Changing landscape of PrEP in Africa

Saiqa Mullick, MBBCh PhD (Wits RHI)
HPTN Regional Meeting, Cape Town 27th September 2023
Key takeaways

• East and Southern Africa bear the highest burden of HIV, although HIV incidence is declining, AGYW and key populations are disproportionately affected

• Oral PrEP has been rolled out and uptake has been highest in the Africa region - but below targets

• High uptake has been due to many factors including coordination, availability of tools and resources, understanding the value chain for product introduction and many differentiated service delivery models

• New long-acting PrEP methods: DVR and CAB-LA approved in several African countries

• Many demonstration studies are planned and underway, some of which are large, real-world demonstration projects

• Stigma, access for pregnant and breastfeeding people, under 18s, cost, supply chain, scheduling of new methods, and the coexisting burden of STIs and unmet need for contraception remain challenges.
East and Southern Africa bear a high burden of HIV

Estimated number of adults and children newly infected with HIV  |  2022

- **North America and western and central Europe**: 58,000 (46,000–69,000)
- **Caribbean**: 16,000 (11,000–21,000)
- **Latin America**: 110,000 (94,000–129,000)
- **Middle East and North Africa**: 17,000 (13,000–23,000)
- **Western and central Africa**: 160,000 (110,000–250,000)
- **Eastern and southern Africa**: 500,000 (370,000–670,000)
- **Eastern Europe and central Asia**: 160,000 (140,000–180,000)
- **Asia and the Pacific**: 300,000 (220,000–400,000)
- **Caribbean**: 16,000 (11,000–21,000)

**Total**: 1.3 million [1.0 million–1.7 million]
Women and girls bear a disproportionate burden of HIV in sub-Saharan Africa

Distribution of new HIV infections and of the population, by age and sex, sub-Saharan Africa, 2020

Since 2015, oral PrEP uptake increased exponentially, especially in ESA...

Global PrEP Uptake – 11+ years in

PrEP initiations by country, August 2023

Approximate total PrEP initiations: 4.9 million with strong increases in 2022
Country trends in oral PrEP uptake

- Eight countries in SSA have surpassed 100,000 PrEP initiations, accounting for 91% initiations in the region.

- South Africa and Kenya were two of the earliest adopters with national programs scaling up over time.

- Zambia, Uganda and Nigeria have seen steep growth since 2021 – nearly 100% of initiations in these countries were PEPFAR-driven.
Global coordination!

Coalition to Accelerate Access to Long-Acting PrEP
July 2022

Convenors:
Unitaid UNAIDS The Global Fund

Secretariat:
AVAC

Purpose
The Coalition to Accelerate Access to Long-Acting PrEP is a new initiative that brings together leading donors, agencies, and advocates to ensure an accelerated, equitable, sustainable and collaborative approach to making longer-acting PrEP options accessible as quickly and as equitably as possible. The Coalition is convened by Unitaid, WHO, UNAIDS, Global Fund and PEPFAR, with AVAC as the Secretariat.

The objective of this coalition is practical: to coordinate key stakeholder activities on PrEP access, including jointly developing strategies to identify and overcome access challenges for new PrEP options in the near- to medium-term (especially as relates to ViIV’s injectable CAB, including generics, and the dapivirine vaginal ring) and the medium- to longer-term (as relates to future PrEP products).

BioPIC
MOSAIC Experience

• While oral PrEP scale-up in South Africa has been successful, it was complex with many different partners doing different things

• Coordination and collaboration at the country level helps to avoid duplication, identify synergies and optimize resources

• South Africa example of a collaborative framework for PrEP led by the NDOH
  - Includes interagency partners working together on a shared agenda
  - MOSAIC co-leads PrEP TWG sub-committees on guidelines, implementation science and demand creation, and supports the supply chain subcommittee

Source: Adapted from Hasina Subedar, NDOH SA
Clear path from research to national implementation at scale:

The Product Introduction Framework (VALUE CHAIN)

- **PLANNING & BUDGETING**: National and state rollout plans are established to implement product for priority end user populations.

- **SUPPLY CHAIN MANAGEMENT**: Product is available and distributed in sufficient quantity to meet projected demand via priority delivery channels.

- **SERVICE DELIVERY PLATFORMS**: Product is delivered by trained healthcare workers in priority delivery channels to effectively reach end users.

- **DEMAND CREATION AND ENGAGEMENT**: End users know about and understand the product and are able to seek out, initiate and effectively use the product.

- **UPTAKE & MONITORING EFFECTIVE USE**: The product is effectively integrated into national, state, program, and facility level monitoring systems.

The value chain must be preceded by the finalisation of guidelines, submission to NEMIL, market shaping and a tender process.

*This framework is dependent on product developers to ensure acceptable and affordable options are put forward.*
Multiple **key tools and resources available** along the introduction pathway:

<table>
<thead>
<tr>
<th>Policy, Plans &amp; Costing</th>
<th>Supply Chain &amp; Market Development</th>
<th>Service Delivery</th>
<th>Uptake &amp; Effective Use</th>
<th>Monitoring &amp; Evaluation</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supports rapid guideline development, up to date with latest WHO guidance</td>
<td>Ongoing development to ensure good user experience/based on user feedback</td>
<td>Developed, utilized in CATALYST; non-CATALYST version available for adaptation</td>
<td>Adapted for country use in CATALYST</td>
<td>HIVDR toolkit (developed under GEMS) gets updated with new resources added through MOSAIC</td>
<td>Available for public access; shared widely with ring and CAB researchers (Vietnam, Malawi, Cambodia, Kenya, Nigeria, South Africa)</td>
</tr>
<tr>
<td>Implementation Plan Template</td>
<td>Supply chain 101</td>
<td>PrEP ring clinical training</td>
<td>HIV Prevention Ambassadors Training Package</td>
<td>Proposed M&amp;E indicators</td>
<td></td>
</tr>
<tr>
<td>In progress, to support rapid programmatic planning</td>
<td>Unpacking the supply chain for biomedical prevention (provided to MATRIX)</td>
<td>Developed, utilized in CATALYST and adapted by select MOSAIC countries</td>
<td>Update for KPs/diverse populations in progress; AGYW version utilized in CATALYST</td>
<td>Novel PrEP indicators developed by the MOSAIC M&amp;E WG; ‘volume of PrEP prescribed’ included as new WHO SI indicator</td>
<td></td>
</tr>
<tr>
<td>CAB Value Chain Situation Analysis Template</td>
<td>Regulatory 101</td>
<td>Provider training on choice counselling</td>
<td>Digital health demand generation resource pack</td>
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<tr>
<td>Recently finalized to allow IPs/ministries to carry out their own assessments</td>
<td>Provides an overview of the regulatory process for new PrEP methods. Provided to MOSAIC countries as requested by Mission/MOH</td>
<td>Developed and utilized in CATALYST</td>
<td>In development- to guide digital health selection for PrEP demand generation</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>PrEP for PBFP Provider Training Course</td>
<td>Positioning strategy for AGYW</td>
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<td></td>
<td></td>
<td>Updated to include PrEP ring</td>
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</tbody>
</table>

More information on these resources can be found here: [MOSAIC - PrEPWatch](#)
Examples of available technical resources
Many differentiated service-delivery models are being implemented

- Healthcare facilities
- Mobile clinics at community hotspots
- Gazebos at community hotspots
- Pharmacy models
- Community-Based Organisations (CBOs) as pick-up points
- Universities and TVET colleges
- Service delivery at high schools
- Linkage to care through social media messengers and WhatsApp 4 Business

But we still have a huge burden of disease, especially STIs
Community and youth engagement are key!
We need a multi-method market

Time to market

<table>
<thead>
<tr>
<th>Prevention Product</th>
<th>2020-2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026-2027</th>
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<tbody>
<tr>
<td>Vaginal Ring</td>
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<tr>
<td>Dapivirine Vaginal Ring</td>
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<td>Positive WHO Prequalification and Recommendation</td>
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<td></td>
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<td>Monthly DVR approved in several African countries; further registrations and implementation studies are underway</td>
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<tr>
<td>Long-Acting Injectable</td>
<td></td>
<td>Cabotegravir</td>
<td>Early HPTN 083 and 084 results</td>
<td>US FDA approval</td>
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<td>Generics available for LMICs</td>
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<tr>
<td>Lenacapvir</td>
<td></td>
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<td>Additional regulatory approvals &amp; WHO recommendation, further registrations, implementation studies &amp; early introduction are underway</td>
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<tr>
<td>Oral PrEP</td>
<td></td>
<td>FTC/TAF</td>
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<td>Daily oral FTC/TAF efficacy trials in cisgender women</td>
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<tr>
<td>Ilatravir</td>
<td></td>
<td></td>
<td></td>
<td>Monthly oral Ilatravir efficacy trials in MSM, TG women and cisgender women</td>
<td>Discontinued Sept. 2022</td>
<td></td>
</tr>
<tr>
<td>Dual Prevention Pill</td>
<td></td>
<td>TDF/FTC/Combined oral contraceptives</td>
<td>Bioequivalence studies; possible regulatory approval &amp; early introduction</td>
<td>Product formulation; future bioequivalence studies; possible regulatory approval &amp; early introduction</td>
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<tr>
<td>FTC/TAF/Combined oral contraceptives</td>
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<tr>
<td>Preventive Vaccine</td>
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<td>Ad26</td>
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<td>Efficacy trial among MSM and TG people</td>
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<td></td>
<td>Jan 2023: The vaccine was safe, but was not effective at preventing the acquisition of HIV</td>
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### PrEParing for New Products in Africa

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<td>Botswana</td>
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<td>Starting 2024/25</td>
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<td></td>
<td></td>
<td></td>
<td>Priority waitlist</td>
<td>$3,000,000</td>
<td>3</td>
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<tr>
<td>Lesotho</td>
<td>Via South Africa</td>
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<td></td>
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<td>Starting 2024/25</td>
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<td>$3,750,000</td>
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<td>South Africa</td>
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<td></td>
<td>$3,000,000</td>
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<tr>
<td>Zimbabwe</td>
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<td>8,000-10,000</td>
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<tr>
<td>Burkina Faso</td>
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<td>Cote D'ivoire</td>
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<td>Ghana</td>
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<td>Mali</td>
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<td>Nigeria</td>
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<td>Priority waitlist</td>
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<td>Togo</td>
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</tbody>
</table>
Out of 36 planned and ongoing CAB for PrEP and Dapivirine Vaginal Ring implementation studies, 23 are taking place in Africa

*some studies are taking place in more than one country*
PrEParing for New Products- Study Populations (Africa)

- Cis women, AGYW, PLP, and adolescents well represented
- Trans and gender non conforming people less well represented
- No studies planned for people who use drugs or prisoners
- Inclusion of diverse populations is key to gather evidence around safety, adherence, etc.
PrEParing for New Products- Sample Sizes (Africa)

- Not all studies have established sample sizes
- Only five studies with over 5,000 participants: CATALYST (MOSAIC), Project PrEP (Wits RHI), FASTPrEP (DTHF), Theta Nami Ngithethe Nawe (“Let’s Talk”) (AHRI), and Path to Scale for CAB-LA in Malawi (BPS)
- Most studies plan to run 2023-2025, dependent on approvals and CAB supply
2023

**8 studies** introducing CAB in **6 countries**: Brazil, Kenya, Lesotho, South Africa, Uganda, Zimbabwe

**5 countries** receiving CAB through PEPFAR COP allocations*: Malawi, Zambia, Zimbabwe, Ukraine, Vietnam

2024/2025

**Likely to start** via COP in first half of 2024*: Eswatini

**Other potential countries** on PEPFAR COP waiting list*: Kenya, Lesotho, Nigeria, Philippines, South Africa, Thailand, and Uganda (currently paused)

**20+ studies** in the pipeline: see PrEPWatch

*PEPFAR COP allocations may change
Catalyzing access to new prevention products to stop HIV

The CATALYST study, under the MOSAIC project, will use mixed methods to characterize and assess the implementation of an enhanced service delivery package providing choice of PrEP products among women at PEPFAR delivery sites in Kenya, Lesotho, South Africa, Uganda, and Zimbabwe.

**STUDY DESIGN**

- Implementation of an enhanced service delivery package that supports choice among the PrEP products that have regulatory approval in each country, such as oral PrEP, PrEP ring and injectable cabotegravir for PrEP.
- Includes components at the individual, provider, facility and community levels
- Uses quality improvement methods to refine components and identify a core service delivery package for PrEP choice

<table>
<thead>
<tr>
<th>OBJECTIVE 1</th>
<th>OBJECTIVE 2</th>
<th>OBJECTIVE 3</th>
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</table>
CATALYST functions as a learning lab

CATALYST serves as a learning laboratory for new product introduction. Learnings from CATALYST and MOSAIC activities flow across national, regional and global levels.
PrEP demonstration sites across regions in South Africa

The planned implementation science studies are spread across all 9 provinces and 18 districts representing a mix of urban, peri urban and rural settings.

**Johannesburg Health District, Gauteng**
- Wits RHI, DREAMS
- Wits RHI, CATALYST – Key Populations Sites (FSW and TNBP)
- Wits RHI & Shandukani Research, Deliver & B-Protected
- AXIS, Ezintsha

**Tshwane, Gauteng**
- Wits RHI, Project PrEP
- NACOSA, Global Fund*

**Lejweleputswa (FS)**
- Wits RHI, CATALYST

**Thabo Mofutsanyana (FS)**
- Beyond Zero, Global Fund*

**Frances Baard (NC)**
- NACOSA, Global Fund*

**Klipfontein Mitchell’s Plain, Cape Town (WC)**
- DTHF, FastPrEP
- NACOSA, Global Fund*
- UTC, UCLA & DTHF, PrEP-PP & SCOPE-PP

**Gqeberha**
- Wits RHI, Project PrEP

*Global Fund funded program MyJourney or National SWP

**King Cetshwayo & Zululand (KZN); Ehlanezi and Gert Sibande (MP), Sekhukhune (LP)**
- AFSA & Beyond Zero, Global Fund*

**Newcastle, KZN and Moretele, Northwest**
- SA MRC & NACOSA, Imagine

**Hlabisa, uMkhanyakude (KZN)**
- AHRI, Let’s Talk & LAPIS

**Msunduzi, Umgungundlovu (KZN)**
- HSRC & MGH, DO PrEP

**eThekwini (KZN)**
- Wits RHI, Project PrEP

**Nelson Mandela & Oliver Tambo (EC)**
- Beyond Zero, Global Fund*

**Nelson Mandela, King Dalindyebo (EC)**
- Wits RHI, Project PrEP

**Mthatha (EC)**
- Wits RHI, Project PrEP
## Anticipated coverage of priority research questions

<table>
<thead>
<tr>
<th>Question</th>
<th># of studies</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1 What is an affordable price and the cost of PrEP delivery across multiple PrEP products?</td>
<td>6</td>
<td>While the cost of delivery will be widely assessed across delivery channels, there remains a gap for affordable pricing, particularly for CAB-LA.</td>
</tr>
<tr>
<td>Q2 Which delivery platforms and/or models will best reach populations who need PrEP?</td>
<td>10</td>
<td>The effectiveness of delivery channels to reach priority populations as well as the comparison across delivery platforms are widely covered.</td>
</tr>
<tr>
<td>Q3 What are the service readiness and delivery requirements for the new PrEP methods?</td>
<td>5</td>
<td>Several studies focusing on service readiness and delivery requirements for the new PrEP methods.</td>
</tr>
<tr>
<td>Q4 What are provider attitudes and beliefs about the new PrEP methods and what are we learning about how to inform or shape them?</td>
<td>8</td>
<td>Provider attitudes and beliefs will be widely assessed, with several studies including healthcare workers as a target population for evaluation.</td>
</tr>
<tr>
<td>Q5 How should the new PrEP methods be integrated within oral PrEP provision and/or existing PrEP programming?</td>
<td>4</td>
<td>Several studies focus on the integration of the new PrEP methods within oral PrEP provision; yet more coverage is needed across delivery channels.</td>
</tr>
<tr>
<td>Q6 Which demand generation strategies are most effective to support uptake and effective use of the new PrEP methods?</td>
<td>5</td>
<td>While each study includes demand generation approaches, only a few will assess the effectiveness of the strategies leveraged for PrEP uptake.</td>
</tr>
<tr>
<td>Q7 What are end user preferences across PrEP methods and how are they making decisions between them?</td>
<td>12</td>
<td>End user preferences (patterns of use, method switching, discontinuation and restart, etc.) are widely covered across all studies for all of the PrEP methods.</td>
</tr>
<tr>
<td>Q8 How do key influencers affect the uptake and effective use of the new PrEP methods, and how can they effectively be engaged?</td>
<td>8</td>
<td>A large number of the studies will focus on understanding key influencer attitudes and beliefs as well as how to effectively engage them.</td>
</tr>
<tr>
<td>Q9 What evidence of social harms associated with PrEP use has emerged, particularly for the PrEP ring?</td>
<td>9</td>
<td>Social harms will be tracked across several studies as a subcomponent for monitoring negative consequences of PrEP use.</td>
</tr>
<tr>
<td>Q10 What tools effectively support choice between the PrEP methods?</td>
<td>5</td>
<td>A few studies will study the effectiveness of support approaches for PrEP choice.</td>
</tr>
<tr>
<td>Q11 What approaches are most effective to strengthen linkages between PEP and PrEP?</td>
<td>2</td>
<td>Only two studies will aim to strengthen the linkages between PEP and PrEP.</td>
</tr>
<tr>
<td>Q12 What is the frequency and characteristics of seroconversion and HIV drug resistance for PrEP users across the new PrEP methods?</td>
<td>9</td>
<td>PrEP efficacy across the methods for specific population groups as well as seroconversion and HIV drug resistance (HIVDR) data are widely tracked.</td>
</tr>
</tbody>
</table>

- **Significant coverage in studies (+7 studies)**
- **Some studies address topic (3-6 studies)**
- **1-2 studies address topic**
Remaining challenges

The full potential of PrEP, both oral and a category of products, has not yet been realized.

Limited access remains problematic for pregnant and breastfeeding people who have known vulnerability but are often excluded.

The full category of products have not yet been approved for under 18s - Most affected yet often excluded.

Unmet contraceptive and STI management needs amongst those using PrEP - Integration and comprehensive services needed now.

Current category are all ARV-based - complex scheduling and delivery, concerns about testing, HIVDR, side effects and more.

Affordability = Sustainability and Impact.
Acknowledgements

- Kristine Torjesen (FHI 360)
- Hasina Subedar (NDOH South Africa)
- Mitchell Warren (AVAC)
- Sinead Delany-Moretlwe (Wits RHI)
- Thesla Palanee-Philips (Wits RHI)
- Elmari Briedenhann (Wits RHI)
- Nyaradzo Mgodi (University of Zimbabwe)