

The future of HIV prevention



Presentation for: *Differentiated Service Delivery for Key Populations: Virtual Workshop*

25 August 2021

Evolution of HIV prevention

Positive trials

Null trials

WHO recommendations



1981 - 1st case of rare cancers in NYC
1982 - The name AIDS

1981

1987 WHO GPA

2000 WHO PMTCT rec

1996 UNAIDS

2004 WHO NSP rec

2001 GFATM

2012 HPTN 052
ART → 96% ↓ HIV

2007 WHO VMMC rec

1985 1st HIV tests

1994 ACTG 076 study PMTCT

2004

2012 WHO ART for prevention rec

2007

2003 PEPFAR

2020 HPTN 083 CAB-LA (MSM&TGW)
HPTN 084 (Women)

1995 Mwanza, Tanzania STI program

2007 SA, Kenya & Uganda VMMC

2012

2012-2015 WHO PrEP rec

1998 Rakai, Uganda STI program

2010 Iprex (multi site) PrEP (MSM)

2019 **2020**

2010 CAPRISA 004 gel

2013 Voice PrEP & gel (♀)

2019 Test & Treat
PopART (Zambia & SA)
BPCC (Botswana)
SEARCH (Uganda & Kenya)



2011 Fem-PrEP (SA, Kenya, Tanzania) PrEP (♀)

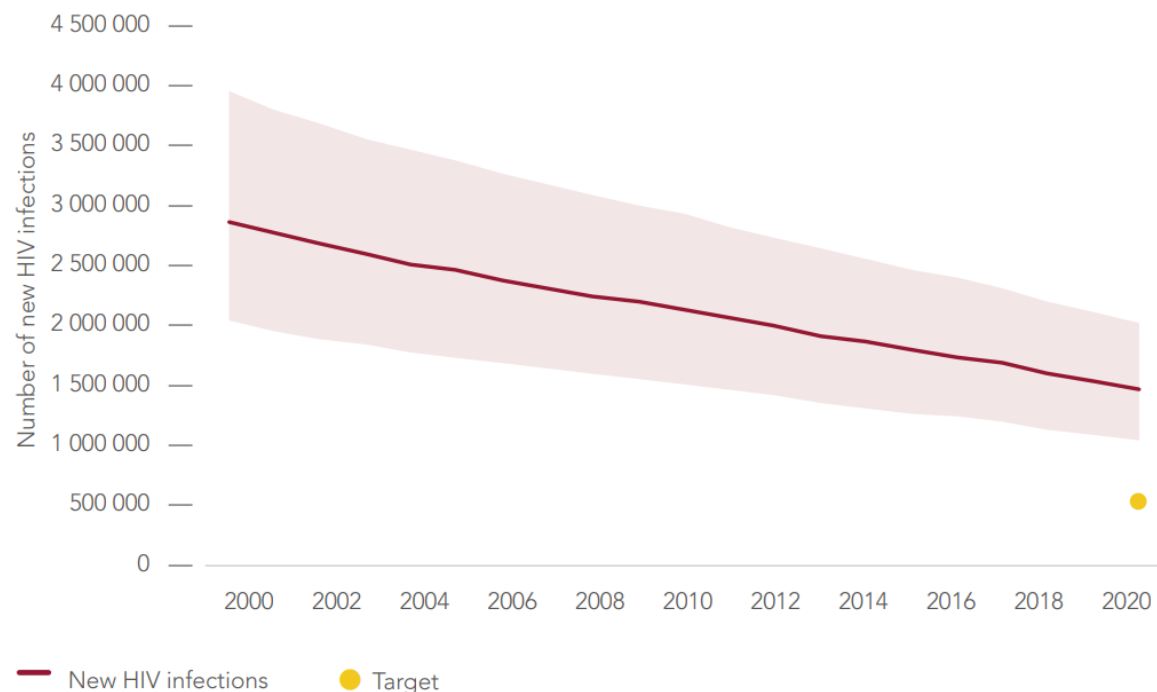
2011 Partners (Kenya & Uganda) PrEP (SDC)
TDF2 (Botswana) PrEP (M&W)

2016 Aspire & Ring DPV ring (♀)

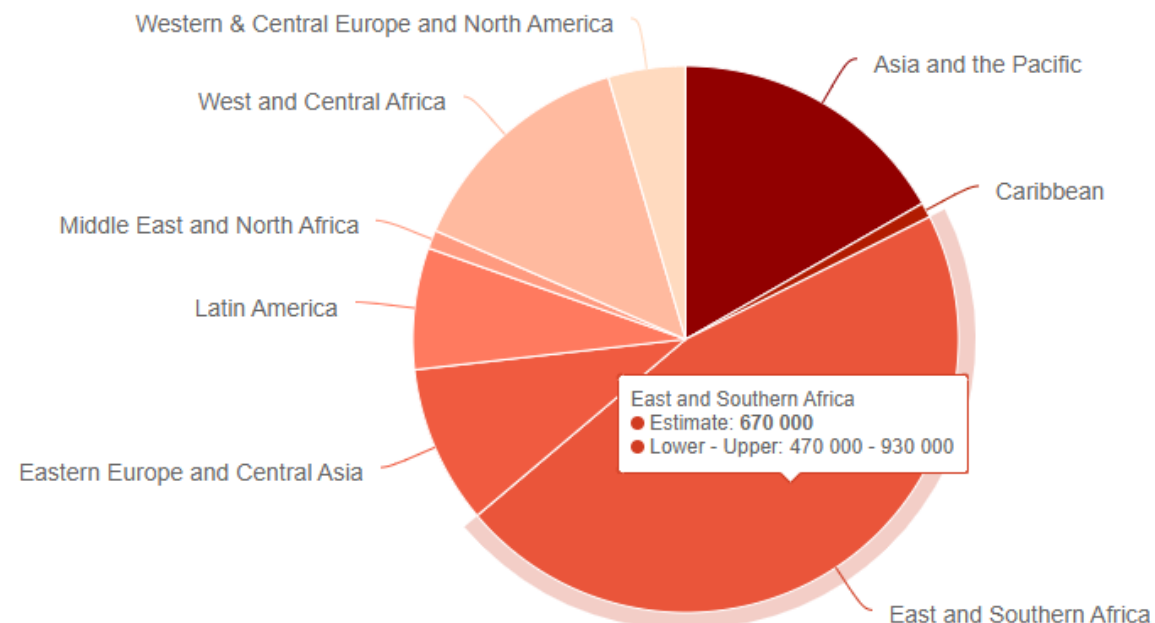
Continuing need for HIV prevention

Global 2020 target for reducing numbers of new HIV infections was missed

New HIV infections, all ages, global, 2000-2020

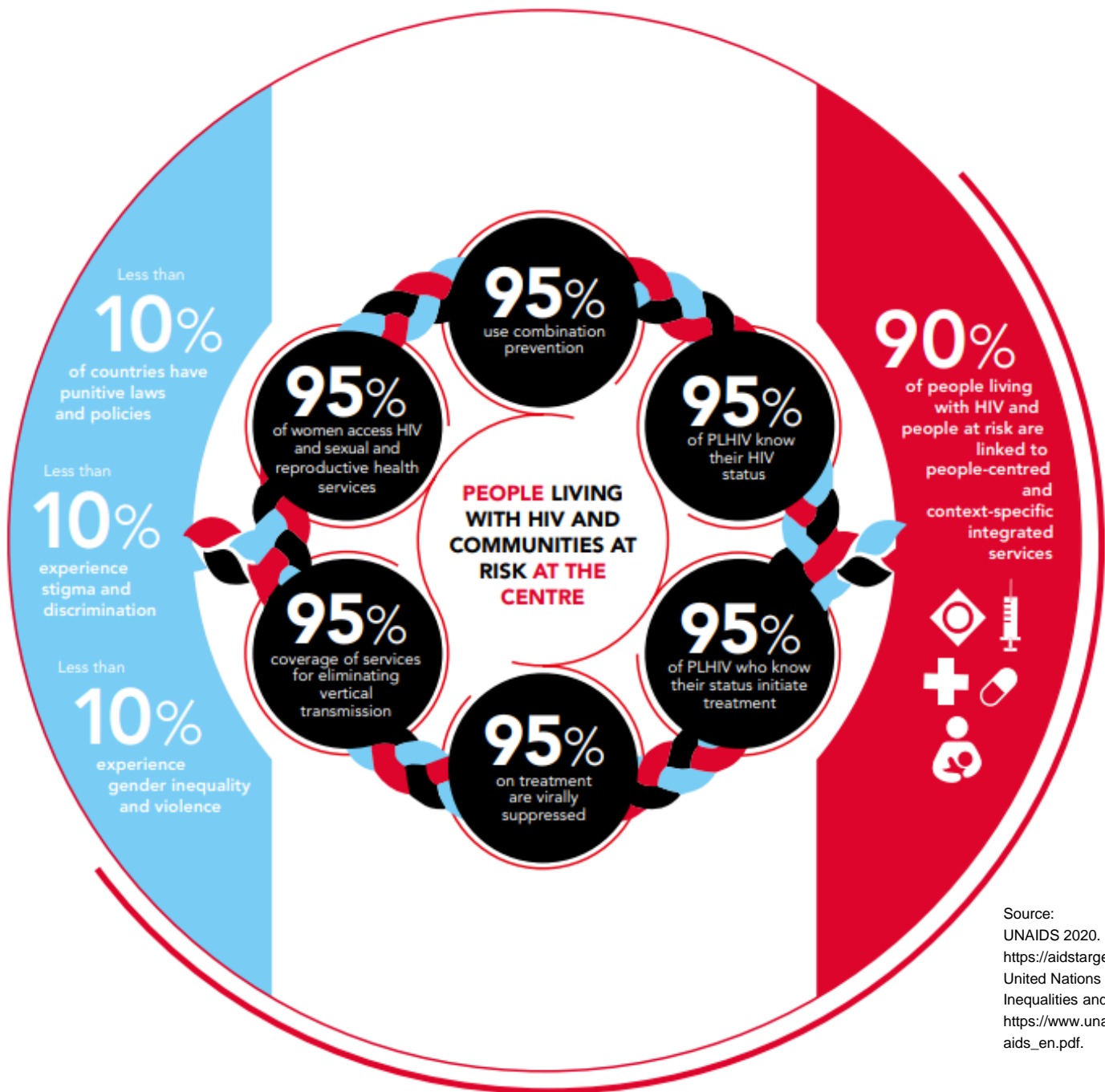


New HIV infections, all ages, by region, 2020



Source: UNAIDS 2021 epidemiological estimates

Global targets for 2025

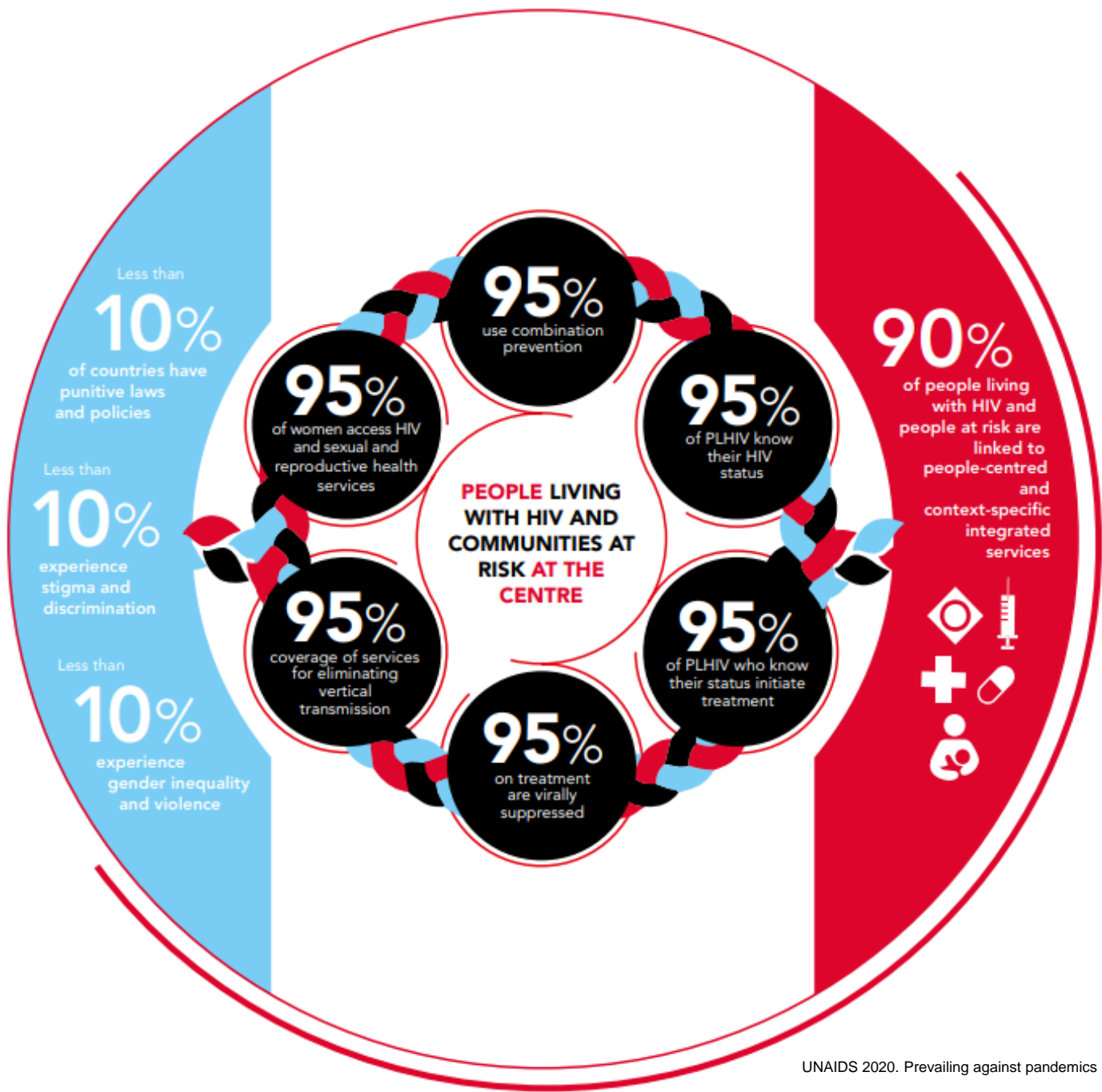


UNITED NATIONS GENERAL ASSEMBLY

POLITICAL DECLARATION ON HIV AND AIDS: ENDING INEQUALITIES AND GETTING ON TRACK TO END AIDS BY 2030

Source:
UNAIDS 2020. Prevailing against pandemics by putting people at the centre.
https://aidstargets2025.unaids.org/assets/images/prevailing-against-pandemics_en.pdf
United Nations General Assembly 2021. Political Declaration on HIV and AIDS: Ending Inequalities and Getting on Track to End AIDS by 2030 A/res/75/284 (A/75/L.95).
https://www.unaids.org/sites/default/files/media_asset/2021_political-declaration-on-hiv-and-aids_en.pdf.

Global targets and the future of prevention

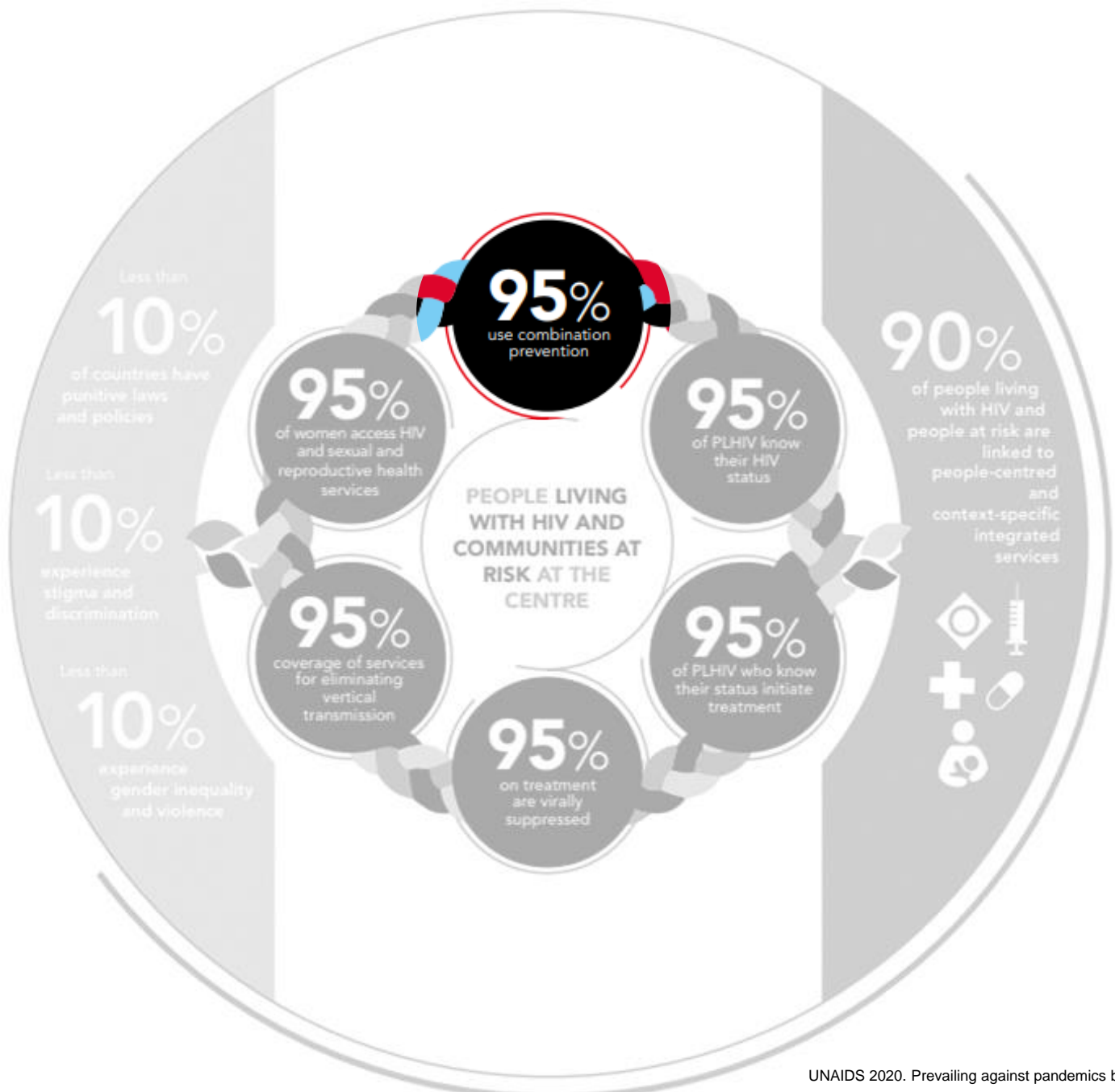


UNAIDS 2020. Prevailing against pandemics by putting people at the centre. https://aidstargets2025.unaids.org/assets/images/prevailing-against-pandemics_en.pdf

Global targets and the future of prevention



95% of people at HIV risk use **appropriate, prioritized, person-centred, and effective** combination prevention options.



UNAIDS 2020. Prevailing against pandemics by putting people at the centre. https://aidstargets2025.unaids.org/assets/images/prevailing-against-pandemics_en.pdf

Global targets and the future of prevention

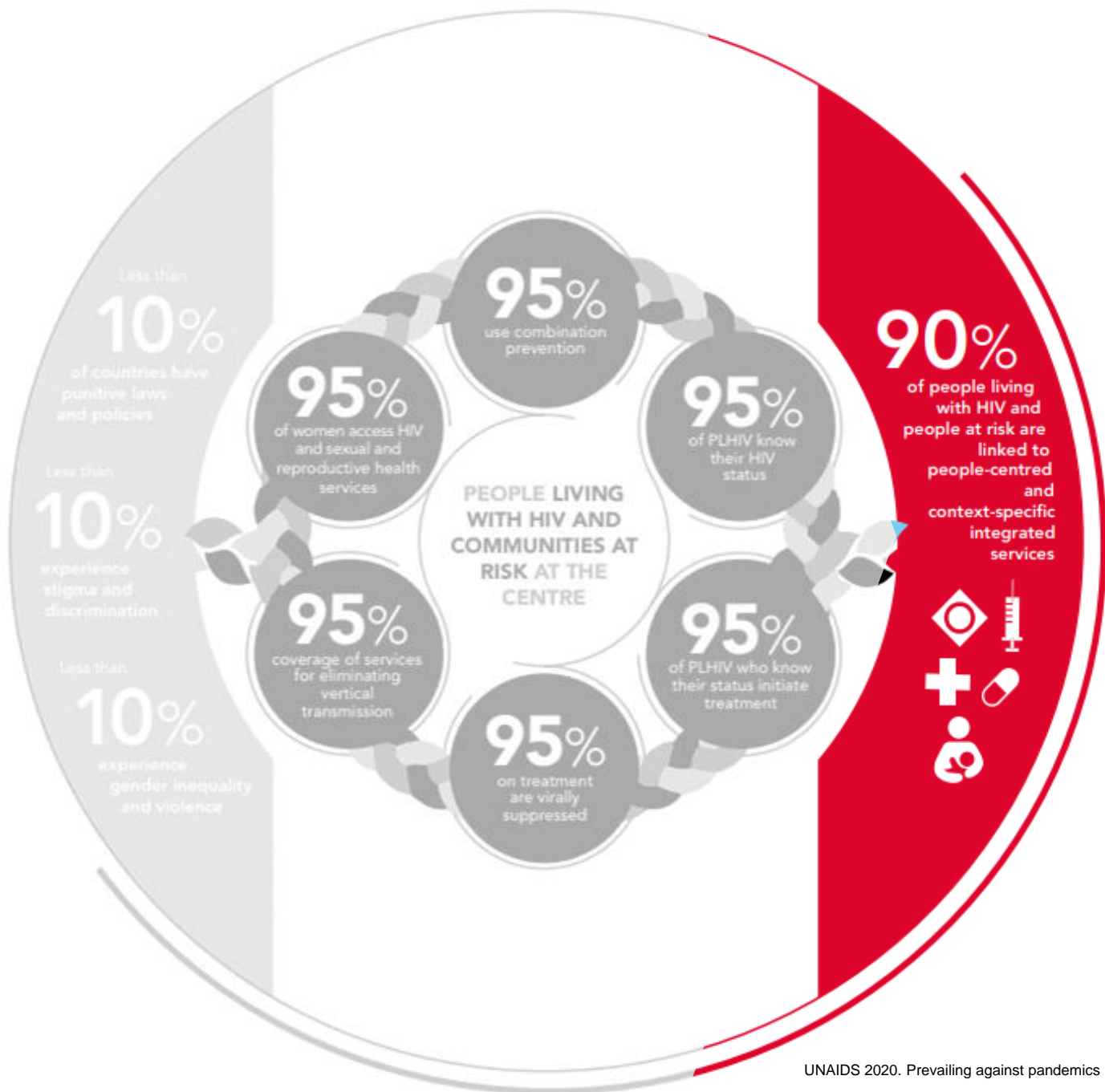


95% of people at HIV risk use **appropriate, prioritized, person-centred, and effective** combination prevention options.

95% of reproductive age women have **HIV and sexual and reproductive health** needs met.

UNAIDS 2020. Prevailing against pandemics by putting people at the centre. https://aidstargets2025.unaids.org/assets/images/prevailing-against-pandemics_en.pdf

Global targets and the future of prevention



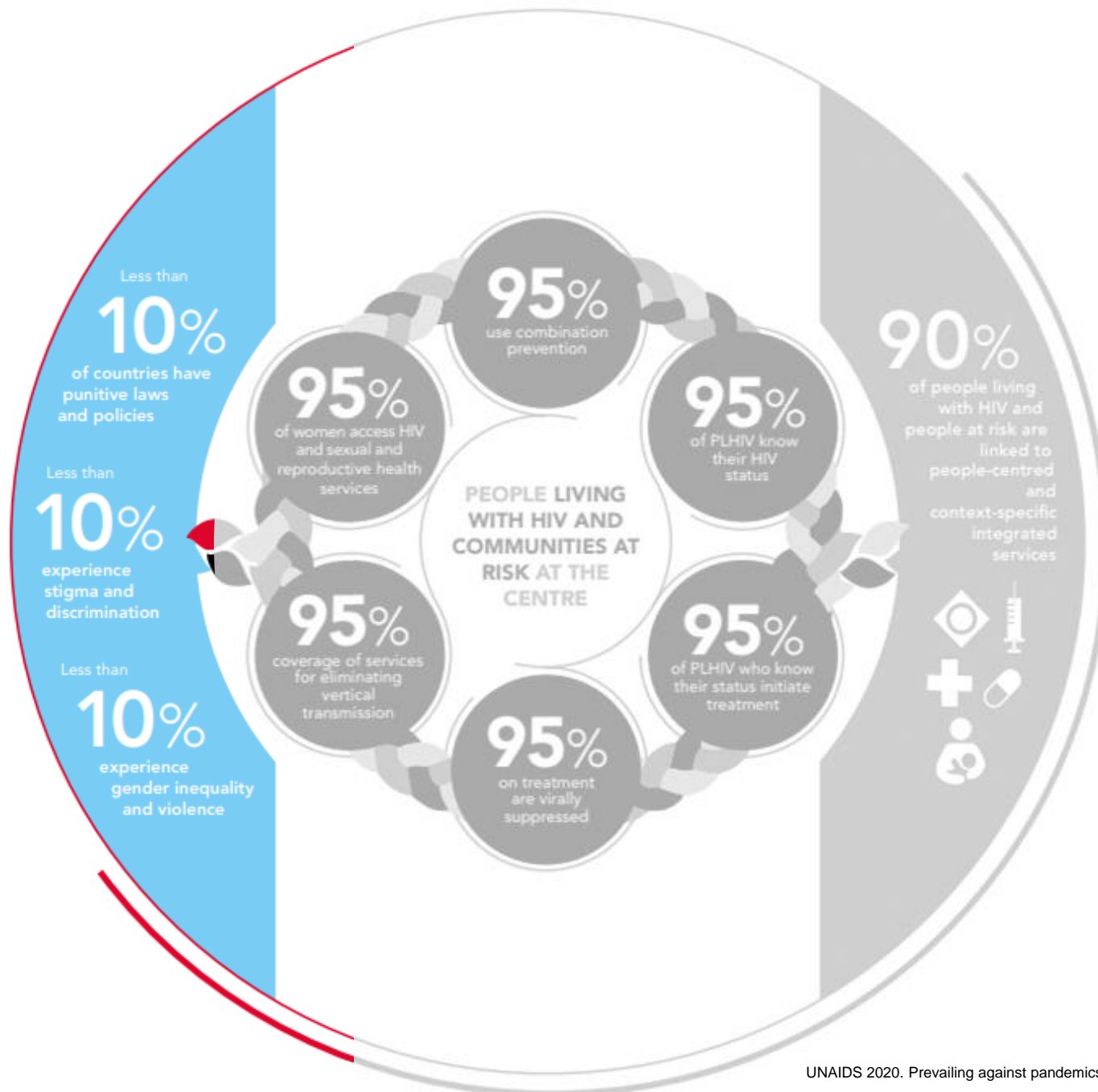
95% of people at HIV risk use **appropriate, prioritized, person-centred, and effective** combination prevention options.

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Adoption of **people-centred and context-specific integrated approaches**. At least 90% individuals at heightened risk of HIV infection **linked to services** ... they need for **overall health and well-being**.

UNAIDS 2020. Prevailing against pandemics by putting people at the centre. https://aidstargets2025.unaids.org/assets/images/prevailing-against-pandemics_en.pdf

Global targets and the future of prevention



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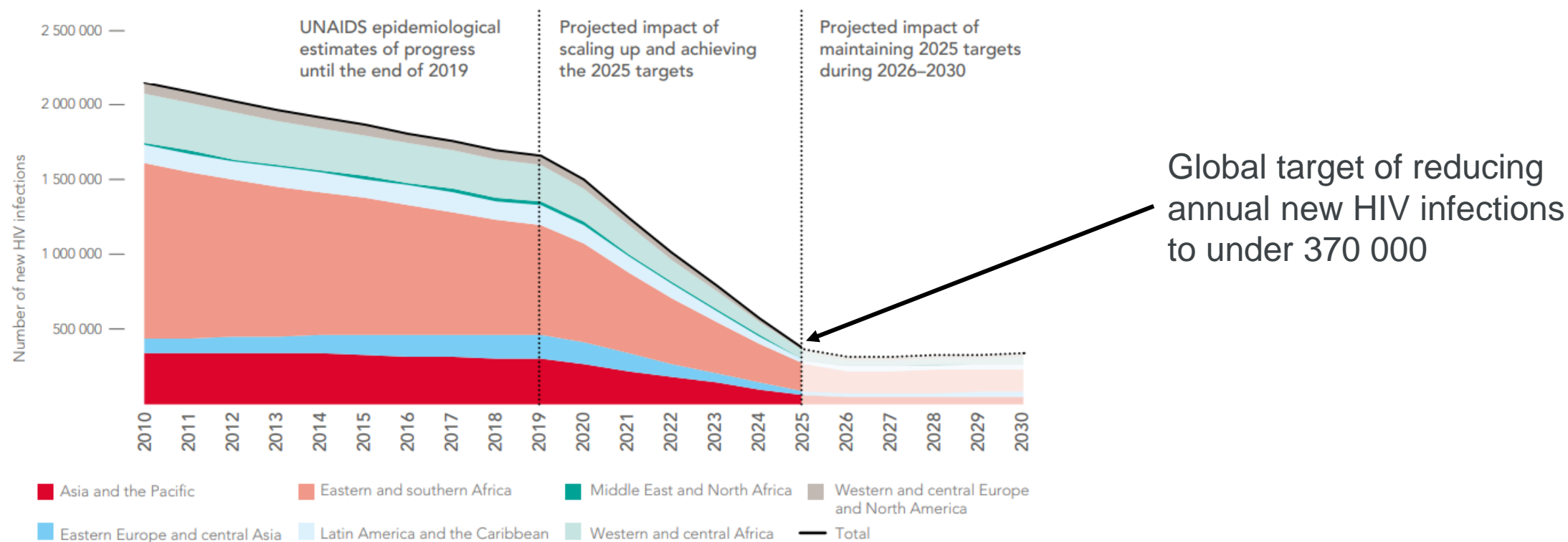
10–10–10 targets for removing **societal and legal impediments** to an **enabling environment** that limit access or utilization of HIV services.

UNAIDS 2020. Prevailing against pandemics by putting people at the centre. https://aidstargets2025.unaids.org/assets/images/prevailing-against-pandemics_en.pdf

Impact of the 2025 targets

Projected impact of reaching the 2025 targets

HIV infections



Source: UNAIDS 2020. Prevailing against pandemics by putting people at the centre. https://aidstargets2025.unaids.org/assets/images/prevailing-against-pandemics_en.pdf

Effective combination HIV prevention



Photo credit: Project PrEP – Unitaid

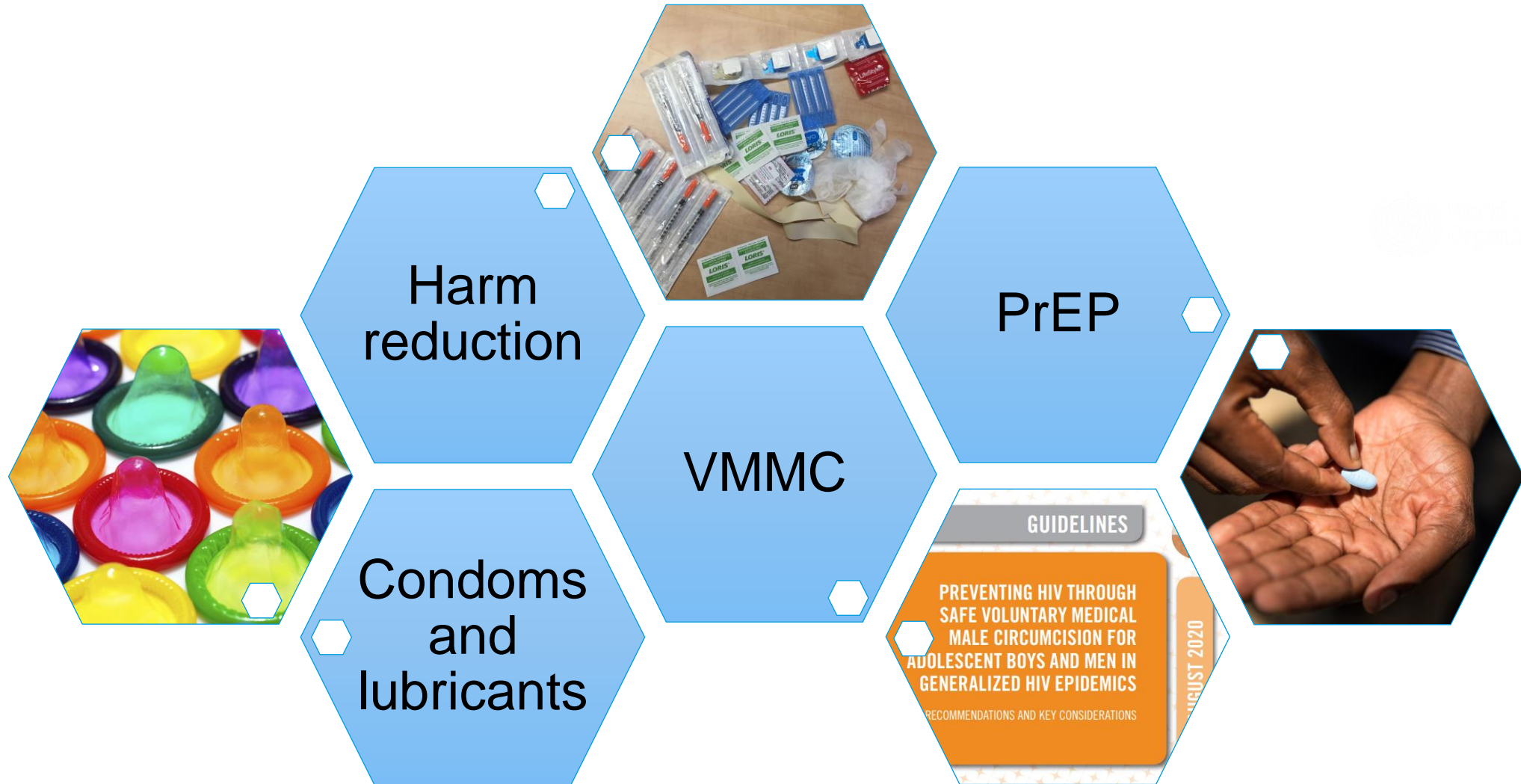
25/08/2021

The future of HIV prevention

CQUIN Key Populations Meeting, August 25-26 and 30-31, 2021

11

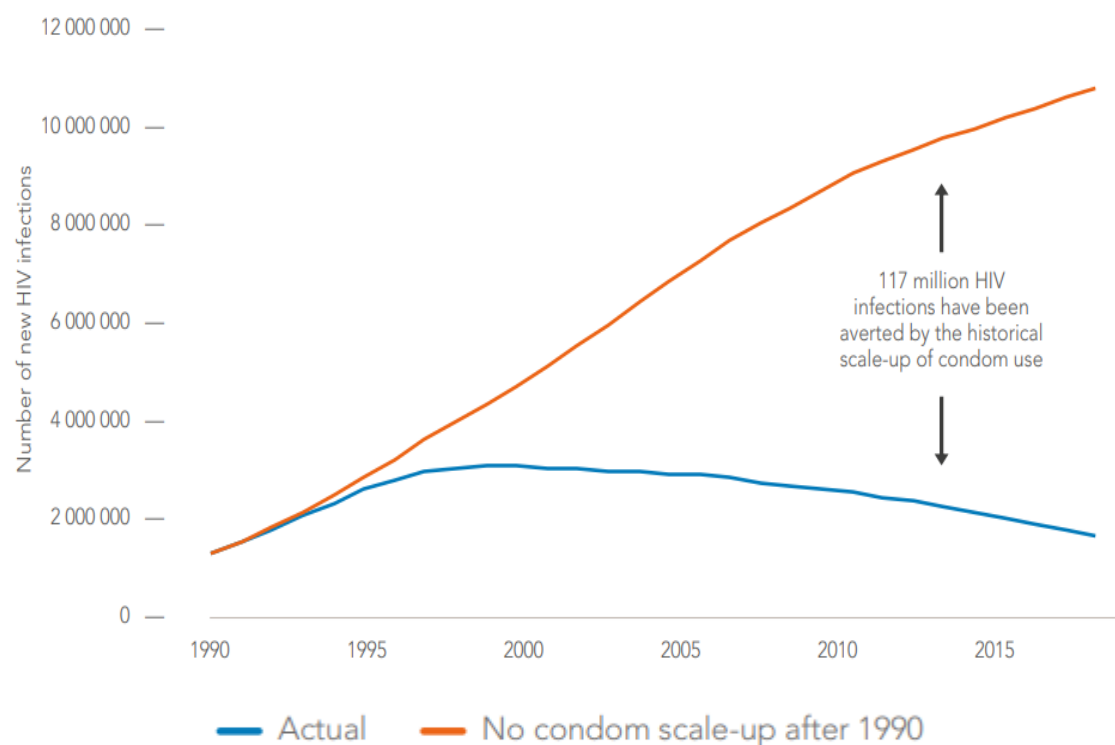
Continue evidence-based and effective interventions



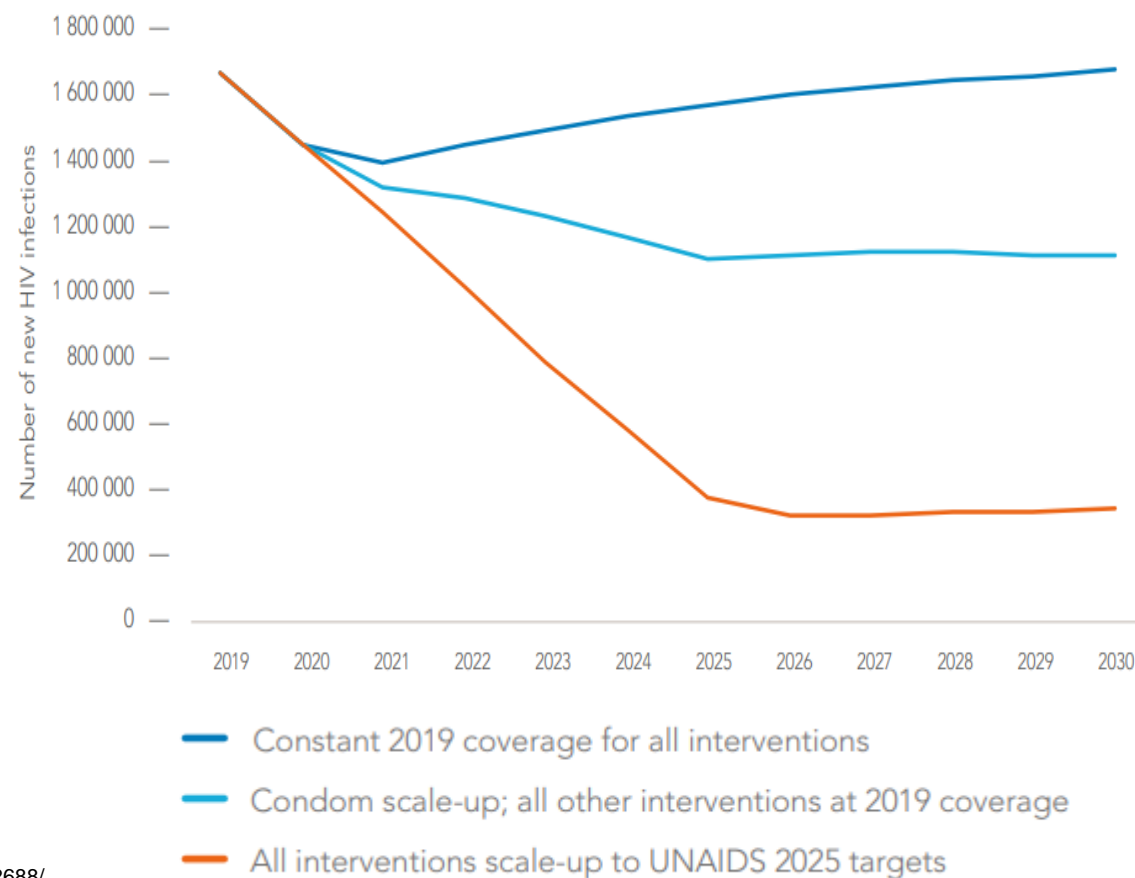
Condoms

Continue to be critical but declining distribution and demand

New HIV infections with and without scale-up of condom use, global 1990-2019



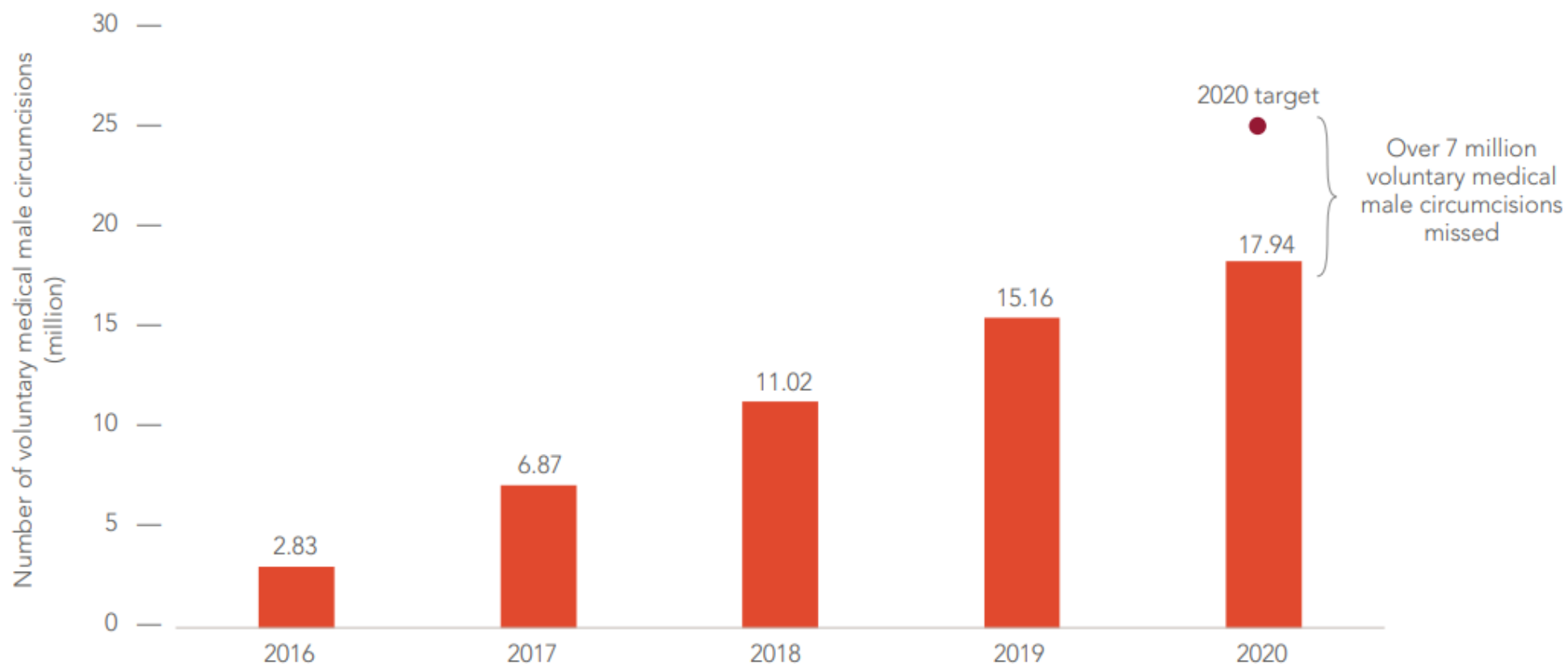
Impact of condom use on future HIV infections, global, 2019-2030



Source: Stover J, Teng Y. The impact of condom use on the HIV epidemic [version 1]. Gates Open Res. 2021;5:91. doi: 10.12688/gatesopenres.13278.1

Unfinished agenda – major disruptions by COVID-19

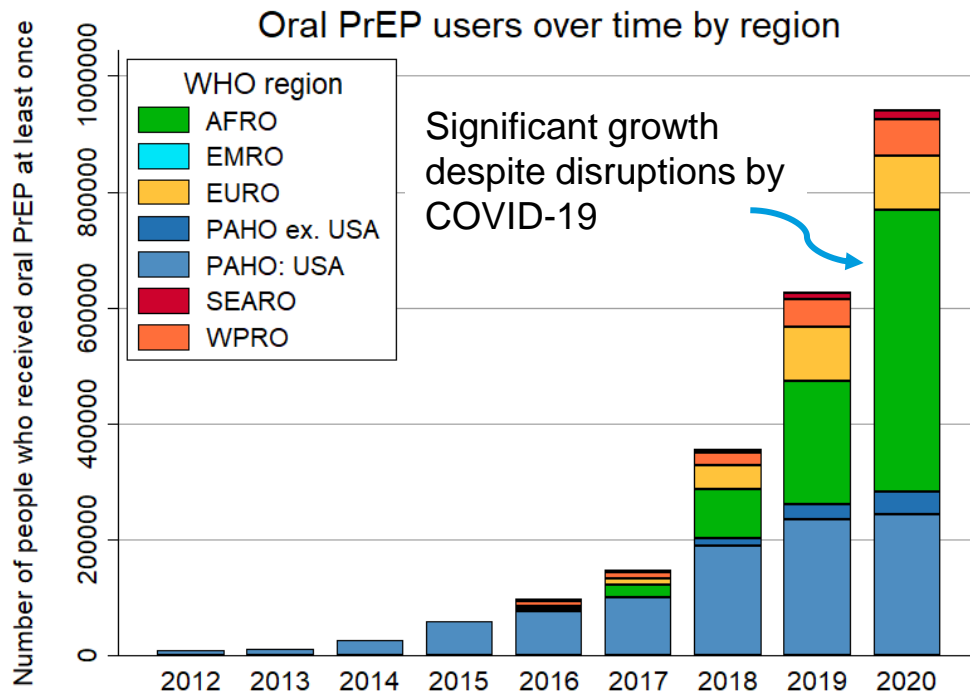
Cumulative number of VMMC towards 2020 target, 15 priority countries, 2016-2020.



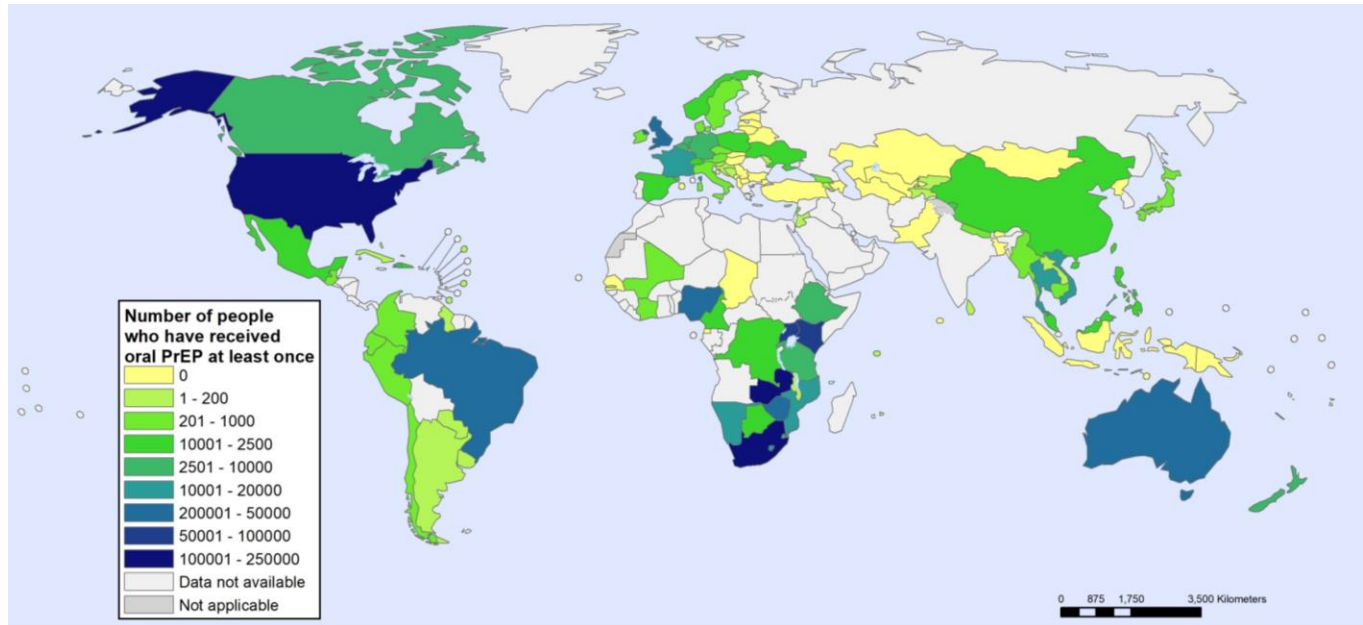
Source: UNAIDS Global AIDS Monitoring 2021. Note: The 15 priority countries are: Botswana, Eswatini, Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Namibia, Rwanda, South Africa, South Sudan, Uganda, the United Republic of Tanzania, Zambia and Zimbabwe

Pre-exposure prophylaxis (PrEP)

Oral PrEP users, by region, 2012-2020



Oral PrEP use, globally, 2020

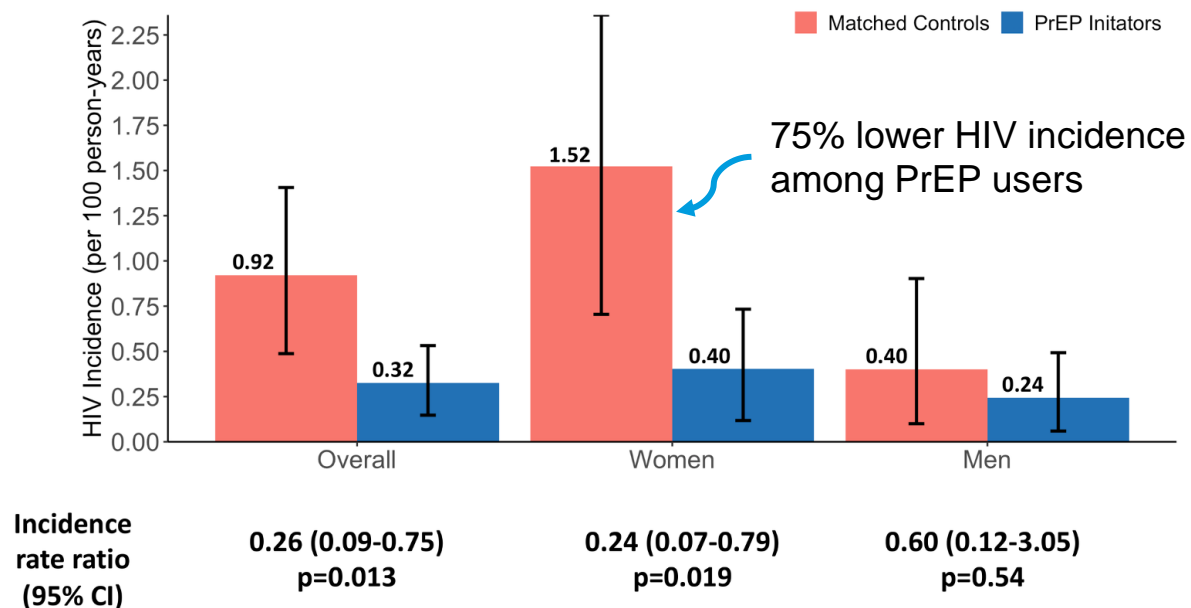


The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: WHO; GAM
Map Production: HQ UCN/HHS/TPP
World Health Organization

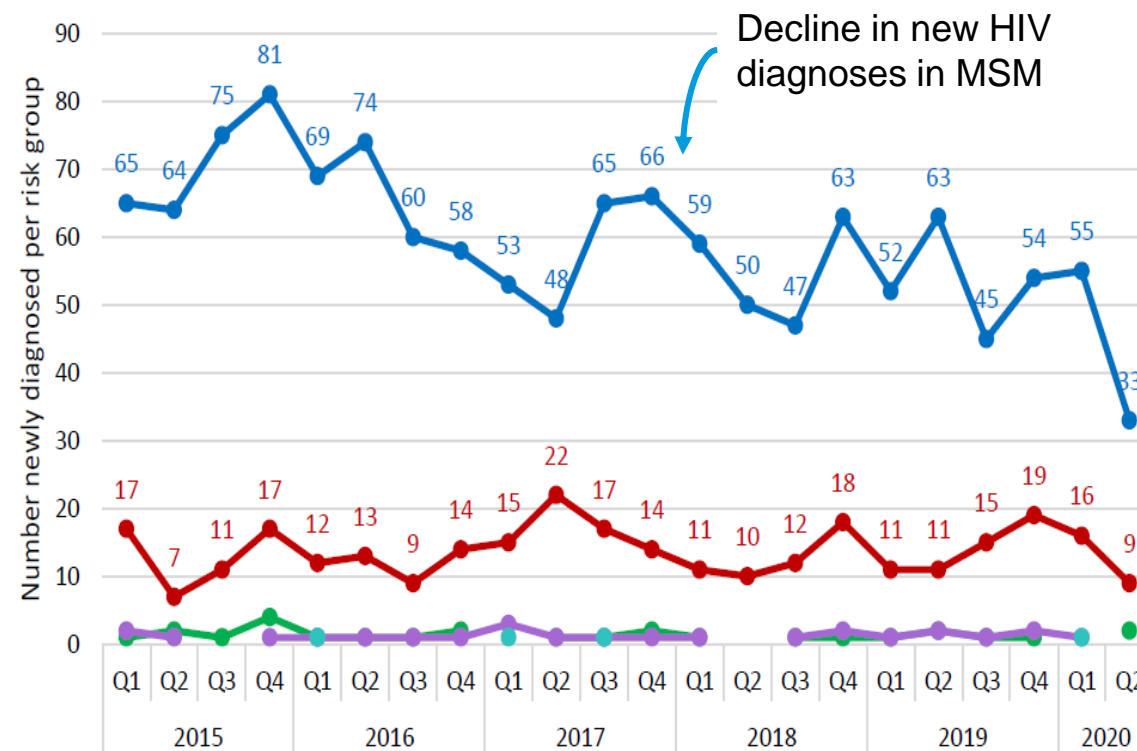
Pre-exposure prophylaxis (PrEP)

Large community-based PrEP study in Kenya and Uganda (2016-18)



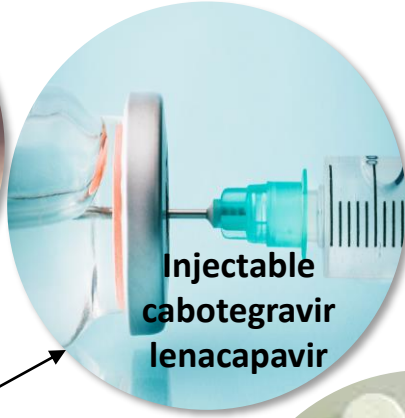
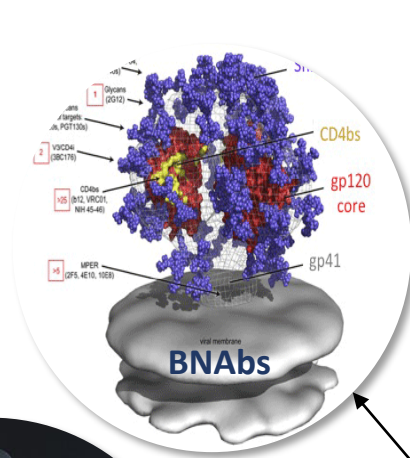
Source: Koss et al. 2021. PLOS Medicine.

Large-scale PrEP roll-out in New South Wales, Australia

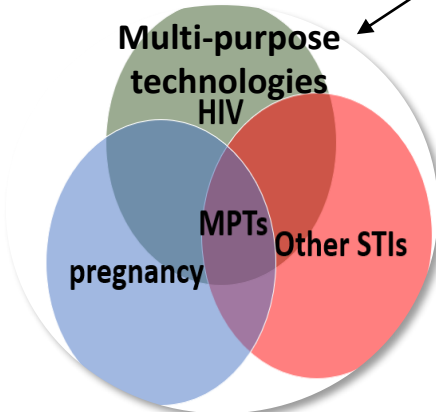


The biomedical prevention pipeline

TFD/FTC



Potential future prevention technologies



New products offer choice
Overcome some oral TDF-FTC issues

- Continuation
- Adherence

But have new challenges and unknowns

- Efficacy in real world setting
- Testing and DR
- Cost

Rethinking service delivery



Photo credit: Project PrEP – Unitaid

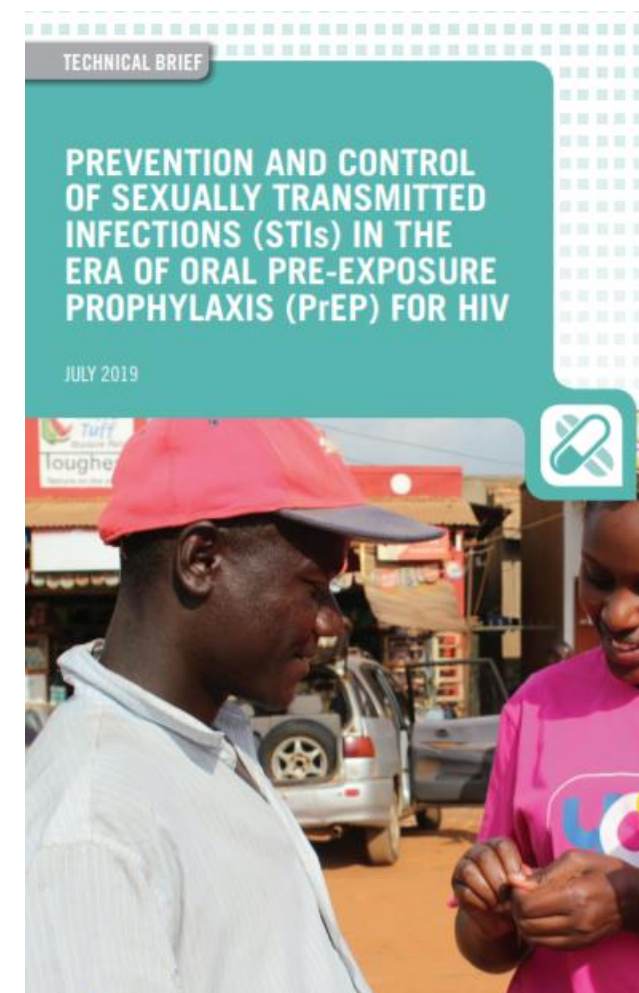
Integrated and differentiated services

High prevalence and incidence of STIs among people attending PrEP services

Table 3. Pooled Prevalence of STIs When Starting PrEP and Pooled Incidence of STIs, by Anatomical Site of Detection

Pathogen	Prevalence					Incidence				
	No. of Studies Pooled	Total Sample Size, No.	Prevalence (95% CI)	I ² Statistic, %	P Value	No. of Studies Pooled	Total Sample Size, No.	Incidence per 100 Person-Years (95% CI)	I ² Statistic, %	P Value
<i>Chlamydia trachomatis</i>										
Any site	12	4918	10.8 (6.4-16.1)	97	<.001	14	6756	21.5 (17.9-25.8)	97	<.001
Genital	6	1019	4.0 (2.0-6.6)	66	.01	9	1698	10.4 (9.2-11.8)	0	.78
Anorectal	8	1660	8.5 (6.3-11.0)	61	.01	11	2171	29.9 (24.1-37.1)	87	<.001
Oropharyngeal	5	939	2.4 (0.9-4.5)	63	.03	7	1237	4.6 (3.3-6.3)	46	.10
<i>Neisseria gonorrhoeae</i>										
Any site	14	6340	11.6 (7.6-16.2)	96	<.001	13	6462	37.1 (18.3-25.5)	96	<.001
Genital	6	2166	2.1 (0.9-3.7)	70	.01	8	1564	9.9 (8.3-11.8)	28	.20
Anorectal	8	1558	9.3 (4.7-15.2)	92	<.001	11	2171	21.6 (16.4-28.4)	90	<.001
Oropharyngeal	5	940	4.9 (1.9-9.1)	83	<.001	8	1646	19.7 (16.0-24.3)	76	<.001
<i>Treponema pallidum</i> ^a	22	9757	5.0 (3.1-7.4)	95	<.001	23	12 459	11.6 (9.2-14.6)	92	<.001
Hepatitis A virus	1	1049	5.4 (4.1-7.0)	NA	NA	NA	NA	NA	NA	NA
Hepatitis B virus	4	4370	1.3 (0.1-3.5)	95	<.001	2	1353	1.2 (0.6-2.6)	0	.53
Hepatitis C virus	4	2555	2.0 (0.8-3.7)	84	<.001	8	3786	0.3 (0.1-0.9)	87	<.001
<i>Mycoplasma genitalium</i>	1	198	17.2 (12.2-23.2)	NA	NA	NA	NA	NA	NA	NA
<i>Trichomonas vaginalis</i>	2	1379	5.9 (4.7-7.2)	NA	NA	1	50	0	NA	NA
Any <i>C trachomatis</i> , <i>N gonorrhoeae</i> , or <i>T pallidum</i>	16	8431	23.9 (18.6-29.6)	97	<.001	11	6301	72.2 (60.5-86.2)	95	<.001

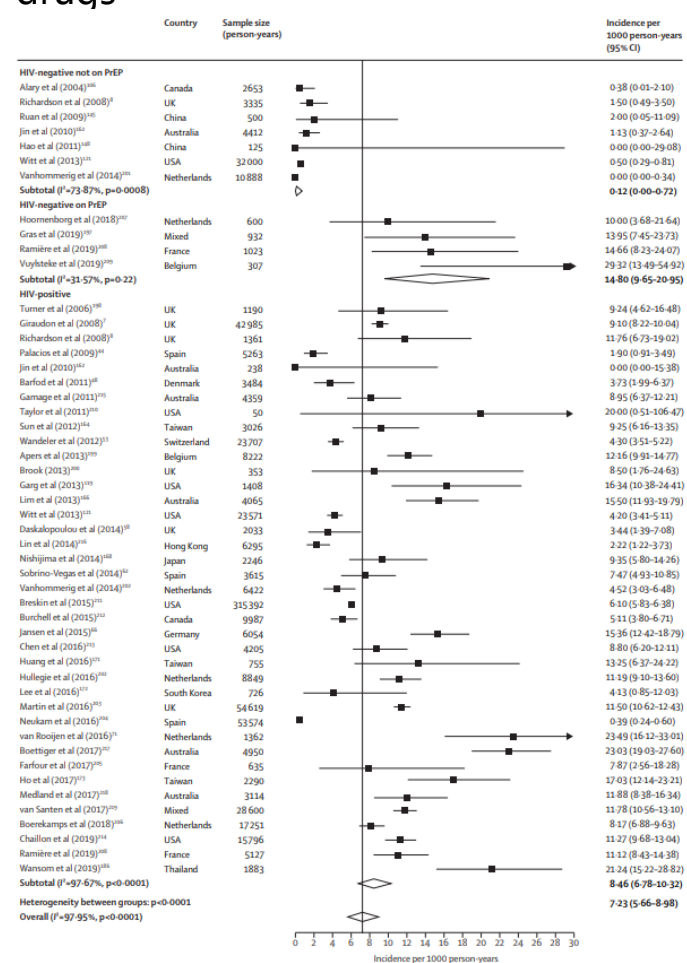
Ong et al. Global Epidemiologic Characteristics of Sexually Transmitted Infections Among Individuals Using Preexposure Prophylaxis for the Prevention of HIV Infection. A Systematic Review and Meta-analysis. JAMA Network Open; 2019.



WHO 2019. Prevention and control of sexually transmitted infections (STIs) in the era of oral pre-exposure prophylaxis (PrEP) for HIV.

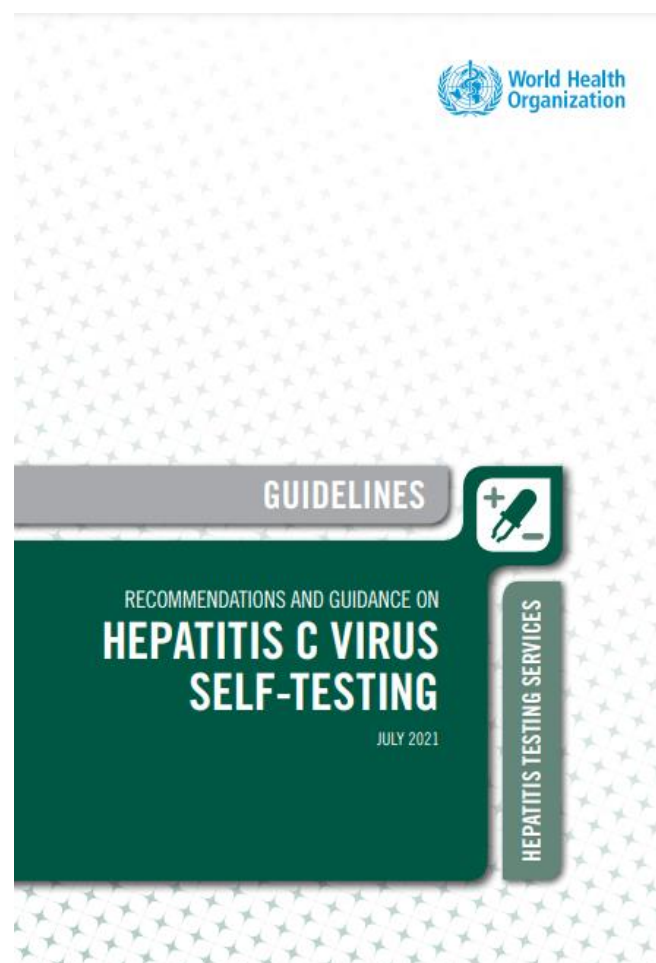
Integrated and differentiated services

High prevalence and incidence of hepatitis C in MSM and people who inject drugs



Jin et al. Prevalence and incidence of hepatitis C virus infection in men who have sex with men: a systematic review and meta-analysis. *Lancet Gastroenterol Hepatol.* 2021.

PrEP services are an opportunity to address hepatitis B and C as a public health issues



WHO 2021. Recommendations and guidance on hepatitis C virus self-testing



Integrated and differentiated services

High prevalence and incidence of HIV/STIs among women attending contraceptive services

		HIV prevalence among adult women*			
		Low (<1%)	Medium (1–5%)	High (5–20%)	Extremely high (>20%)
General approach to integrating HIV services into contraceptive services		Likely only a few changes needed; key population focus Mix of referral & on-site integration	Part of SRH–HIV programme development Mix of referral & on-site integration	Rapid action (change operating procedures) On-site integration where possible	Immediate action (executive orders, change operating procedures) Immediate on-site integration
Offer as part of contraceptive service delivery	Male and female condoms and lubricant	YES	YES	YES	YES
	HIV risk assessment	YES Focused offer	YES Routine offer	YES Routine offer	YES Routine offer
	STI risk assessment	YES Focused offer (routine offer if high STI prevalence)	YES Focused offer (routine offer if high STI prevalence)	YES Routine offer	YES Routine offer
	Condom promotion & skills building	YES Focused offer	YES Routine offer	YES Routine offer	YES Routine offer
	HIV prevention & risk reduction counselling	YES Focused offer	YES Routine offer	YES Routine offer	YES Routine offer
	HIV testing services (including self-test) + ART	YES Focused offer	YES Focused offer	YES Routine offer	YES Routine offer
	STI diagnosis & treatment of asymptomatic women (including partner STI services)	Focus on key populations	Focus on key populations	YES Focused offer (routine offer if high STI prevalence)	YES Routine offer
	STI diagnosis & treatment of symptomatic women (including partner STI services)	YES	YES	YES	YES
	Partner HIV testing (for example, invitation letter + self-test) + ART	Referrals for partners of HIV-positive women	Referrals for partners of HIV-positive women	YES Routine offer	YES Routine offer
	Community outreach for HIV prevention for women using contraception and their partners	Focus on key populations	Focus on key populations	YES Focused outreach	YES Expanded outreach
	Pre-exposure prophylaxis	NO (but referrals for women at higher risk)	NO (but referrals for women at higher risk)	YES Focused offer	YES Routine offer



Source: WHO 2020. Preventing HIV and other Sexually Transmitted Infections among Women and Girls Using Contraceptive Services in Contexts with High HIV Incidence.

Integrated and differentiated services

Opportunities to integrate HIV prevention and harm reduction services

Mobile buprenorphine clinic for people dependent on opioids, USA

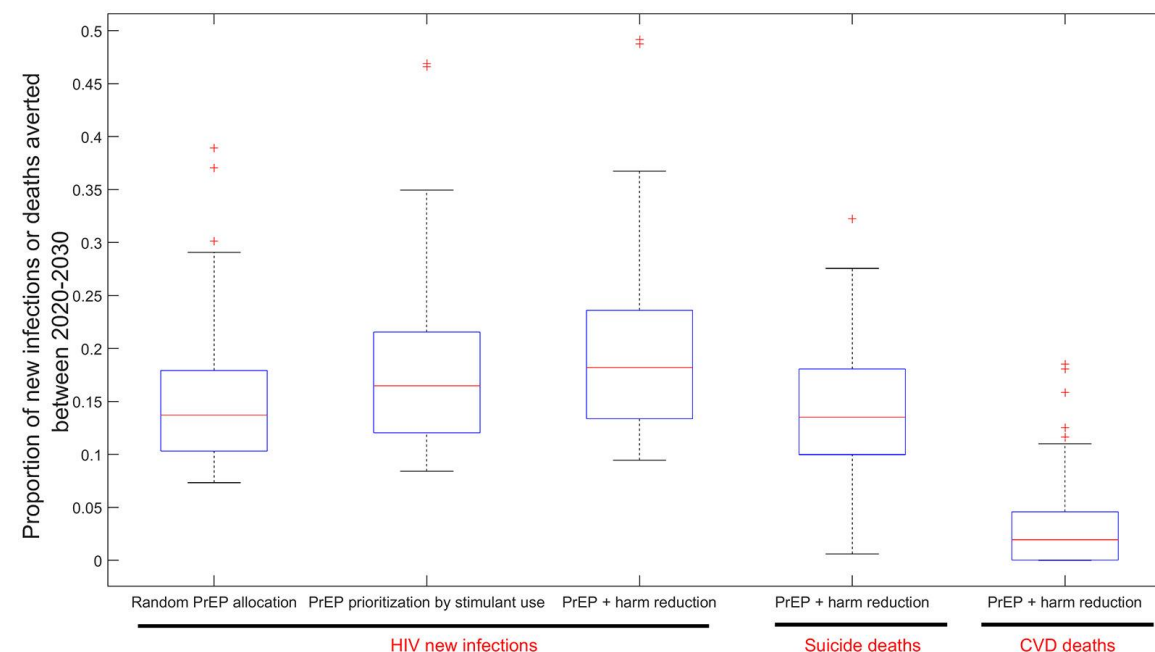


Dono et al. 2019: Implementation of a Mobile Buprenorphine Clinic. Presented at ASAM 4-7 April 2019.

<https://www.eventscribe.com/2019/posters/ASAM/SplitViewer.asp?PID=MzcwNzM5NjlxMTY>

Photo credit: Greater Lawrence Family Health Center.

Integrating harm reduction and PrEP can reduce HIV infections, suicides, and CVD



Bórquez et al. Integrating HIV pre-exposure prophylaxis and harm reduction among men who have sex with men and transgender women to address intersecting harms associated with stimulant use: a modelling study. JIAS; 2020.

Community-based services

Mobile
PrEP
services,
South
Africa



Photo credit: Project PrEP – Unitaid

Tele-
health,
Brazil



Photo credit: Project PrEP1519 – Unitaid

Home
PrEP
delivery,
Thailand



Photo credit: Mplus Foundation, Chiang Mai

Pharmacy
PrEP, USA

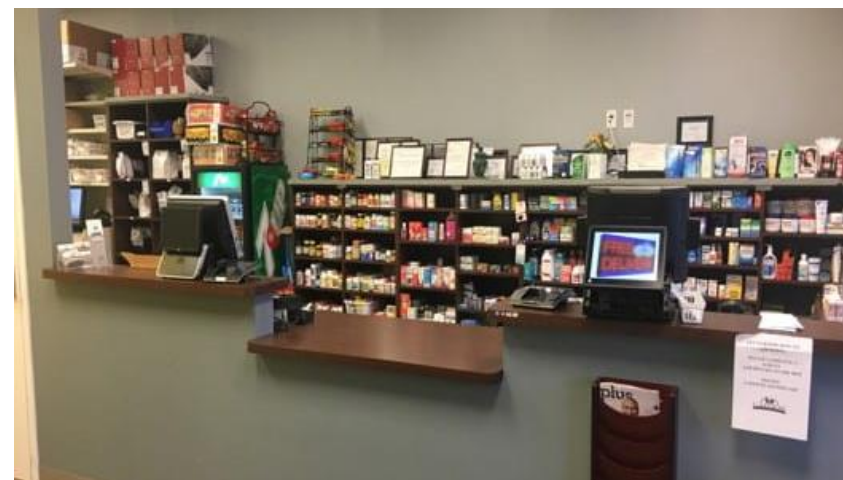


Photo credit: Washington University in St. Louis.
<https://sites.wustl.edu/prep/services/pharmacy-program/>

Virtual interventions

DREAMS group ManyattaB
Created by You, 07/04/2020, 11:31 am

Add group description

Media 16 >

Mute notifications

Custom notifications

Media visibility

Encryption
Messages to this group are secured with end-to-end encryption. Tap for more info.

DREAMS Virtual Safe space
Created by You, 4/4/20, 8:41 PM

Description
We intend to reach 500 Girls during this period of COVID 19 with DREAMS Project core service interventions through Behavior Change Communication, mentorships, Social Assets, Health Assets, and literacy Assets sessions.

Media, links, and docs 30 >

Screenshots of WhatsApp-based "Virtual Safe Spaces" for Manyatta B ward in Kisumu County and West Kamagak and Kakwanyo wards in Homa Bay County.

MY JOURNEY 2
Click to get points! It's time to take control!

MY JOURNEY 2
MyPrEP Journey
You have a quiz to answer! Click to upgrade your avatar!

MY JOURNEY 2
Click to get points! It's time to take control!

MY JOURNEY 2
You have a survey to complete! Experiences taking your PrEP pills

MY JOURNEY 2
Click to get points! It's time to take control!

MY JOURNEY 2
Click here to chat with Sister Unathi
Click here to chat with Sister Unathi

HOME

WE ARE THE GENERATION THAT WILL END HIV
#Continue2Conquer

QUIZZES

CLINIC SCHEDULE

SURVEY

myprep.co.za

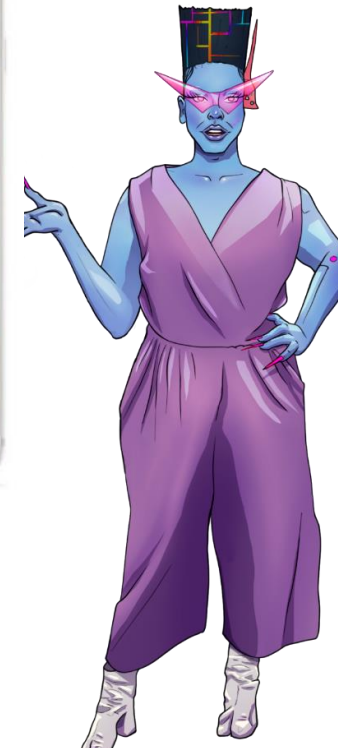
Welcome to the My PrEP website!

Sawubona, my name is Sister Unathi. I would love to speak to you in your home language, but I am still learning. Can we please communicate in English. Before I answer your questions, please will you respond to the questions below so that I can get to know more about you.

Sister Unathi

Sister Unathi 4:26 PM
Are you taking PrEP? Are you perhaps a PrEP healthcare provider, or are you simply just visiting?

PrEP Provider PrEP Patient



Amanda Selfie
Geralmente responde na hora

Ola bom dia!

Eu posso conversar sobre qualquer coisa, bonita, só me perguntar, vamo falar de q??

PrEP

A PrEP é um medicamento combinado em pilula q diminui a chance de infecção pelo HIV mesmo ñ usando camisinha. Não funciona pra outras ISTs. Alguns efeitos colaterais: dor de kbça, náusea, fadiga e peido, mas ñ são frequentes e normalmente rola só no começo.

No brasil, PrEP é oferecida

preparasalvador Seguir

143 publicações 3.159 seguidores 498 seguindo

PrEPara Salvador
O PrEPara é um projeto que oferece saúde e prevenção para jovens entre 15 e 19 anos! #gay #trans #travesti Marque já sua visita!
Link do evento
docs.google.com/forms/d/1QMLbaJHV9jvhHQigjkYlpSs_IW_V2jcOqgDH9Y3s7VA/v...

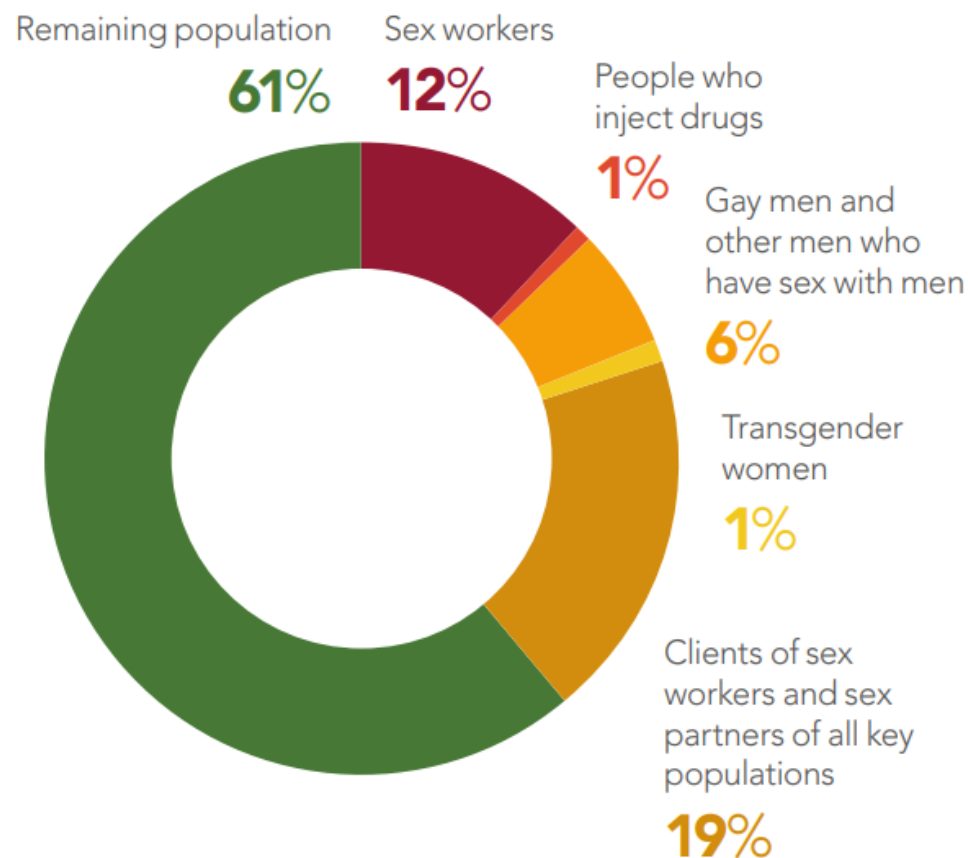
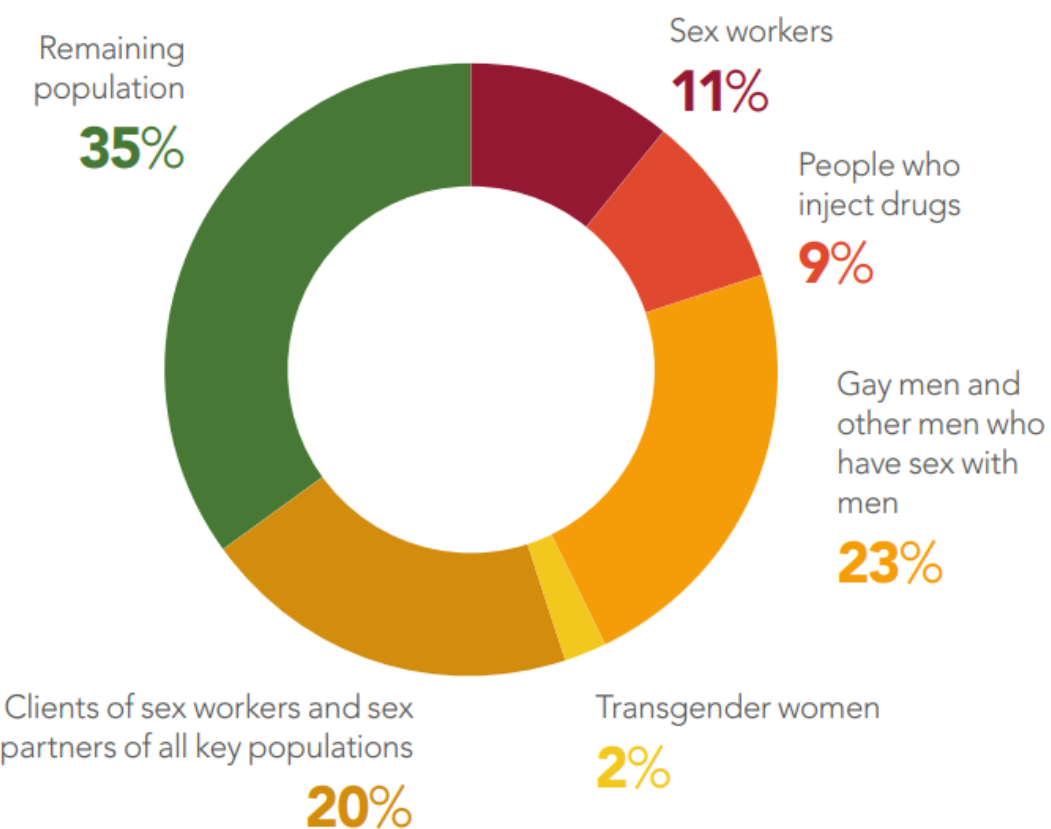
Templates PEP Sua clínica NÓS CLOSÉS COMBINÓ?

Need to focus on key populations

Key population are particularly vulnerable to HIV infection in every region of the world

Distribution of HIV infections, by population, global, 2020

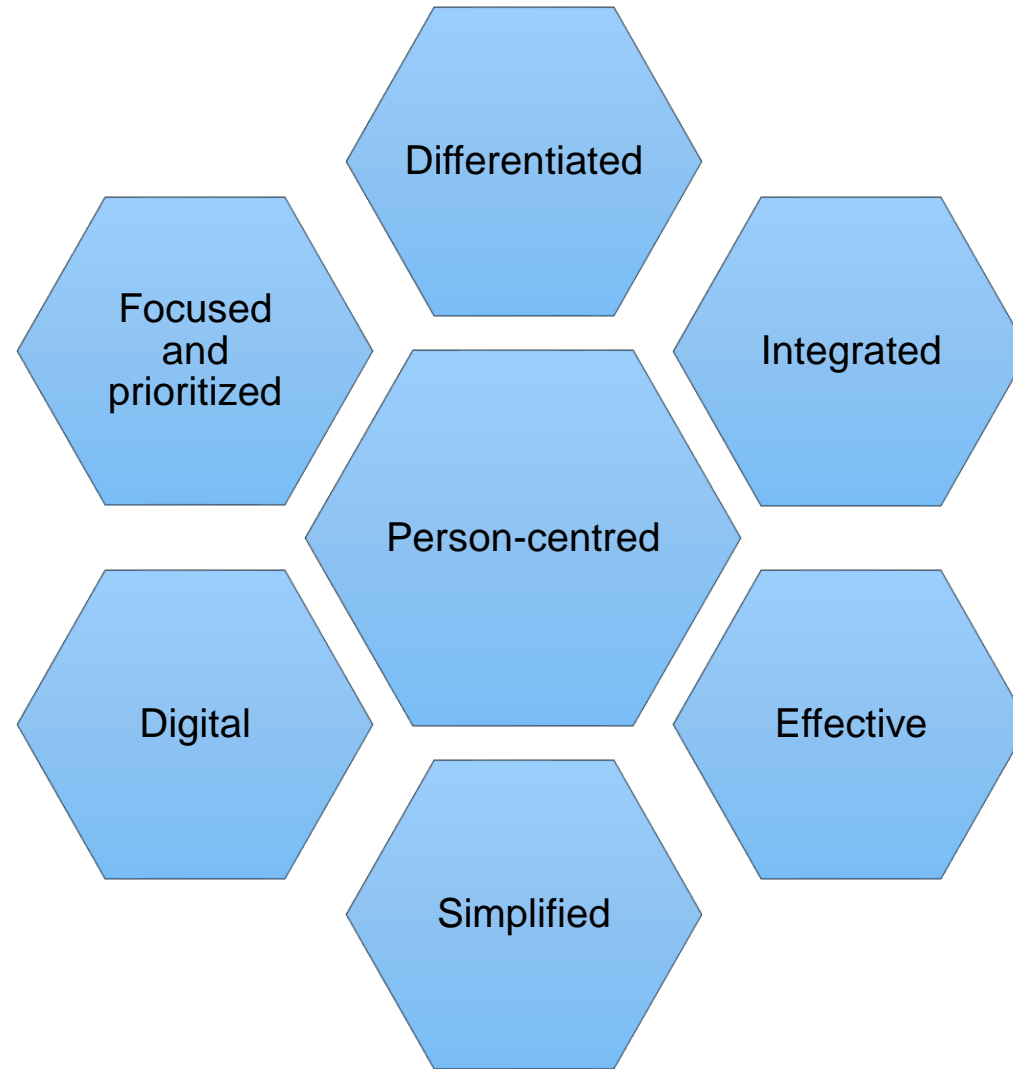
Distribution of HIV infections, by population, sub-Saharan Africa, 2020



Update of WHO consolidated guidelines on services for key populations in 2021

Source: UNAIDS 2021 epidemiological estimates

The future of prevention is...



The future of prevention is...

Address structural barriers
Create enabling environment

Less than
10%
of countries have
punitive laws
and policies

Less than
10%
experience
stigma and
discrimination

Less than
10%
experience
gender inequality
and violence

Focused
and
prioritized

Differentiated

Integrated

Person-centred

Digital

Effective

Simplified

The future of prevention is...

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Articles

National sex work policy and HIV prevalence among sex workers: an ecological regression analysis of 27 European countries

Dr Aaron Reeves PhD ^{a, b}, Sarah Steele PhD ^c, Prof David Stuckler PhD ^b, Prof Martin McKee MD ^d, Andrew Amato-Gauci MD ^e, Prof Jan C Semenza PhD

Focused
and

Integrated

Feature

Drug legislation may be key to ending HIV epidemic

Ed Holt

Combating HIV stigma in low- and middle-income healthcare settings: a scoping review

M. Kumi Smith, Richie H. Xu, Shanda L. Hunt, Chongyi Wei, Joseph D. Tucker, Weiming Tang, Danyang Luo, Hao Xue, Cheng Wang, Ligang Yang, Bin Yang, Li Li, Benny L. Joyner Jr, Sean Y. Sylvia

First published: 26 August 2020

<https://doi.org/10.1002/jia2.25553>

Review

Stigma reduction: an essential ingredient to ending AIDS by 2030

Laura Nyblade PhD ^a, ... Melissa A Stockton PhD ^b

Digital

Effective

Can a national government implement a violence prevention and response strategy for key populations in a criminalized setting? A case study from Kenya

Parinita Bhattacharjee, Giuliana J Morales, Timothy M Kilonzo, Robyn L Dayton, Reuben T Musundi, Janet M Mbole, Serah J Malaba, Bernard E Ogwang, Shajy K Isac, Stephen Moses, Helgar K Musyoki

Integration and scale-up of efforts to measure and reduce HIV-related stigma: the experience of Thailand

Siraprapasiri, Taweesap^a; Srithanaviboonchai, Kriengkrai^{b,c}; Chantcharas, Parichart^d; Suwanphatthana, Niwat^e; Ongwandee, Sumet^f; Khemngern, Porntip^d; Benjarattananorn, Patchara^g; Mingkwan, Pia^h; Nyblade, Laura^h

The future of prevention is...

Address structural barriers
Create enabling environment

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and policies

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discrimination

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and violence

Articles

National sex work policy and HIV

International Council of Nurses Congress 2021,
2 - 4 November 2021,
ONLINE

Scientific Programme

Tuesday, 02 November 2021

Combating
healthcare

M. Kumi Smiti Partner symposium
Joseph D. Tu 16:02 - 16:57
Ligang Yang,

First published
<https://doi.org/10.1186/s12916-021-02000-0>

Discrimination

PS4 Act to reduce HIV-related stigma and discrimination in health care settings - WHO

The session will share experiences and perspectives from healthcare providers and others on HIV-related stigma and discrimination, including some reflection on stigmas related to COVID-19. Evidence will add to these perspectives and to the impact on global HIV goals. The symposium will speak to compassion as a foundation to quality care; and share a compassion lens to understanding stigma and how to tackle it. Lastly, interventions will be shared that reduce stigma and discrimination, ranging from education and training to practice, policy and leadership. Participants should leave this session with actions that they intend to do, knowing that small actions are possible, they make a difference, and amplify over time.

Parinita Bhattacharjee, Giuliana J Morales, Timothy M Kilonzo, Robyn L Dayton, Reuben T Musundi, Janet M Mbole, Serah J Malaba, Bernard E Ogwang, Shajy K Isac, Stephen Moses, Helgar K Musyoki

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Thank you!



I thank the **Testing, Prevention, and Populations** team for contributions to this presentation.

Contact me for questions or comments: Robin Schaefer,
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WHO Global HIV, Hepatitis and STIs Programmes:
<https://www.who.int/teams/global-hiv-hepatitis-and-stis-programmes/overview>