Surviving HIV and Dying From Hypertension

Dr Kufor Osi

Resolve to Save Lives (RTSL)

17 April 2024

Integrating non-HIV Services into HIV Programs

April 15-18, 2024 | Nairobi, Kenya

RTSL OVERVIEW

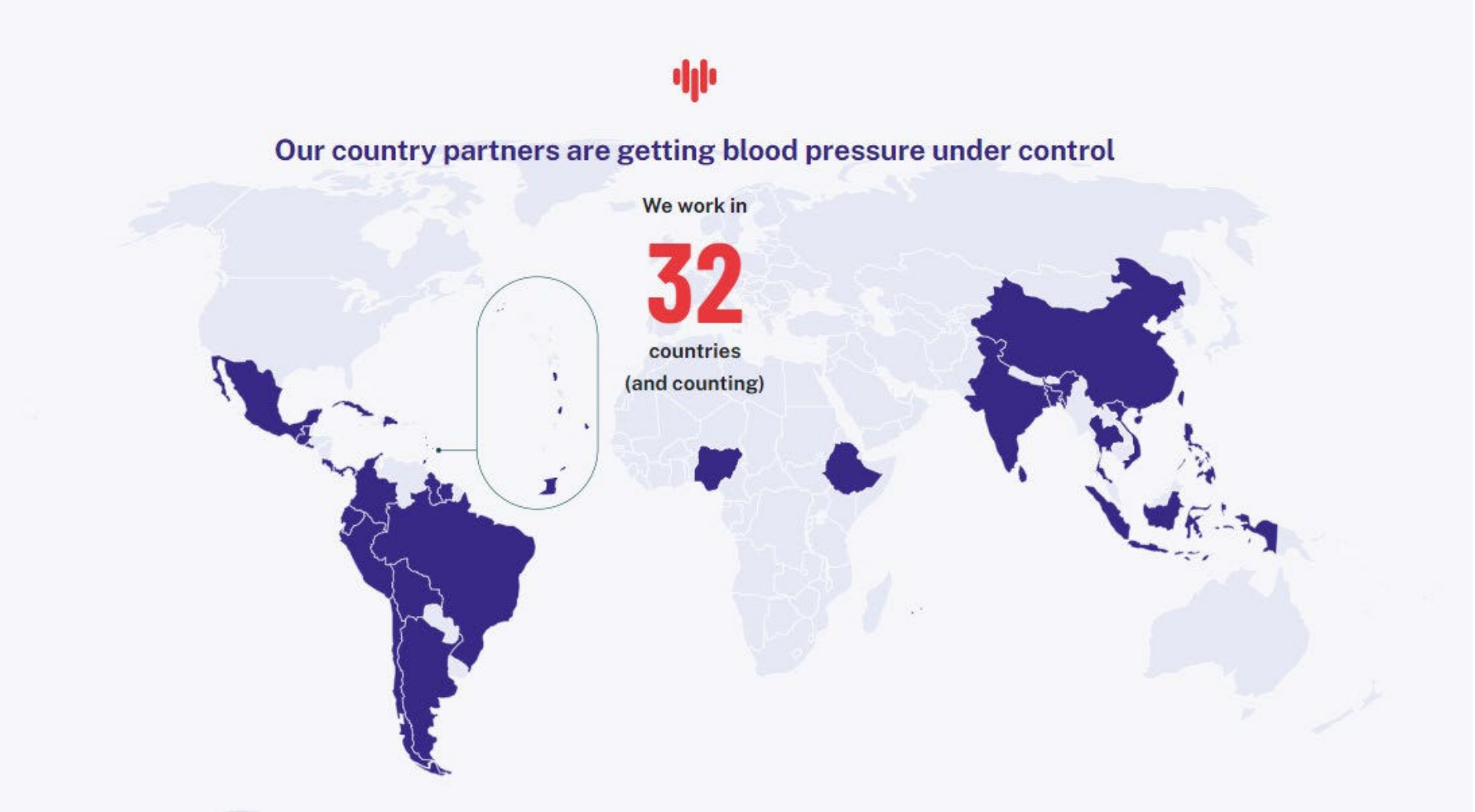
OUR MISSION

To save as many lives as possible

OUR GOALS

- Prevent 100 million deaths from cardiovascular disease
- Make the world safer from epidemics

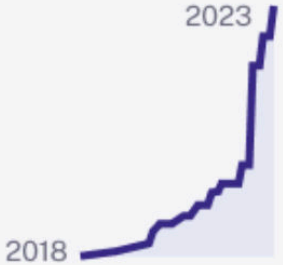
RTSL HYPERTENSION PROGRAM REACH



GLOBAL HEARTS INITIATIVE: 5+ YEARS OF PROGRESS

177,500

facilities equipped to provide high-quality hypertension care



19.4 million

patients enrolled in RTSL-supported hypertension control programs

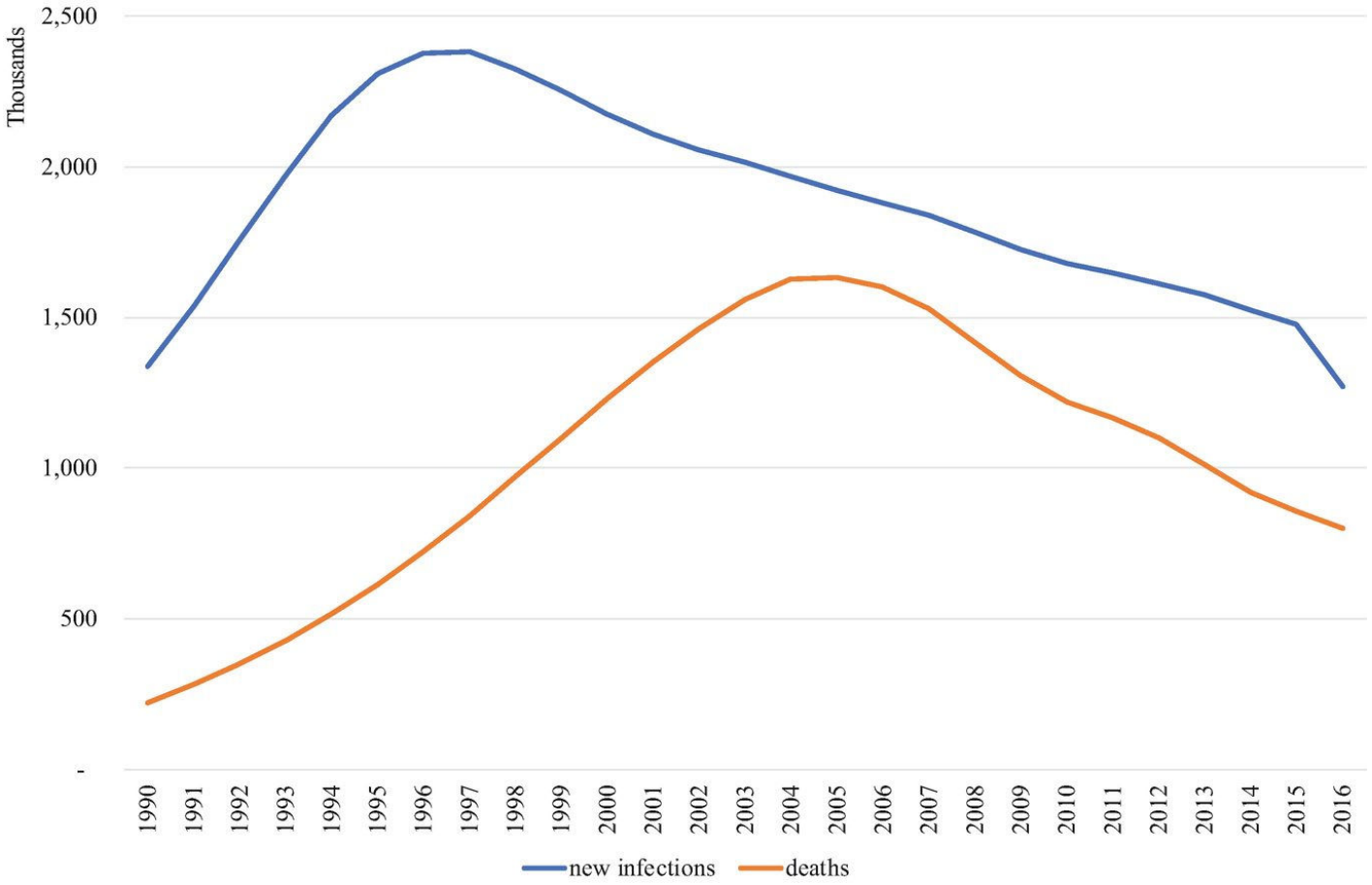
470,992

health care workers trained

44.7%

of patients with blood pressure under control within the last 3 months

WHY HIV-HYPERTENSION INTEGRATION?



Whitacre R. in: Remaking HIV Prevention in the 21st Century. 2021.

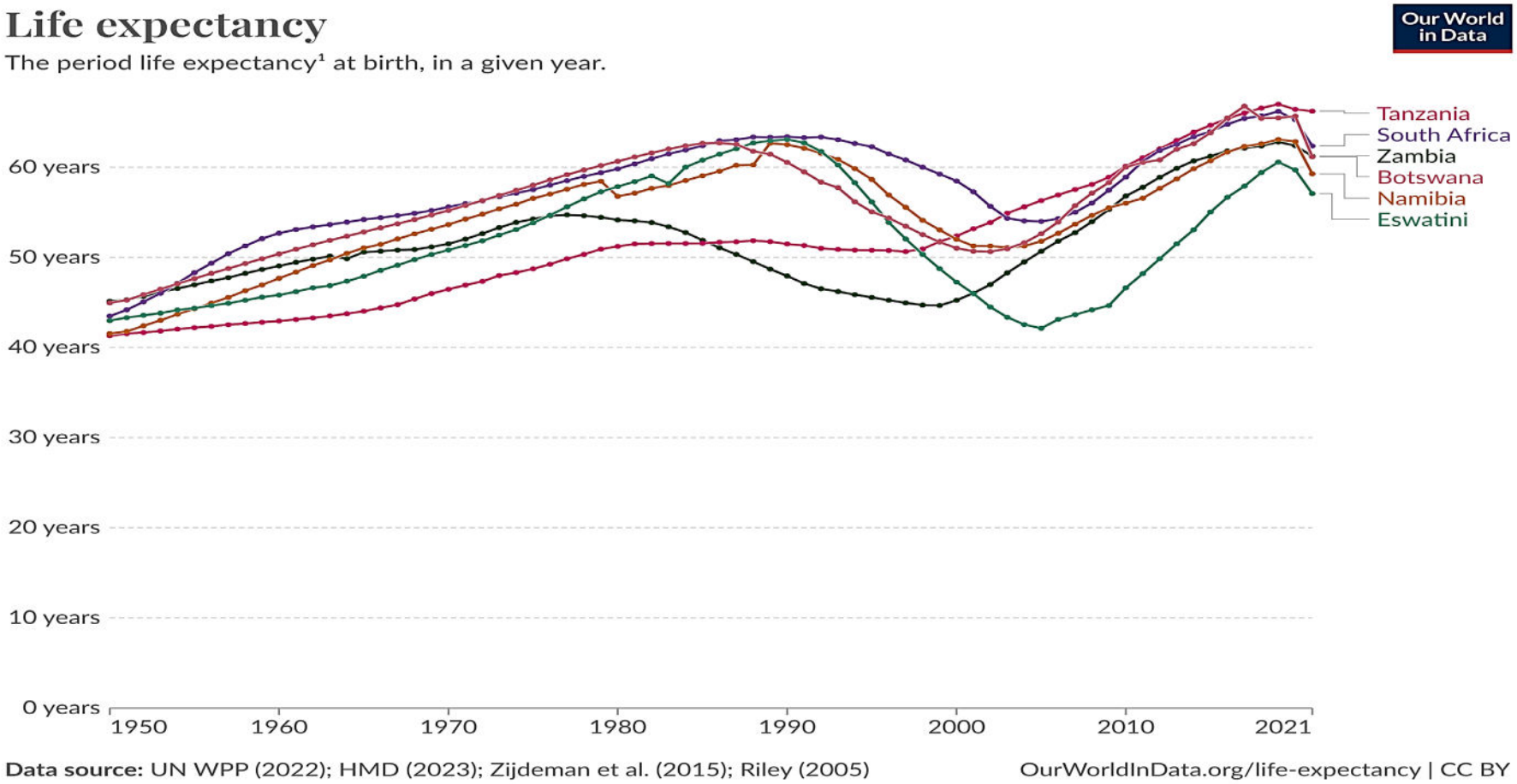
Fewer are being infected with, and fewer are dying from HIV – remarkable progress towards epidemic control

RESOLVE TO SAVE LIVES

icap Global Health

THE CQUIN NETWORK

PEOPLE LIVING WITH HIV ARE LIVING LONGER



The Operation Was a Success – *BUT THE patient died!*

Viral load suppressed but uncontrolled blood pressure leading to heart attacks and strokes

- Aging population at high risk of cardiovascular disease
    - Increased risk even among PLHIV with suppressed viral load
- An estimated 6 million PLHIV in Sub-Saharan Africa (25%) also have hypertension; evidence suggests that <25% receive hypertension treatment.[1]
- Treating PLHIV for hypertension could prevent tens of thousands of premature CVD deaths per year among PLHIV

[1] *Bigna et al. J Hypertens. 2020 Sep;38(9):1659-1668.*

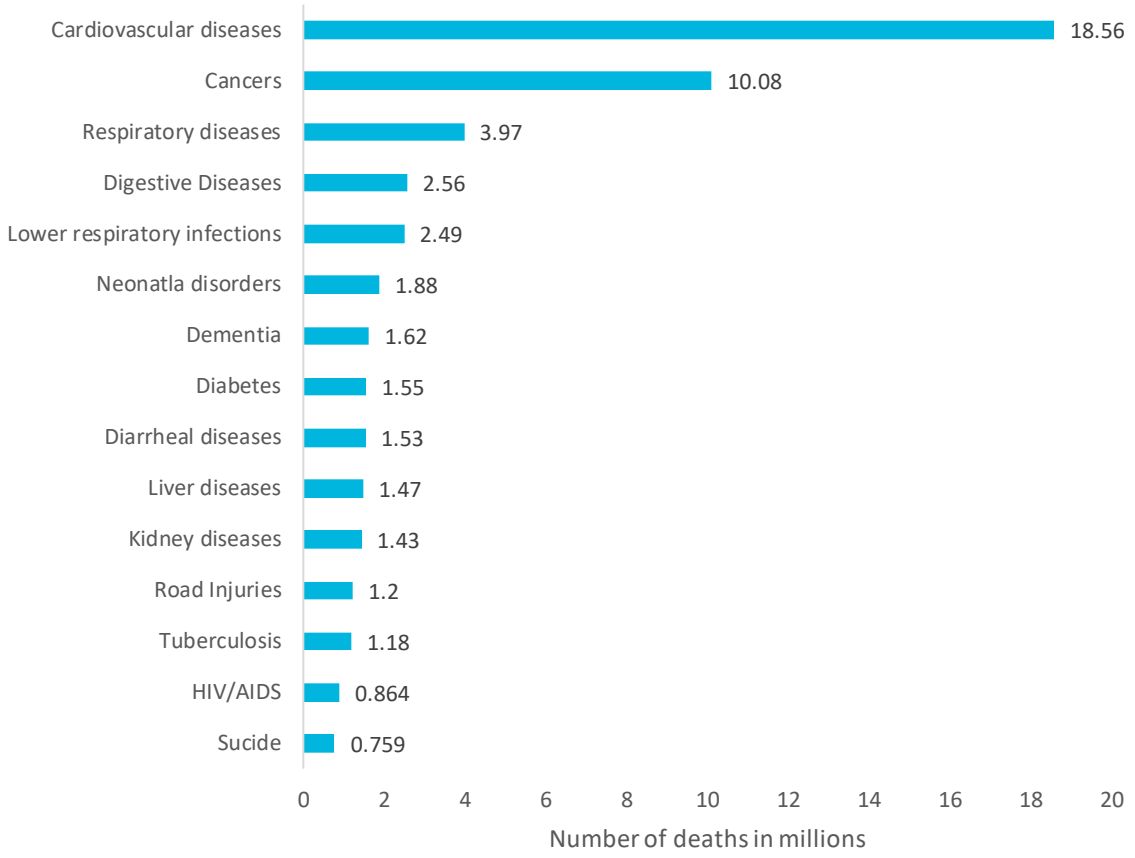
HYPERTENSION BURDEN AMONG PLHIV

- ***AFRICOS study (prospective cohort study enrolling adults with and without HIV at 12 sites in Kenya, Uganda, Tanzania, Nigeria) – data collected from 2013 to 2021***
- ***Non-Communicable Disease (NCD) burden among PLHIVs ≥ 50 years***
  - ***Hypertension – 27.5%***
  - ***Dysglycaemia – 13.4%***
  - ***Obesity – 11.7%***
  - ***Renal insufficiency – 4.3%***

.Chang et al, Lancet HIV, 2022 Mar:9 Suppl1:S5, https://doi.org/10.1016/S2352-3018(22)00070-4

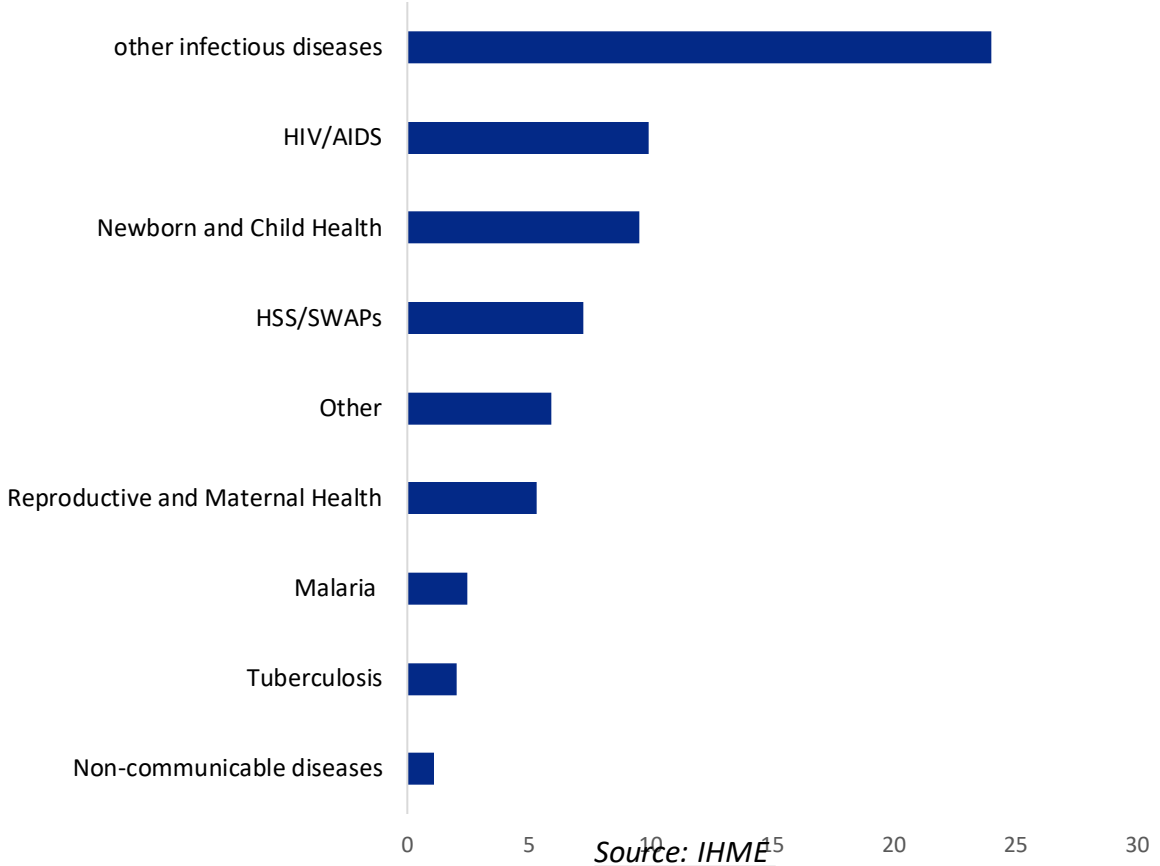
GLOBAL TRENDS FOR MORTALITY AND HEALTH FINANCING

Leading causes of deaths globally, 2019



Source: IHME, Global burden of disease (2019)

Health focus areas of development assistance for health for 2021



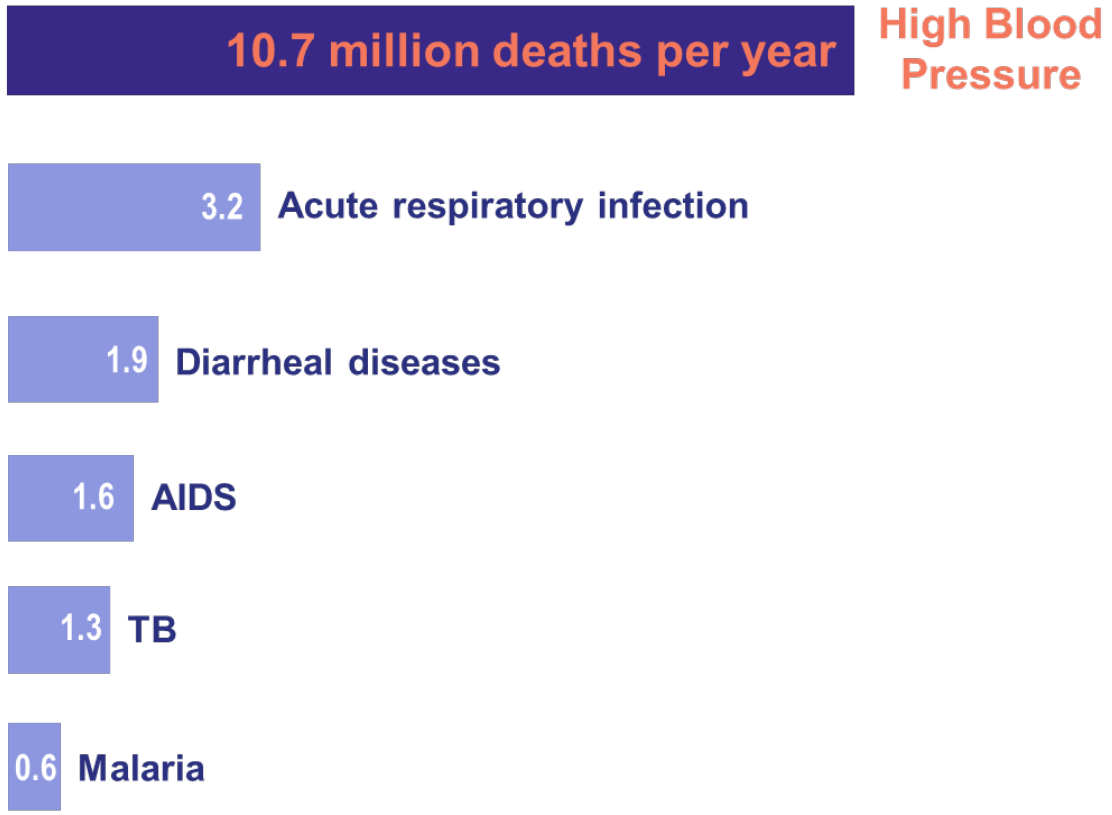
Source: IHME

Hypertension kills more people than any other condition – and more than all infectious diseases combined

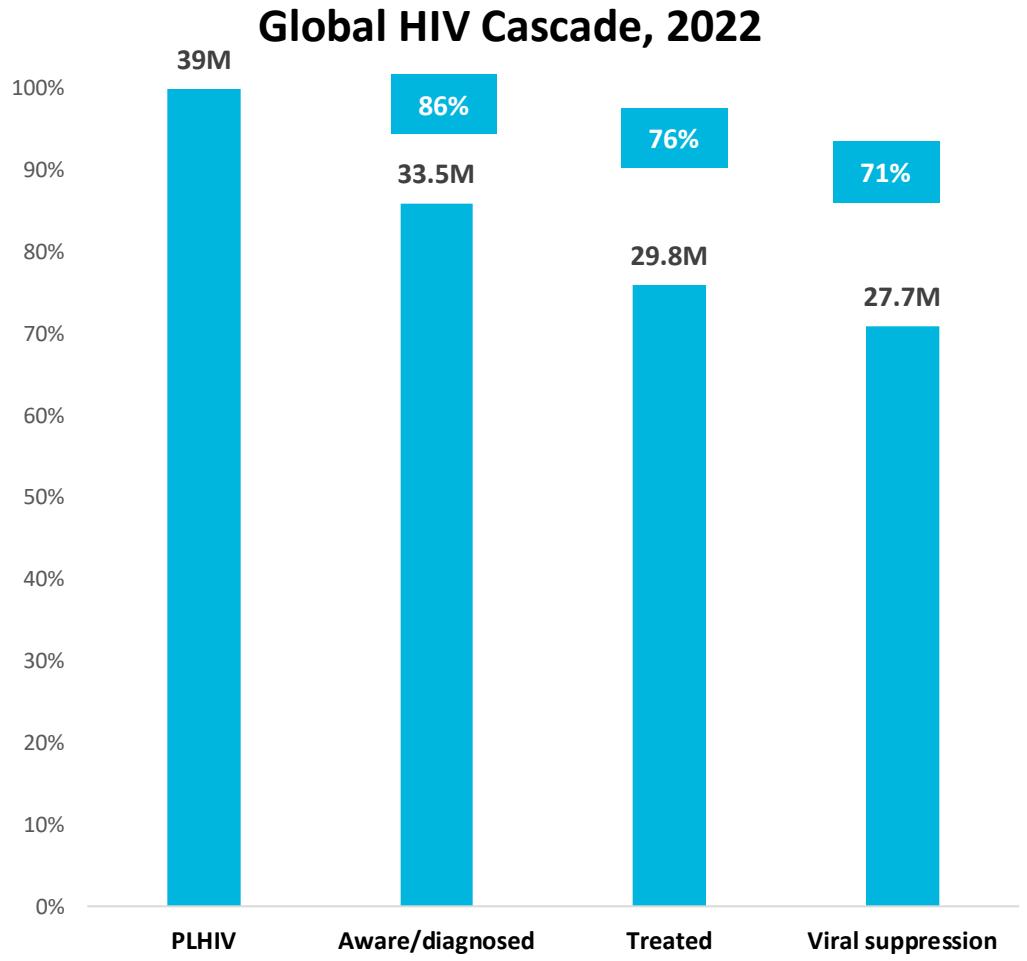
Every 20 mm increase in systolic blood from 115/75 **doubles** vascular mortality at ages 35-69

LEWINGTON S. ET AL. LANCET. 2002;360:1903-1913.

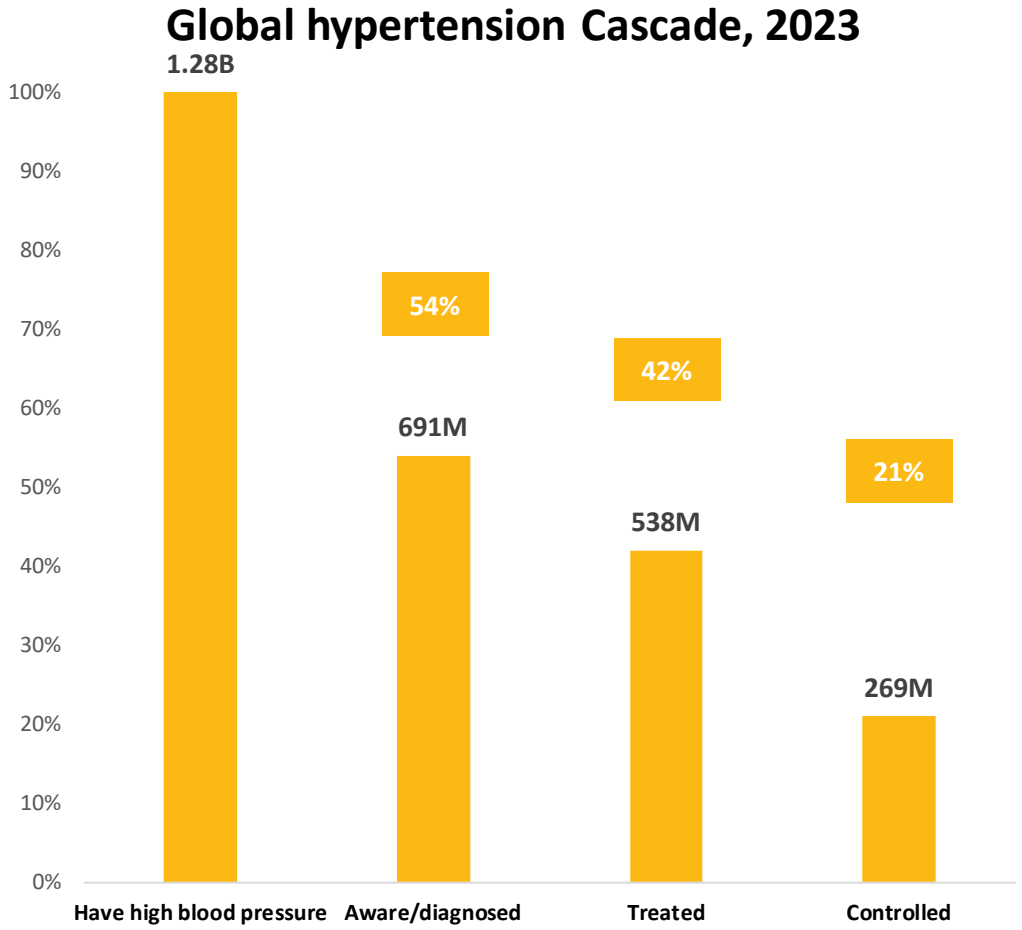
Hypertension is the leading risk factor for preventable deaths worldwide



SIMILAR CONDITIONS, DIFFERENT PICTURES



https://www.unaids.org/en/resources/fact-sheet



https://www.who.int/news-room/fact-sheets/detail/hypertension

HIV AND HTN - BACKGROUND

1

Improved access to ART for PLHIVs has led to a reduction in morbidity and mortality from HIV/AIDS (29.8 M PLHIVS are on ART -UNAIDS)

2

PLHIVs are living longer but facing increased co-morbidity with other conditions, especially NCDs, including CVD.

3

A shift in mortality patterns as more PLHIVs are dying from non-AIDS related causes.

4

High prevalence of hypertension among PLHIVs receiving ART (25% of PLHIVs have hypertension –Bigna et al, 2020)

5

4th 95? – Improving quality of life and promoting healthy aging for PLHIVs (preventing them from dying from NCDs)

6

Systems for HIV service delivery are well developed and can be utilized to deliver integrated HIV & hypertension treatment

7

HIV and hypertension are both chronic diseases requiring lifelong therapy and robust systems to retain patients in care.

CALCULATING THE '4th 95%'

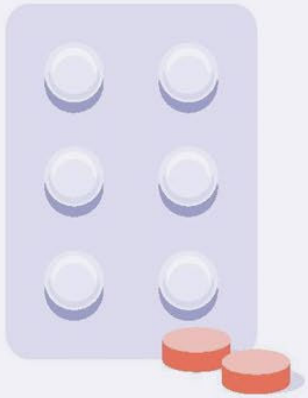
- Proportion of PLHIVs who are normotensive
- HTN prevalence among PLHIV ~25%
- % of PLHIVs currently normotensive ~75%
- Achieve BP <140/90 among 80% of the 25% of PLHIVs who have HTN:

$$(0.25 * 0.8) + 0.75 = .95$$

WHO-HEARTS approach to effective hypertension care

Simple, Practical Protocol

Manage other chronic conditions; improve evidence-based care; reduce costs



Medication and Equipment Supply

Improve purchasing and supply chain management

Team-Based Care

Applicable to wide range of chronic health conditions

Patient-Centered Services

Improve patient support; access to and confidence in primary care; reduce reliance on hospital care; reduce financial and other barriers

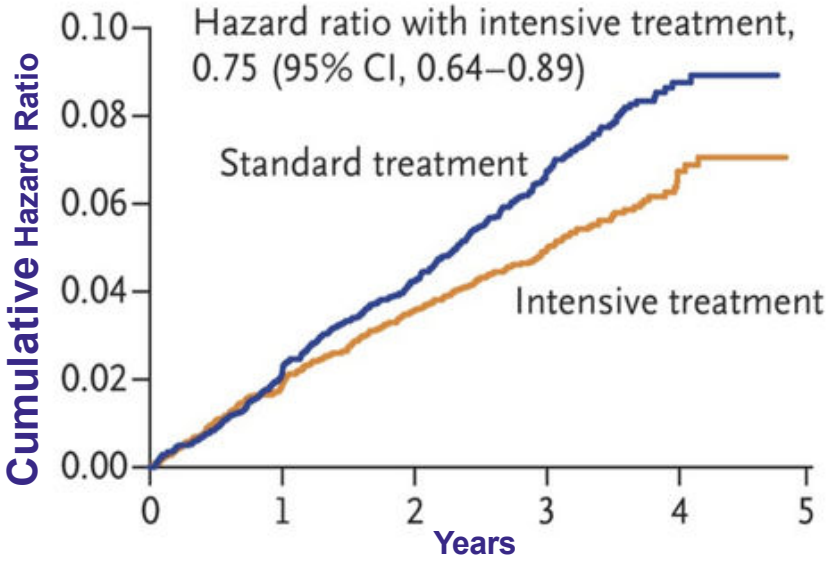
Information Systems

Create feedback loops applicable to other conditions; strengthen data-driven culture of accountability and quality improvement

SPRINT TRIAL

Lower blood pressure saves more lives

- Blood pressure target of 120/80 prevents many more heart attacks, strokes, and deaths than standard target of 140/90
  - Death rate among people treated with goal <120/80 was 27% lower than death rate of people treated to target of 140/90
  - More intensive treatment is safe despite increase in some side effects
- More intensive treatment won't hurt patients – and could save lives
- Biggest problem with care is *UNDER*-treatment, not over-treatment – even if goal remains 140/90



The SPRINT Research Group. NEJM. 2021 May 20;384:1921-1930.

SAMPLE 3-DRUG HYPERTENSION TREATMENT PROTOCOL

Step 1

If BP is high:*

Prescribe Amlodipine 5mg

Step 2

After 30 days measure BP again. If still high:

Increase to Amlodipine 10mg

Step 3

After 30 days measure BP again. If still high:

Add Telmisartan 40mg

Step 4

After 30 days measure BP again. If still high:

Increase to Telmisartan 80mg

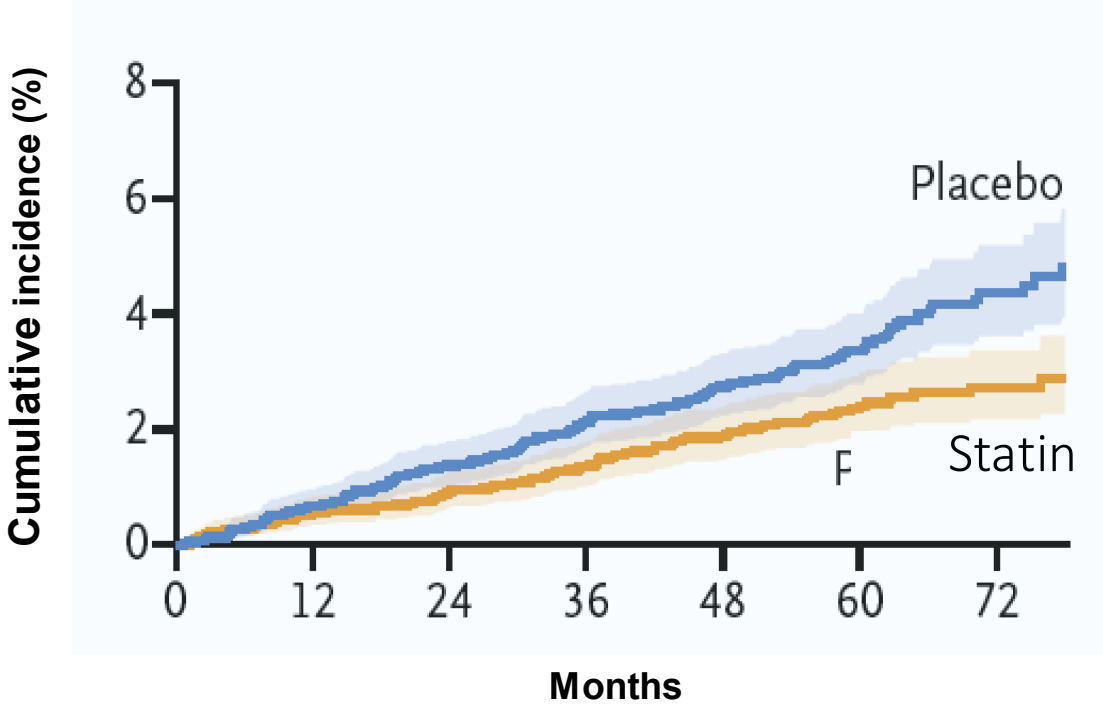
RESOLVE TO SAVE LIVES

icap Global Health

THE CQUIN NETWORK

Statins reduce risk of heart attack and stroke among PLHIV

- Even PLHIV at low-to-moderate CVD risk taking statins and ARV had a 65% lower relative risk (P = 0.002)
- Trial stopped early because of clear benefit of statins in this group and continued harm of not taking statins
- In addition to lowering LDL cholesterol, statin therapy reduces measures of immune activation and inflammation in PLHIV



Grinspoon SK et al; REPRIEVE Investigators. NEJM. 2023 Aug 24;389:678-699.

Pilot projects demonstrate integration of HIV and HTN treatment

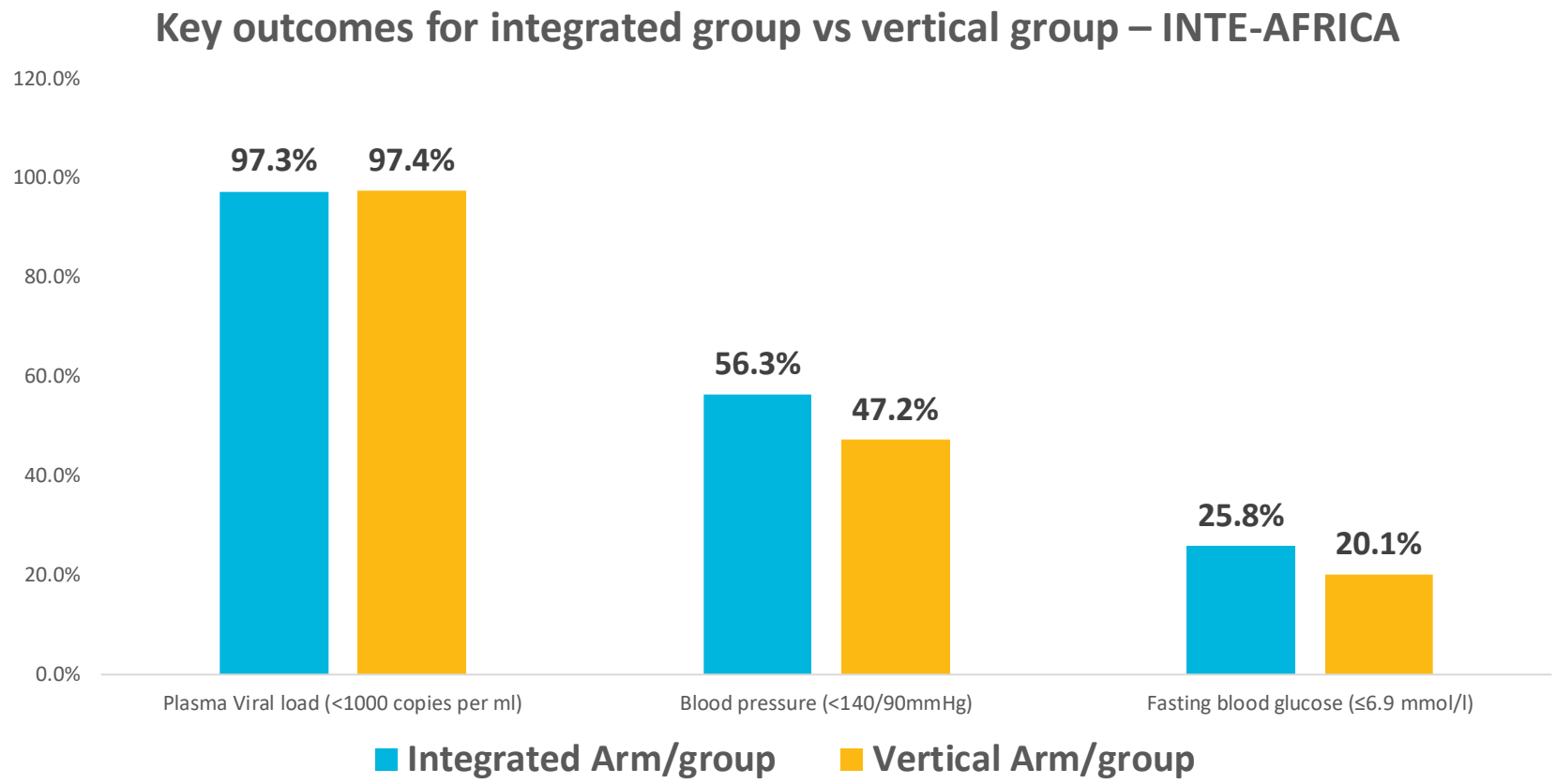
Implementing Partner.	Project Title	Implementation/Data collection period.
MJAP, Uganda	Integrating Screening and Treatment of Hypertension (HTN) and HIV within HIV Clinics in Uganda using the Behavior Change Wheel (BCW) project.	April 1, 2019 – March 31, 2021.
ITECH, India	Integration of Screening and Management of Hypertension into routine HIV care through single window services at ART centers.	November 1, 2021 – September 30, 2022.
FHI 360, Nigeria	Accelerating Hypertension - HIV Care and Treatment (AHHCT) in Primary Health Care	September 1, 2021 – November 30, 2022.
PATH, Kenya	Pamoja Tunajali	July 1, 2021 – December 31, 2022.

PILOT PROGRAMS SHOW PROGRESS

Project	Among PLHIV engaged in HIV care and with stable viral suppression						
	Screened for HTN	HTN diagnosed	Initiated on HTN treatment	HTN controlled	Retained in HTN care	HTN + virally suppressed	Follow-up time
MJAP (Uganda)	15,953 (100%)	3,892 (24%)	1,113 (29%)	73%	96%	99%	20 months
ITECH-India	36,098 (92%)	8,604 (24%)	6,535 (76%)	40%	97%	94%	10 months
FHI 360 (Nigeria)	50,472 (76%)	2,511 (5%)	2,502 (99%)	88%	92%	98%	9 months
PATH (Kenya)	3,916 (100%)	957 (24%)	135 (14%)	27%	99%	97%	10 months

- **Integration of hypertension care and treatment into HIV services does not disrupt HIV cascade/treatment rather it improves patient outcomes!!!!!!**

Other studies corroborate findings from pilot projects – INTE AFRICA



Kivuyo et al, lancet, Oct 2023, DOI: 10.1016/S0140-6736(23)01573-8

CHALLENGES AND MITIGATION - 1

- **Supply chain challenges**
  - **Frequent stock-out of hypertension medicines**
  - **High out-of-pocket costs associated with hypertension medicines**
  - **Quality of available hypertension medicines**

Mitigation

- **Aggregate demand by adopting simple drug and dose-specific protocols, which can help the government to negotiate lower prices.**
- **Update Essential Medicine Lists to include HTN medicines.**
- **Integrate hypertension medicines into the existing HIV supply chain systems to optimize management – forecasting, procurement, distribution, storage, dispensing, etc.**
- **Consider innovative solutions such as Drug Revolving Funds to provide hypertension medicines at subsidized prices to PLHIVs**
- **Linkage to health insurance programs where available**

CHALLENGES AND MITIGATION - 2

- **Lack/absence of information systems for monitoring HTN**

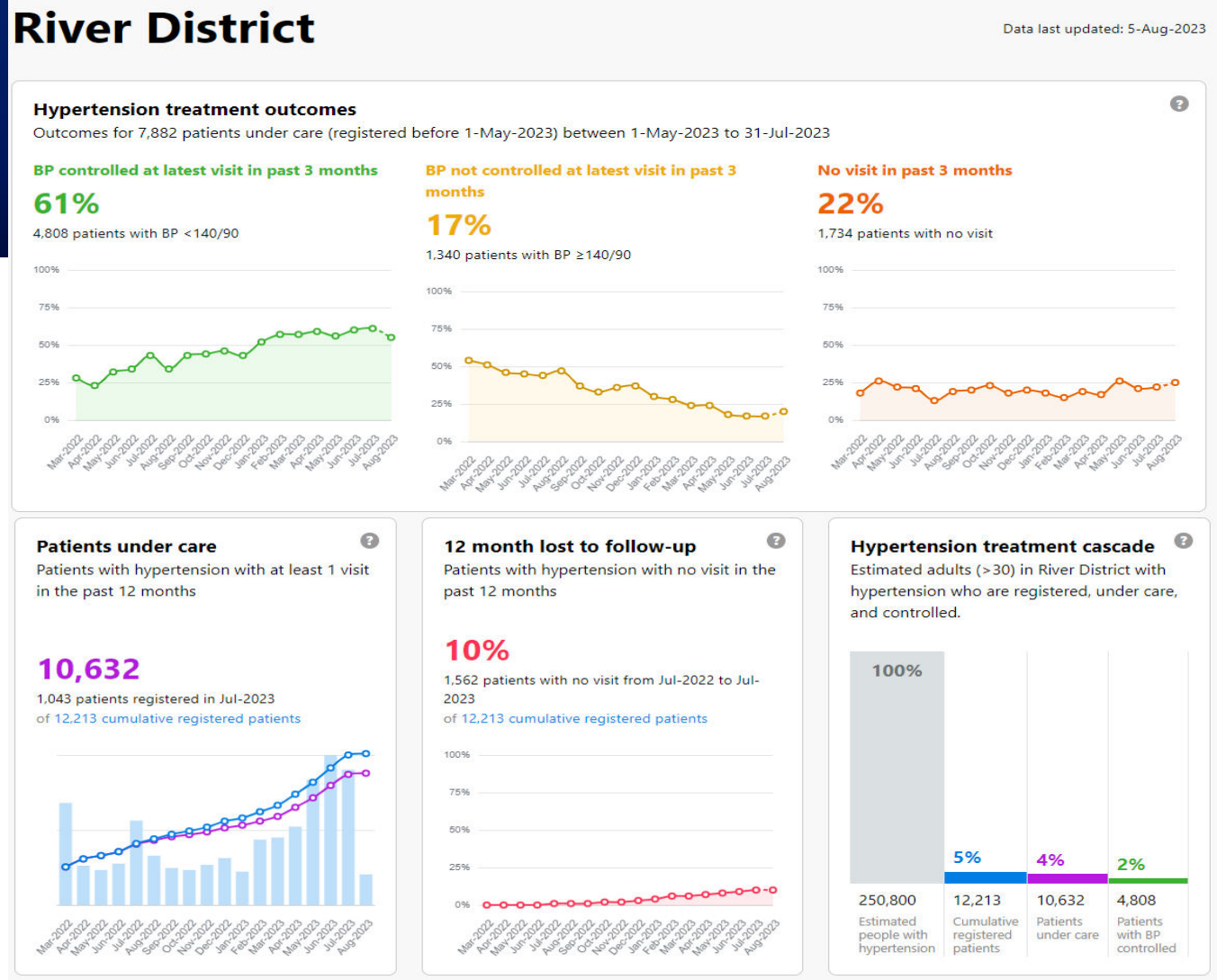
- **Develop indicators and Data Collection Tools (DCTs) for hypertension management among PLHIV.**
- **Align HTN indicators and DCT with existing guidance – WHO HEARTS and PEPFAR MER – prioritize Key impact and outcome indicators**
- **Integrate hypertension indicators and DCTs into existing HIV information systems – paper-based and EMRs**
- **Review existing HIV DCTs for modification rather than developing new DCTs for HTN.**
- **Prioritize EMRs as this will help to reduce the workload for HCWs and save time for PLHIVs**
- **Emphasize the use of dashboards as they improve data use and program tracking – HEARTS360**

HTN_INDICATORS

	PEPFAR MER	HTN INDICATORS
Screening/testing	HTS_TST	HTN_SCREEN
Diagnosis	HTS_TST_POS	HTN_DIAG
Treatment	TX_NEW	HTN_ENROLLED
Retention	TX_ML, TX_CURR	HTN_LTFU
Control/suppression	TX_PVLS	HTN_CONTROL
Medications/Equipment	SC_CURR	HTN_DRUG STOCK, HTN_BP DEVICES

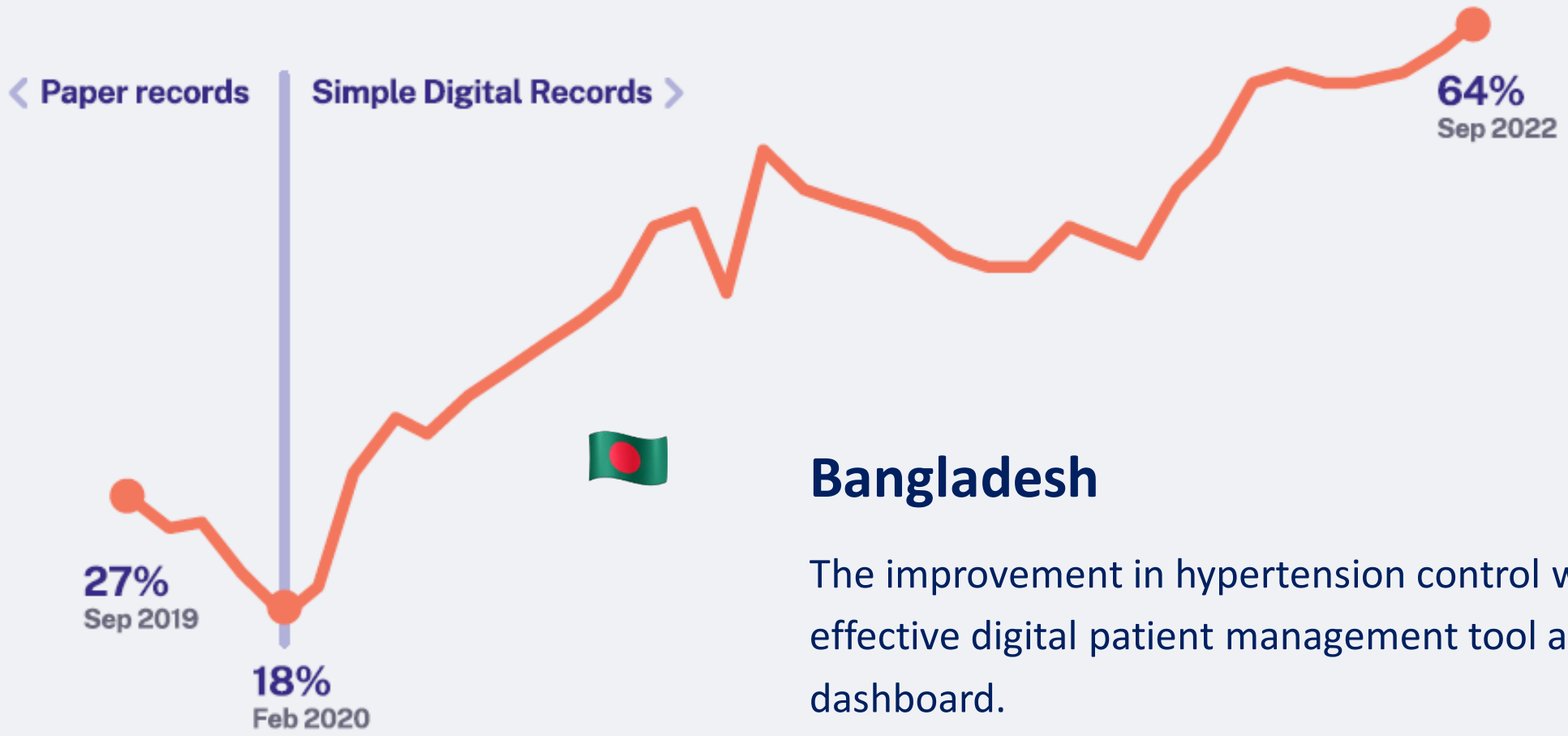
Use key indicators to drive program improvement

- If administrators and hospital leaders can monitor an easy-to-use dashboard, they can drive heath system improvement.
- Fast, monthly, feedback loops.
- Learn from the best facilities and apply those lessons to low performers.



HEARS360 Dashboard has all the indicators required to monitor a hypertension program

A good information system drives impact



Bangladesh

The improvement in hypertension control with an effective digital patient management tool and dashboard.

Today: 340,000 HTN patients managed

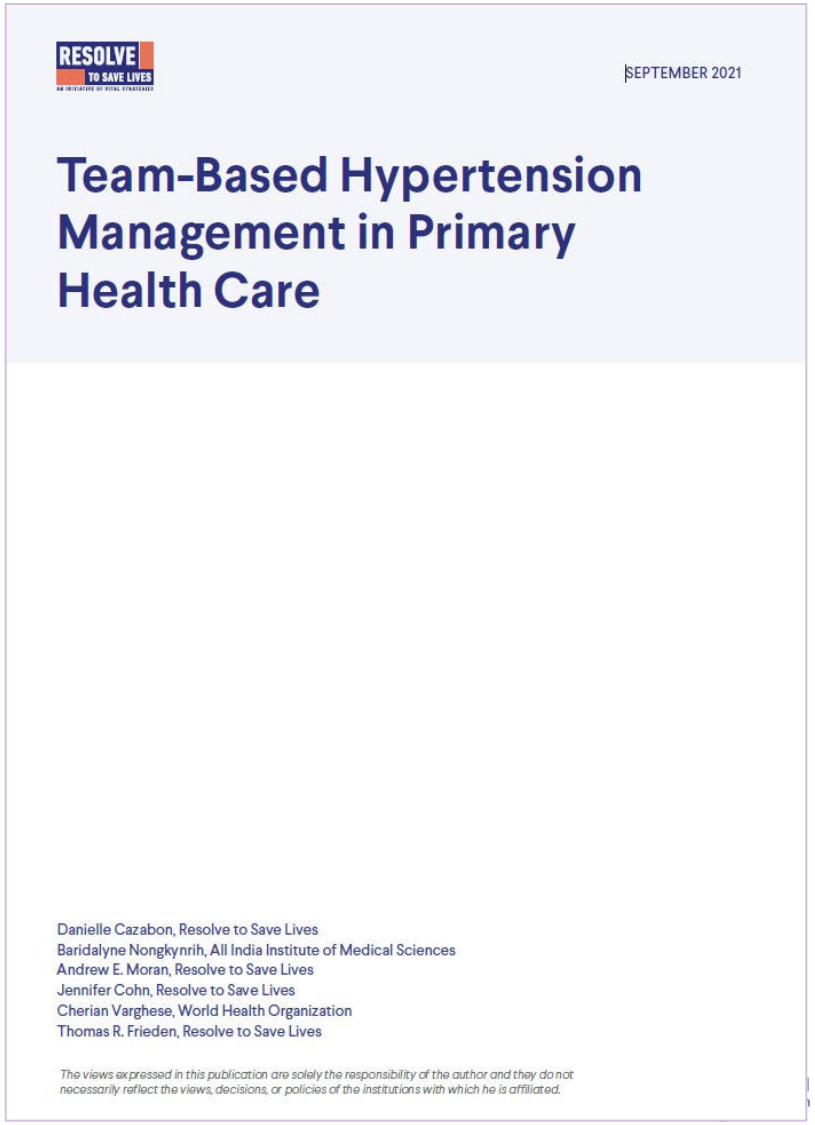
CHALLENGES AND MITIGATION - 3

- **Increased workload for healthcare workers as they provide integrated HIV and HTN services**

- **Implement task sharing among the different cadres and lay personnel involved in managing PLHIVs.**
- **Leverage technology to streamline the integration process and reduce the burden of work – EMRs, telemedicine etc.**
- **Integrate HTN management into existing ART DSD models and harmonize visits for PLHIVs**

TEAM-BASED CARE FOR HYPERTENSION

Task	Doctor	Hypertension specialist	Nurse	Pharmacist	Counsellor	Nutritionist	Social Worker	Community health care worker (CHW)	Clerical staff
Take patient history									
Diagnosis									
Regular evaluation for complications									
Highly complex patients*									
Take BP measurement									
Lifestyle Counselling									
Refill medications									
Adjust medications									
Patient follow-up									
Refer patient									
Data entry									
Appointment scheduling and reminders									

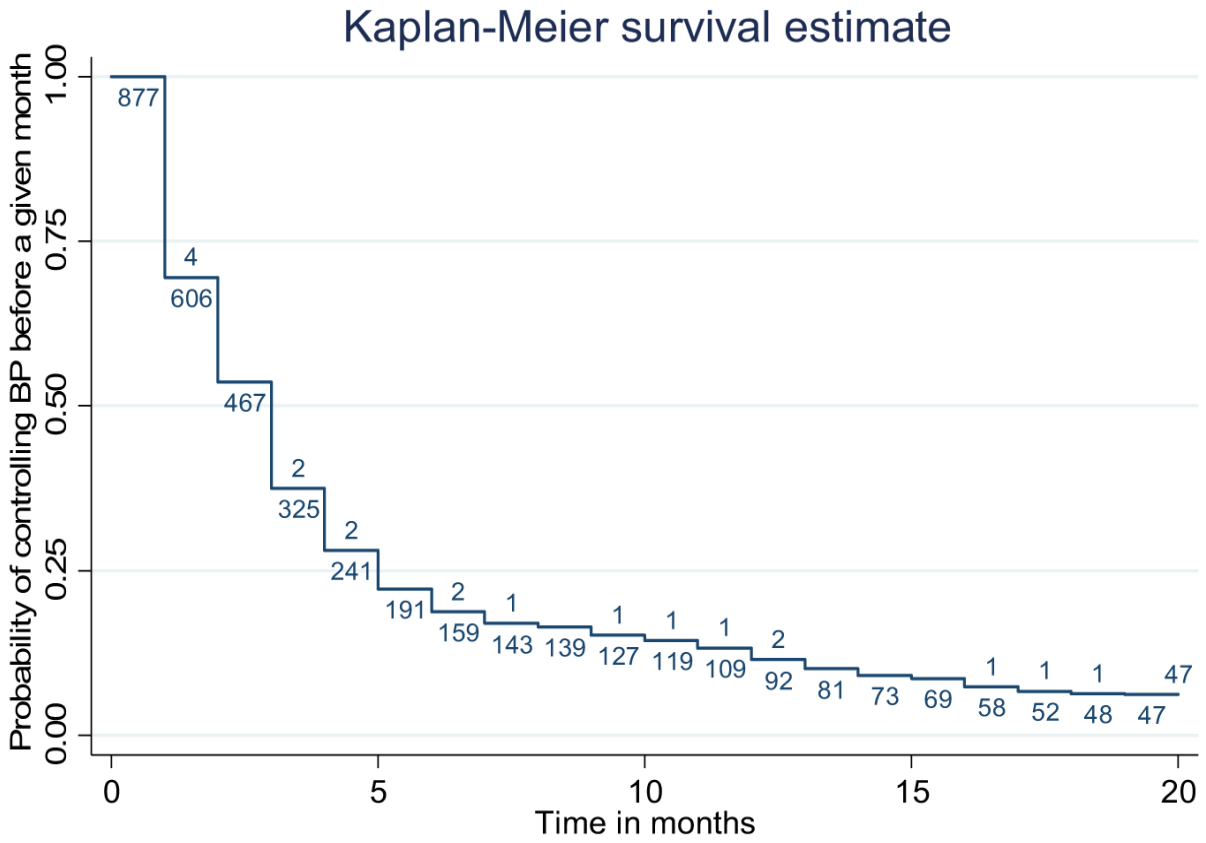


CHALLENGES AND MITIGATION

Inadequate availability of basic equipment to diagnose and monitor response to hypertension treatment

- **Ensure the supply and use of validated digital/automated blood pressure monitors to diagnose and manage hypertension among PLHIVs.**
- **Validated digital blood pressure measurement devices can be identified here – STRIDE, ValidateBP, Medaval, Hypertension Canada, British and Irish Hypertension Society.**

MEDIUM TIME TO BP CONTROL AMONG PLHIV ON TREATMENT



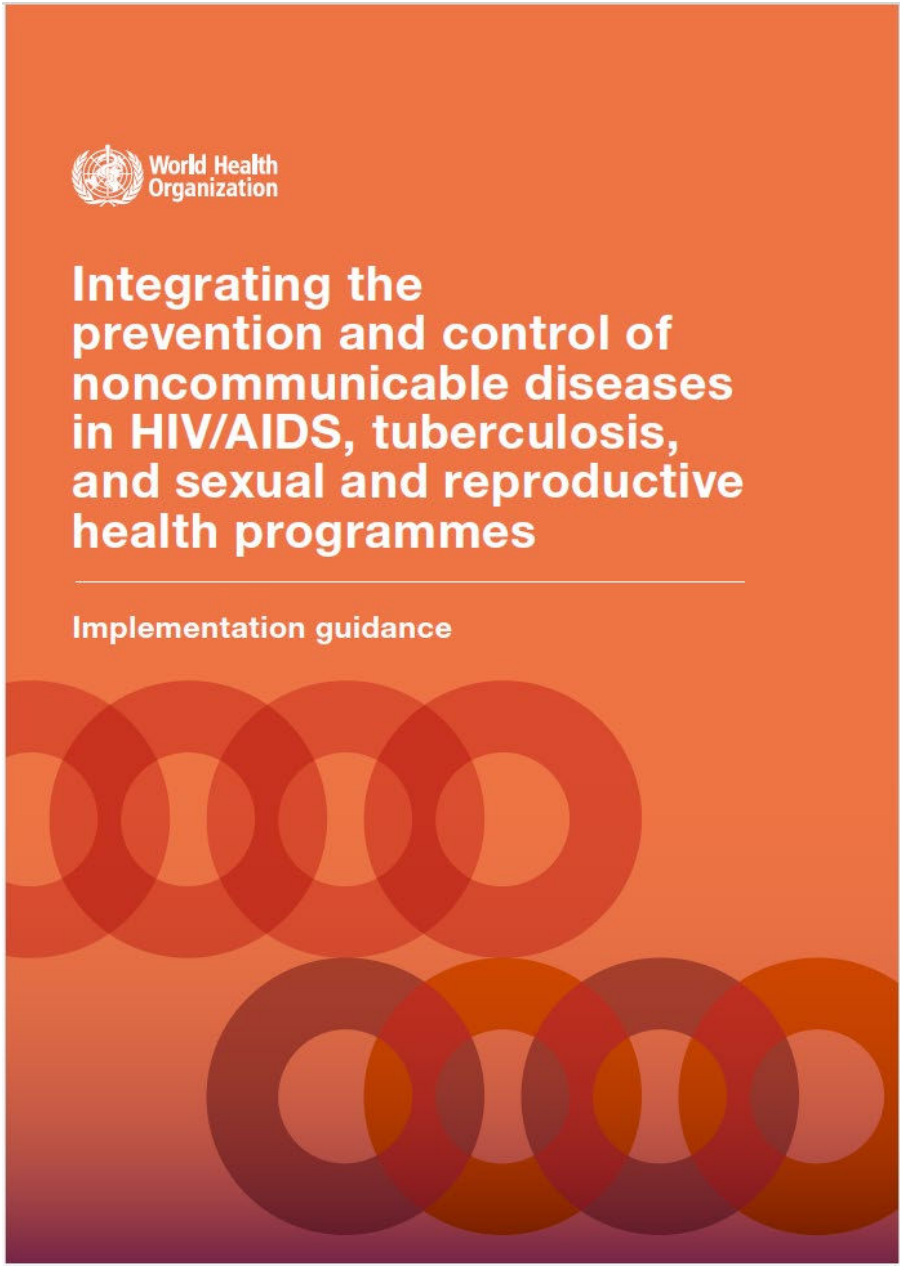
- N = 877 PLHIV with HTN
- Mean = 50.5 years
- Females = 62.1%
- HTN medicines:
  - Amlodipine, Valsartan, hydrochlorothiazide
- Probability of BP control at one, two, three, four, and five months of follow-up: 30%, 50%, 70%, 80% and 85% respectively

Amutuhaire et al, J Hums Hypertens, Feb 2024 DOI: 10.1038/s41371-024-00897-3

Global guidance - WHO

- **2021 HIV guidelines recommend the integration of hypertension and diabetes with HIV services but note that more evidence is required as to the impact of integration**
    - **Implementation guidance- aligning the provision of NCD services with differentiated service delivery for HIV treatment models should be considered.**

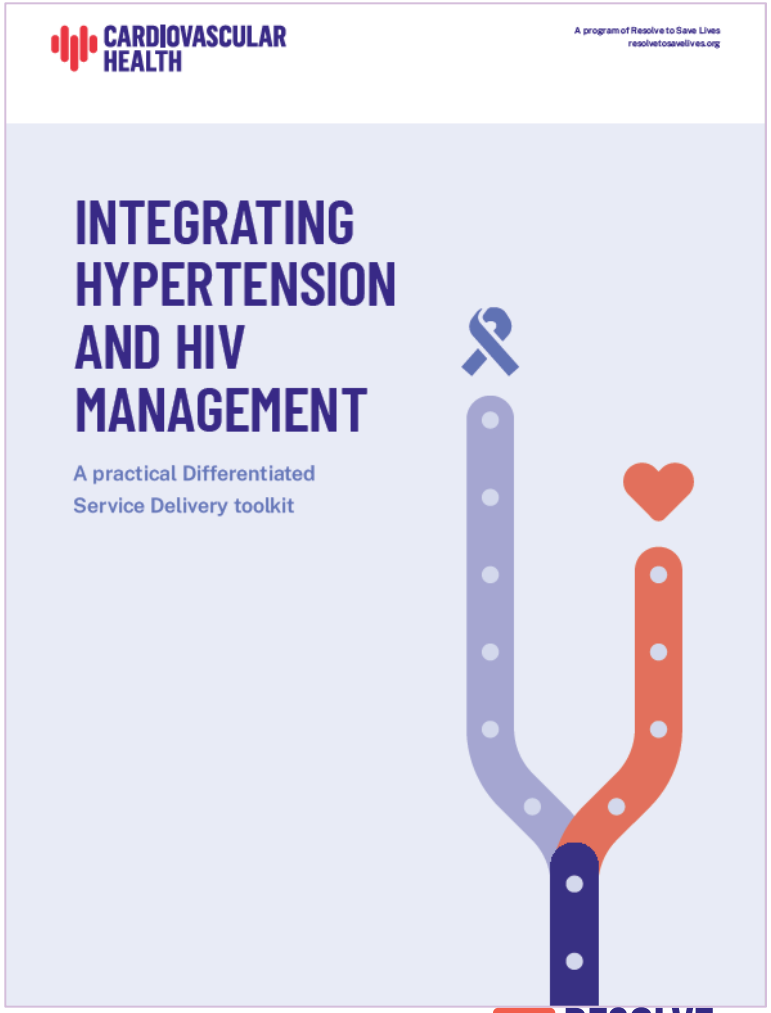
- **2023 implementation guidance for integration of NCDS into HIV/AIDS, tuberculosis, and sexual and reproductive health programs with emphasis on**
    - **Primary healthcare approach**
    - **People centered care**



HIV-HTN DIFFERENTIATED SERVICE DELIVERY INTEGRATION TOOLKIT

HIV-HTN integration toolkit

- An overview of the general principles of DSD for chronic disease management.
- Guidance on how hypertension management can be integrated into DSD models for ART.
- Case studies and examples of how hypertension management has been integrated into DSD models for ART.
- Adaptable implementation tools developed for DSD and HIV-hypertension service integration programs



PEPFAR COP 23 GUIDANCE

In alignment with PEPFAR's strategic pillar of sustaining the response and recognition of the life-threatening unmet need of uncontrolled hypertension among adults living with HIV, countries where there is a high burden of HIV and PLHIVs with hypertension are encouraged to work with partners to implement proven solutions that advance person-centered care for hypertension control.

It will be important for such programs to (1) screen for hypertension among all adult PLHIV at least annually; (2) implement standard hypertension treatment protocols in primary care; (3) ensure access to essential HTN medicines for PLHIV; and (4) track patient outcomes and program performance over time using an information system. Such integrated programs will further PEPFAR's goal of utilizing its platform for broader public health programming.

HIV CONTROL IS THE FUTURE OF HIV SURVIVAL

- As life expectancy for PLHIV continues to increase, hypertension will likely become the leading risk factor for premature mortality
- Preventing and treating hypertension is simply an integral part of ensuring long, healthy lives for all PLHIV
- Now is the time to scale up HIV-hypertension integration to sustain the population health impact of HIV programs and to use the HIV platform to support countries in developing person-centered treatment as PLHIV age, as well as accelerate progress to SDG targets and Universal Health Coverage.

1. Set specific program goals and track progress toward achieving them
2. Select a standard hypertension treatment protocol
3. Ensure supply of medications and validated digital blood pressure measurement devices
4. Train health care workers and activate health system supervisors
5. Implement an information system for monitoring and measuring the hypertension cascade at national and sub-national levels.
6. Enroll patients and continuously improve and expand

Main Messages and ASKS

icap Global Health

RESOLVE TO SAVE LIVES

THE CQUIN NETWORK

www.cquin.icap.columbia.edu

Thank You!