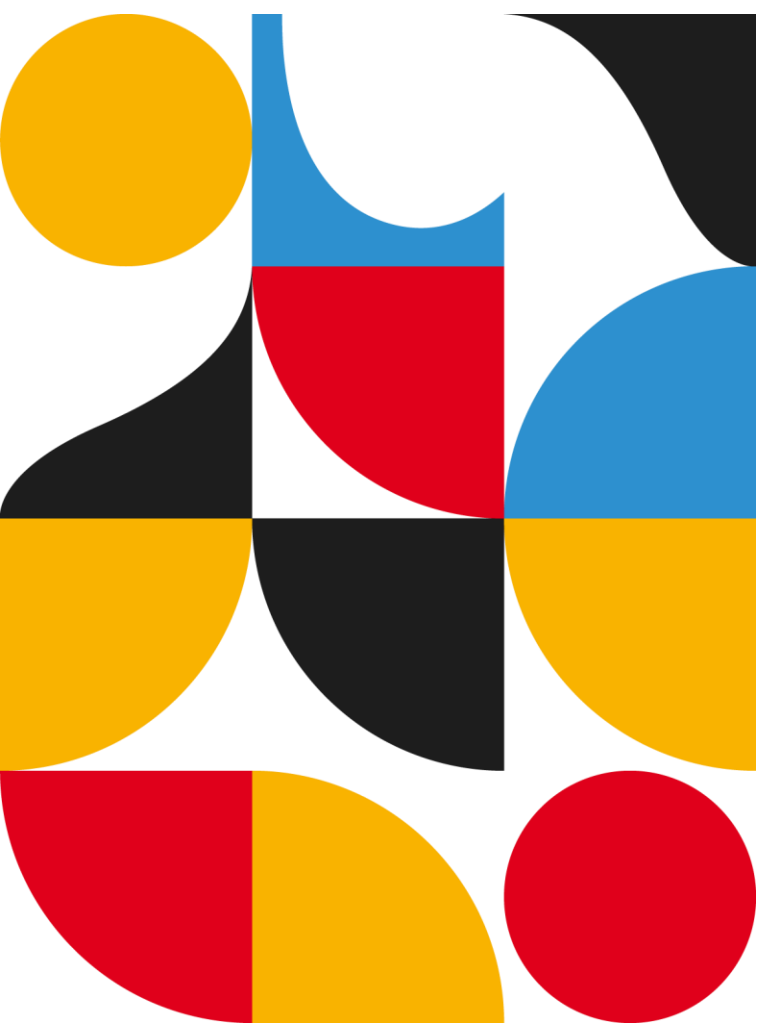
Dr George Wambugu, Medecins Sans Frontieres, Kenya

DSD beyond HIV treatment

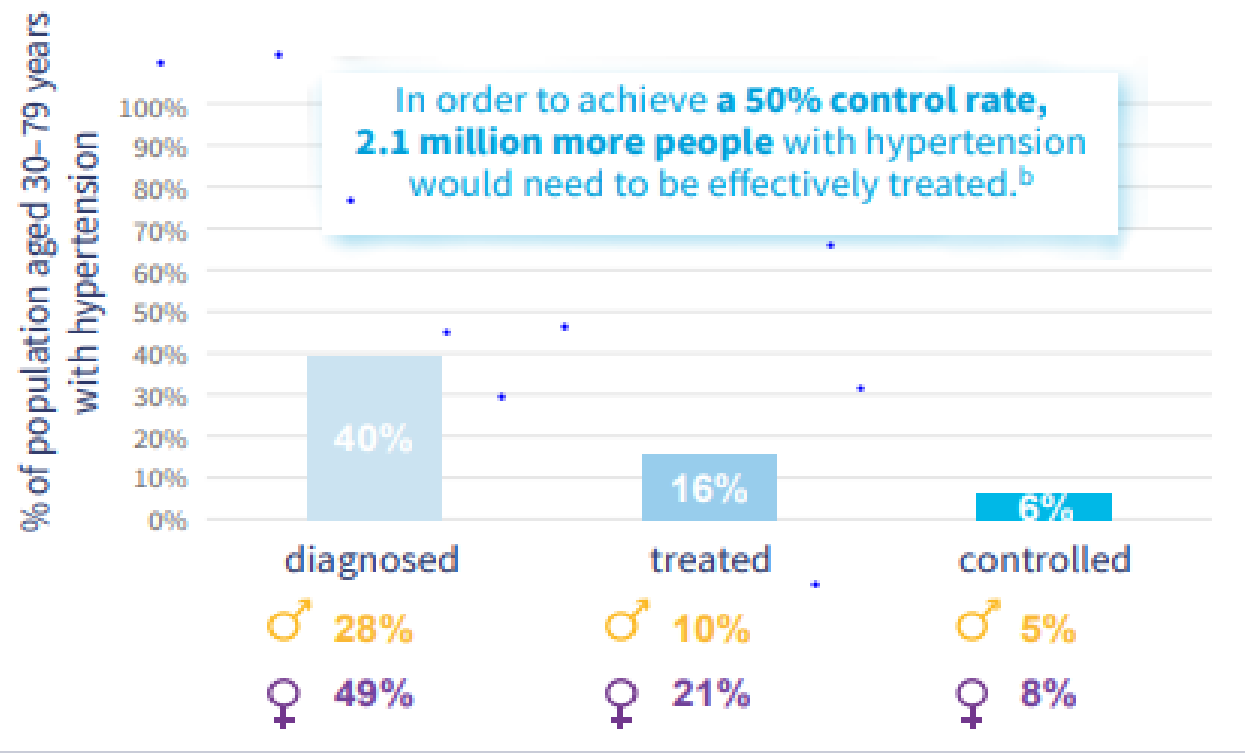
**Keeping it simple:
Fixed dose
combinations for
hypertension as an
enabler for DSD in
Kenya**



Background



Of the **4.8 million** adults aged 30–79 years with hypertension:

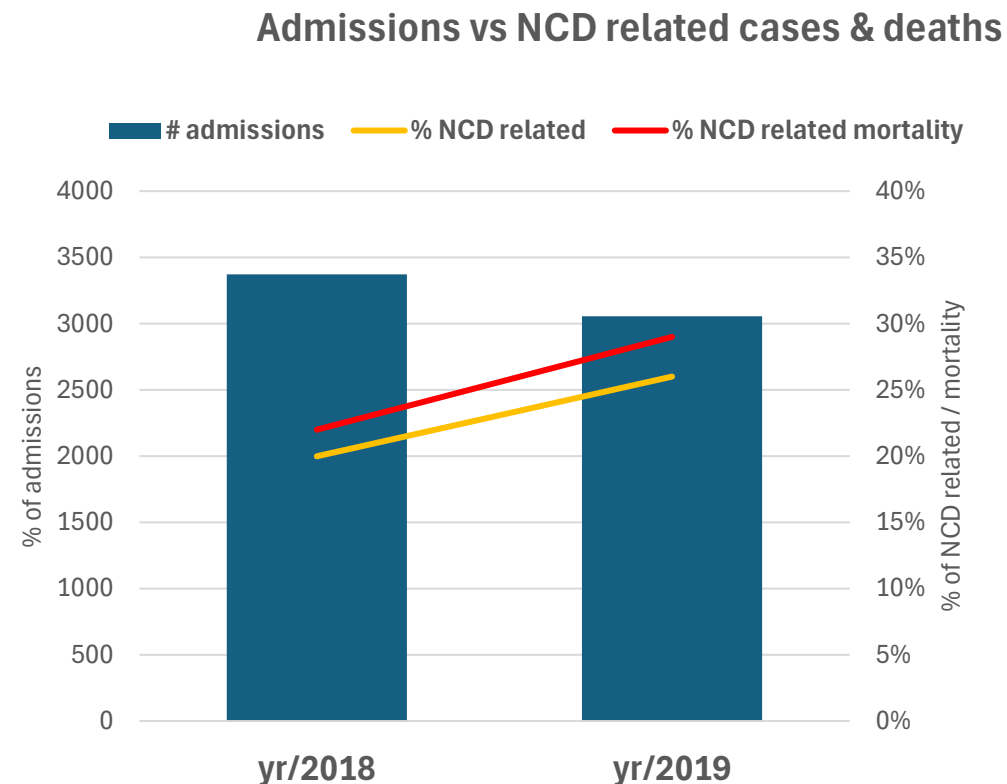


The current UNAIDS 95-95-95 progress among adults living with HIV in Kenya is **95-95-90**
(National Syndemic control council, 2023)

Background of the Homa Bay project

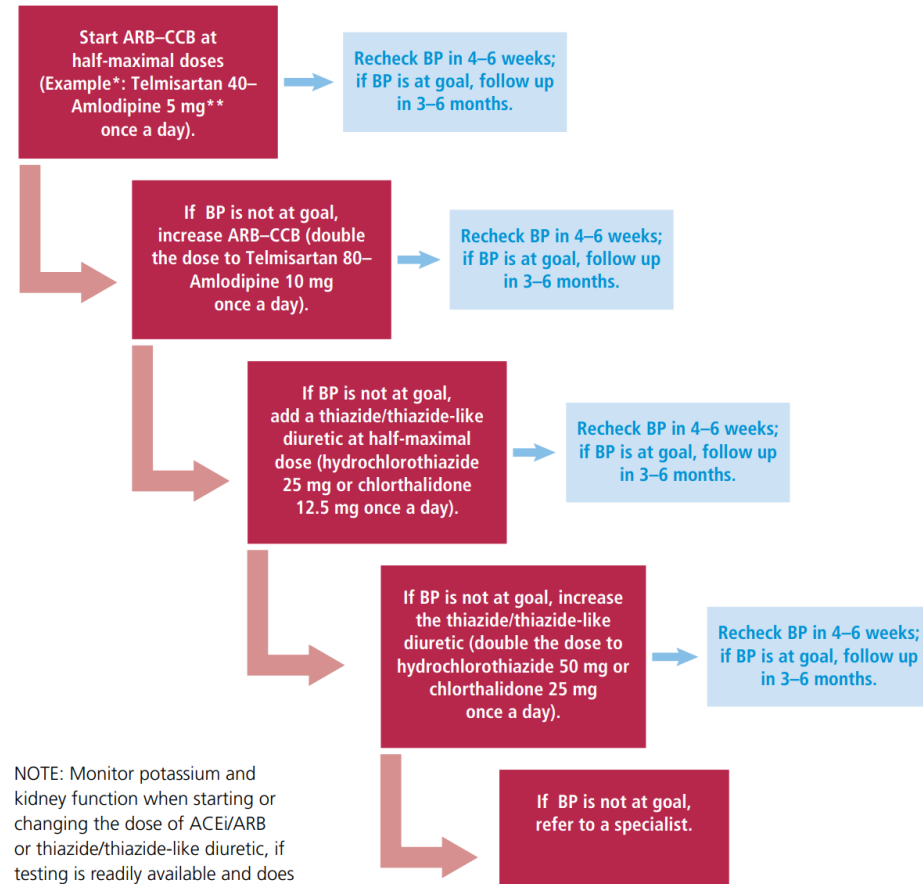
Transitioning from HIV to chronic diseases

- **In 2021, the purpose of the Homa Bay project shifted from HIV to focus the increasing burden of chronic diseases (*DM, HTN, Asthma, Epilepsy, COPD, HIV, Tuberculosis, SCD*).**
- This Followed an analysis of the MSF supported Medical wards in 2019:
 - Increase in share of in-patient admissions and mortality from non-communicable disease complications



Hypertension guidance used in the project

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.

- MSF adopted the WHO 2021 hypertension algorithm
 - Named agents and doses
 - Stepwise with clear time frame
- Single Pill Combination (SPC) introduced in June 2023 (Telmisartan 40mg and Amlodipine 5mg)
- Inclusion Criteria for enrolment to SPC
 - Newly enrolled hypertension cases
 - Uncontrolled hypertensive cases on monotherapies
 - Hypertensive clients with high pill burden from other comorbidities (e.g., people living with HIV)
- 590 patients enrolled by May 2024

New Kenya hypertension guidelines and next steps

- The updated 2024 National Cardiovascular Clinical guideline has been finalized and validated. It is to be released in Q3 2024
- The Kenya Essential Medicines List was updated in 2023. It includes the SPC used in our project.
- It guides National and County health departments on the validated drugs by MOH for purchase and use

SPCs for hypertension inclusion on Kenya EML and cost

In 2023, the MOH updated the **Kenya Essential Medical list** and below are the validated Single Pill Combinations:

- Telmisartan + Amlodipine
- Telmisartan + Hydrochlorothiazide (**\$62**)
- Amlodipine + Losartan (**\$93**)
- Losartan + Hydrochlorothiazide
- Lisinopril + Hydrochlorothiazide
- Amlodipine + Losartan + Hydrochlorothiazide

- Not yet stocked by the National central pharmacy- KEMSA

| Telmisartan 40mg and Amlodipine 5mg | | |
|-------------------------------------|---|--|
| | Single Pill Combination;\$ per patient per year | Sum of single agent pills; \$ per patient per year |
| MSF Supply | \$118 | \$60 (\$48+\$12) |
| MOH | NA | \$20 (\$16+\$4) |

- **SPCs more costly currently than sum of single agent pills**
- **Huge variation in pricing of the different combinations**

Estimated cost-based prices



What could it cost to treat a million people with hypertension for a year?

ESTIMATED COST-BASED GENERIC PRICE COMPARISON

Treatment with single-agent pills

● ● US\$ 11 million

Treatment with single-pill combination

● US\$ 7 million

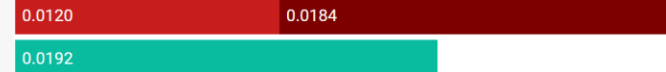
Source: 2022 "Under Pressure" report - RESOLVE TO SAVE LIVES / MSF

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.

■ amlodipine ■ telmisartan ■ losartan ■ Combination

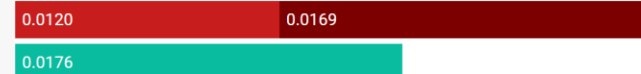
amlodipine 5mg + telmisartan 40mg



amlodipine 10mg + telmisartan 80mg



amlodipine 5mg + losartan 50mg



amlodipine 10mg + losartan 100mg



SPCs could cost less to manufacture than the sum of the single pills

Telmisartan 40mg / Amodipine 5mg could cost as little as \$7 per person per year

DSD model offered for clients established on hypertension treatment



Standard of care (multi-month refills)

Individual facility-based model

- Facility Fast-track

Group-based

- Facility-based, group-managed by healthcare workers
- Community-based, group-managed by community health promoters

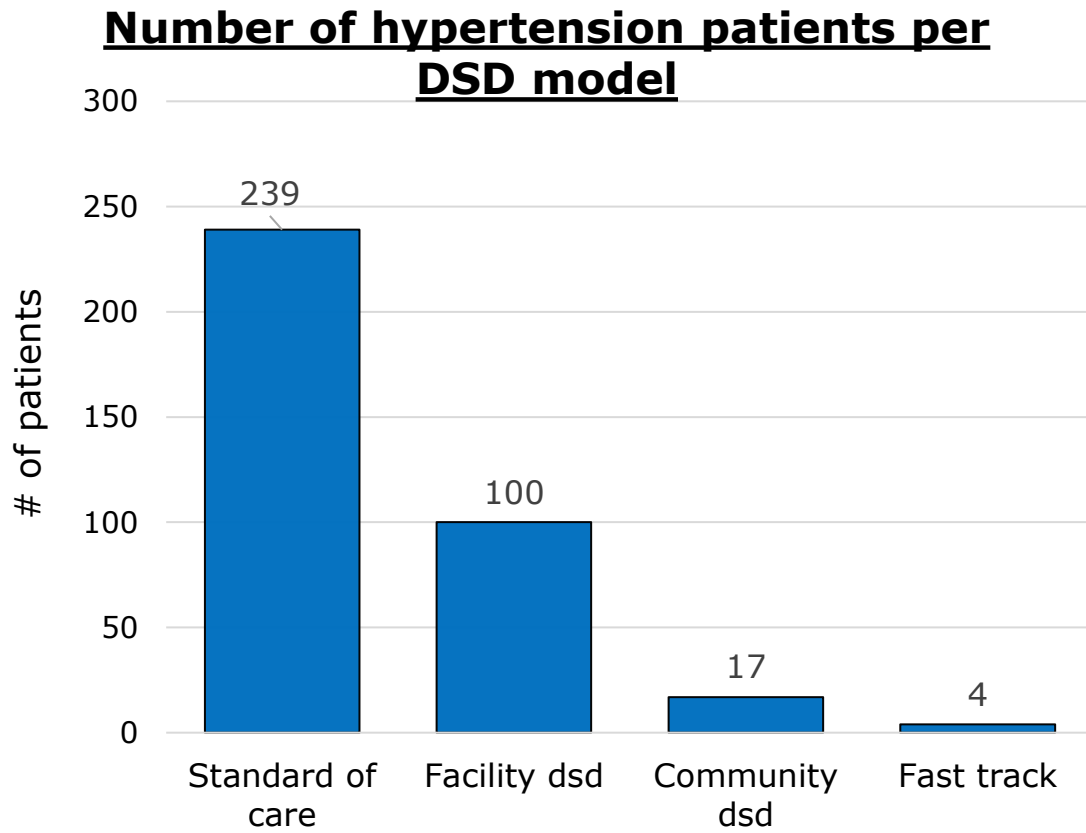
Building blocks

Clinical and refill visits



| | Clinical visit once establish on treatment | Refill visit once established on treatment |
|--------------|--|---|
| WHEN | Once a year | 3 monthly |
| WHO | Clinical Officer & Nurse | Fast track –Pharmacy team Club- CHP and counselor Community refill group- CHP |
| WHERE | Facility | Fast track – facility Club – facility Community refill group – agreed community location |
| WHAT | Antihypertension medicines, Examination and laboratory investigation Therapeutic Patient Education | Antihypertension medicines |

Uptake of each model



Standard of care

- All stable patients have been put on 3 months appointment since June 2023

Individual facility-based model

- Facility Fast-track - implemented in May 2024 because
 - One facility didn't have a pharmacy
 - Both facilities didn't have a pharmacy personnel
 - One facility has recruited a pharmacy technologist
 - Construction of pharmacy is ongoing in the other facility and a pharmacy personnel has been recruited

Group based

- Facility-based group - Started in July 2023
- Community-based group - Has just started in April 2024

Successes and challenges

Successes

- Person centred care – reduced frequency of appointments (cost of transport) and met patient expectations
- Positive patient feedback on SPC especially those with other chronic disease/people living with HIV
- DSD reduced the burden on the health system (moved from 1 monthly appointment to 3 months appointment)
- Group based integrated patient support education and counselling
- Patients were able to choose a DSD model of their choice

Challenges

- Infrastructure -One of the facilities doesn't have a pharmacy to enable fast-track. Construction ongoing
- Cost of the SPC
- Rapture of commodities at facilities
- Rigorous registration process of new drug
- Pending bills at KEMSA (centralised system) - county fail to pay KEMSA on time
- MOH protocol not yet updated on SPC
- Access barriers to NCD care in non MSF supported primary health care facilities

Way forward

- Prospective study planned in collaboration with MoH
- Providing differentiated service delivery for hypertension: Evaluating patient outcomes, feasibility, and acceptability of Hypertension Management at Primary and Community Levels of Care in Homabay County, Kenya, 2024-2026