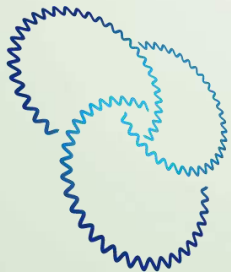


IC^{ASA} 2021

Paving the way to access to long-acting technologies

Satellite symposium co-hosted by



medicines
patent
pool



Unitaid

Moderated by
Lobna Gaayeb &
Cherise Scott

December 2021

Long-acting technologies

Additional options, with many advantages

Challenges

- Pill burden
 - Stigma
- Less adherence & retention in care
→ Barrier to viral suppression
→ Sustained transmission

Opportunities

- Simplified dosing
 - Less frequent administrations
 - Optimized regimen
- Address mental burden
→ Address stigma
→ Optimized use of resources

Long-acting drug delivery technologies could support Global Health and Universal Health Coverage goals

How can we support access to them?

FOR TOO MANY, HEALTH IS **INACCESSIBLE,**
UNAFFORDABLE OR ALTOGETHER **UNAVAILABLE**

100 MILLION PEOPLE

each year, worldwide, are driven into poverty because
HEALTHCARE COSTS ARE TOO HIGH

The MPP model : how we work

COMPETITION BETWEEN GENERICS BRINGS PRICES DOWN AND
MORE PEOPLE GAIN ACCESS TO THE MEDICINES THEY NEED



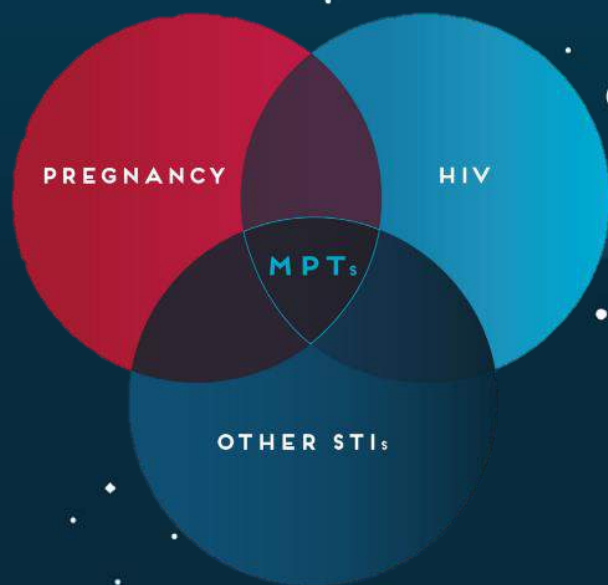
The Medicines Patent Pool has signed
a public-health oriented licence on a **long-acting
injectable** for **prevention and/or treatment of**

HIV

developed by the University of Washington

“ 1 injection to replace 30-90 pills ”

EMERGING MULTIPURPOSE PREVENTION
TECHNOLOGIES COULD HELP PREVENT
UNWANTED PREGNANCIES AND MULTIPLE
CAUSES OF MORTALITY AND MORBIDITY.





Panelists



Prof. Quarraisha Abdool Karim

Associate Scientific Director: CAPRISA; Professor in Clinical Epidemiology: Columbia University and ProVice-Chancellor: African Health, University of KwaZulu-Natal



Mr. Yves Kugbe

The Long Acting Technologies Community Advisory Board



Dr. N. Kumarasamy

Director at the Infectious Diseases Medical Center and the Chennai Antiviral Research and Treatment Clinical Research Site



Dr. Siobhan Crowley

Head of HIV at The Global Fund to Fight AIDS, Tuberculosis & Malaria

Concluding remarks



Ms. Sandra Nobre

Head of Business Development at the Medicines Patent Pool

Key considerations for enhancing access to long-acting technologies



Prof. Quarraisha Abdool Karim

Associate Scientific Director: CAPRISA;
Professor in Clinical Epidemiology: Columbia
University and ProVice-Chancellor: African
Health, University of KwaZulu-Natal



Enhancing uptake of long-acting HIV prevention technologies

UNITAID LAT Symposium, ICASA, Durban, December 2021

Quarraisha Abdool Karim, PhD

Associate Scientific Director: CAPRISA

Professor of Clinical Epidemiology, Columbia University

Pro Vice-Chancellor (African Health): University of KwaZulu-Natal

Co-Chair: UN 10 Member Technical Facilitation Mechanism

UNAIDS Ambassador for Adolescents and HIV

Overview

- **Tribute to Zena Stein - initiating a journey from 1990-2021**
- **Global epidemic at a glance: Importance of Preventing HIV in Adolescents**
- **Social Challenge – gender power disparities – role of technology – first step**
- **Lessons from Covid-19**
 - **Political Leadership & Scientific Evidence - Options**
 - **Partnerships with Community - Choices**
 - **Users – behaviour, biology, context, no one size fits all**
 - **Providers at coalface – important gatekeepers and amplifiers**
- **Capacity building – manufacturing, regulatory, communication**

Existing HIV prevention strategies- ABCC:

Abstinence

Behaviour (Be faithful)

Condoms (Male & Female)

Circumcision



Which of these are prevention tools for young women in Africa?

Not a single HIV prevention technology for women!

© 1990 American Journal of Public Health 0090-0036/90\$1.50

Commentary

HIV Prevention: The Need for Methods Women Can Use

ZENA A. STEIN, MA, MB, BCH

Abstract: Efforts to prevent heterosexual transmission of HIV (human immunodeficiency virus) infection have thus far focused on modifying sexual behaviors and the use of condoms. While the experience of family planners, particularly in those countries most threatened by heterosexual HIV transmission, has shown that the most effective measures of pregnancy prevention have relied on women, little attention has been given to barriers to HIV transmis-

sion that depend on the woman and are under her control. Tactics which interrupt transmission of the virus should be considered in their own right and separated from those that interrupt pregnancy, for insurance, the diaphragm. Greater emphasis is urged for research on preventive methods women could use, including the possibility of a topical virucide that might block transmission through the vaginal route. (*Am J Public Health* 1990; 80:460-462.)

Introduction

At present, the sole physical barrier promoted for prevention of sexual transmission of human immunodeficiency virus (HIV) infection from men to women is the condom. With condoms, active male cooperation is



in the prescribed manner. Efficacy is not easy to estimate; one working estimate suggests that condoms are about one factor of 10.⁷ Combined with spermicide, condoms may be considered more efficacious.¹⁶ The effectiveness of a program based on condom use

Long journey from topical microbicides to MPT technologies

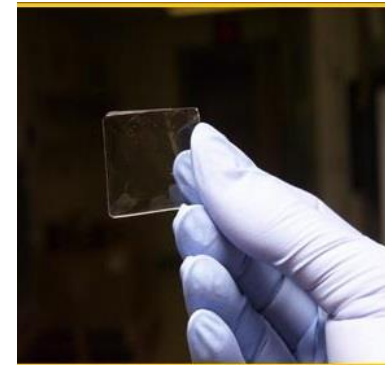
Chemical agent applied to the vaginal or rectal mucosa with the intention of preventing the transmission of sexually transmitted infections including HIV and pregnancy



Vaginal gel applicator



Vaginal ring



Vaginal film

**Microbicides containing antiretroviral drugs =
Topical PrEP (Pre-exposure prophylaxis)**

The Global HIV epidemic at a glance

Worldwide in 2020:

38 million living with HIV

690,000 HIV deaths

1.5 million new infections/± 4000 infections/day

Sub-Saharan Africa: 2/3 HIV infections; 1/4 infections in AGYW - MTCT

ESA: 3/5 HIV infections

South Africa: 1/5 HIV infections (uneven distribution)

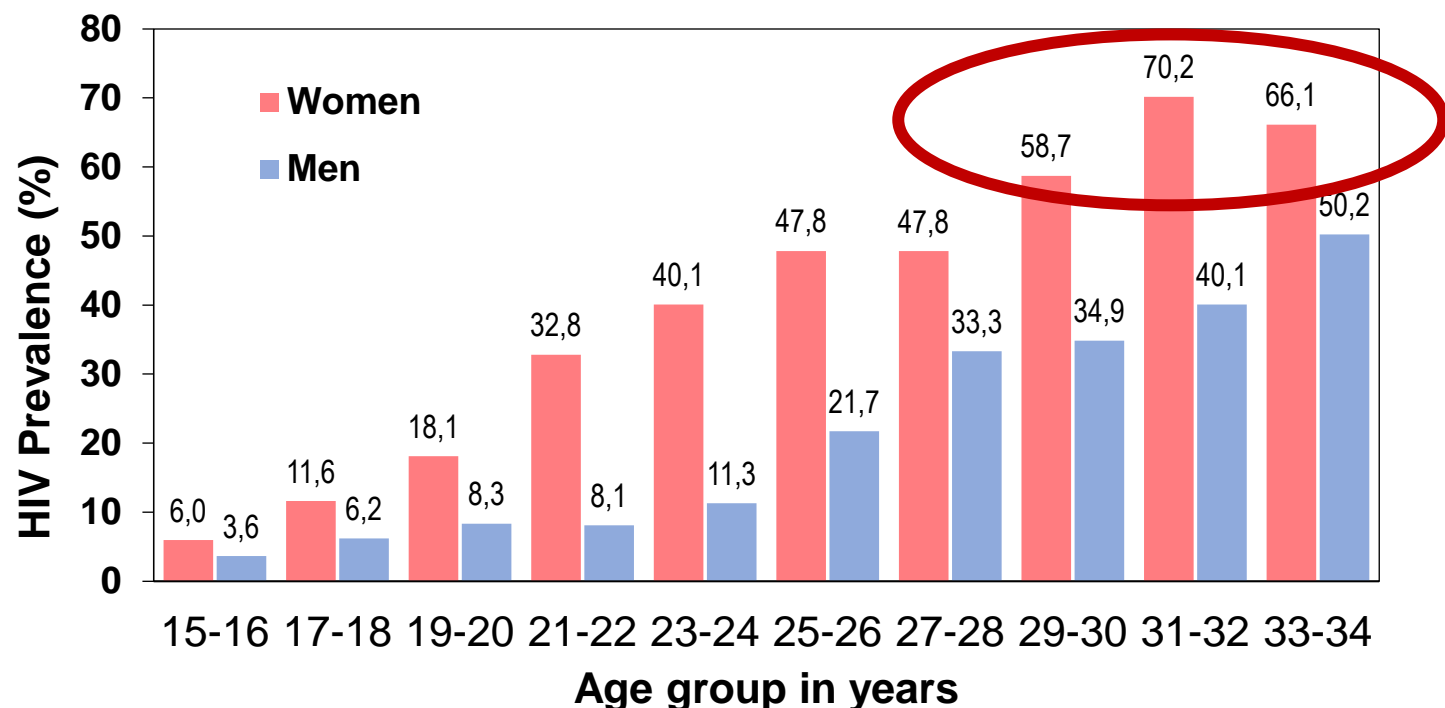
Source: UNAIDS Global Report 2021

High rates of HIV among women in South Africa



Community-based HIV prevalence in KwaZulu-Natal, South Africa: results of a cross-sectional household survey

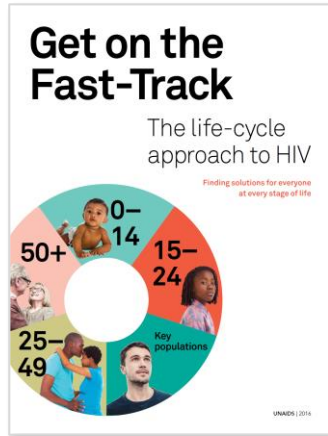
Ayesha B M Kharsany, Cherie Cawood, David Khanyile, Lara Lewis, Anneke Grobler, Adrian Puren, Kaymarlin Govender, Gavin George, Sean Beckett, Natasha Samsunder, Savathree Madurai, Carlos Toledo, Zawadi Chipeta, Mary Glenshaw, Sara Hersey, Quarraisha Abdool Karim



Community survey in 9,812 men and women in a rural district, KwaZulu-Natal:

- Overall 36% HIV positive
- 44% in women vs 28% in men

The Cycle of HIV Transmission: Young women's risk → men 25-34 years



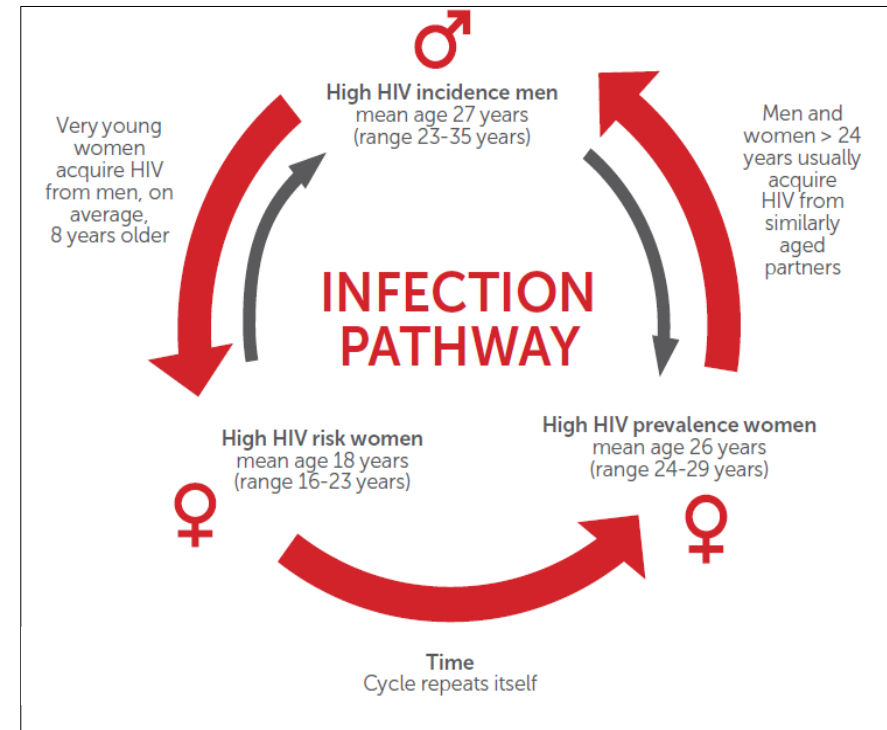
THE LANCET HIV

Transmission networks and risk of HIV infection in KwaZulu-Natal, South Africa: a community-wide phylogenetic study

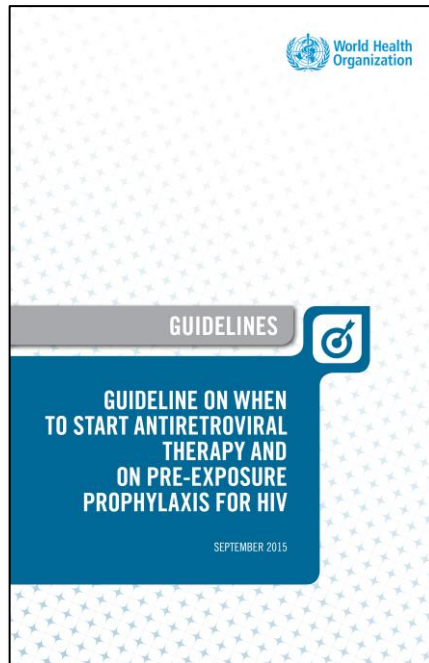
Tulio de Oliveira, Ayesha B M Kharsany*, Tiago Gräf, Cherie Cawood, David Khanyile, Anneke Grobler, Adrian Puren, Savathree Madurai, Cheryl Baxter, Quarraisha Abdool Karim, Salim S Abdool Karim*



Women age group	Age difference with male partners
16-20	11.5 yrs
21-25	7.0 yrs
26-30	1.5 yrs
31-35	1.7 yrs
36-40	0.7 yrs



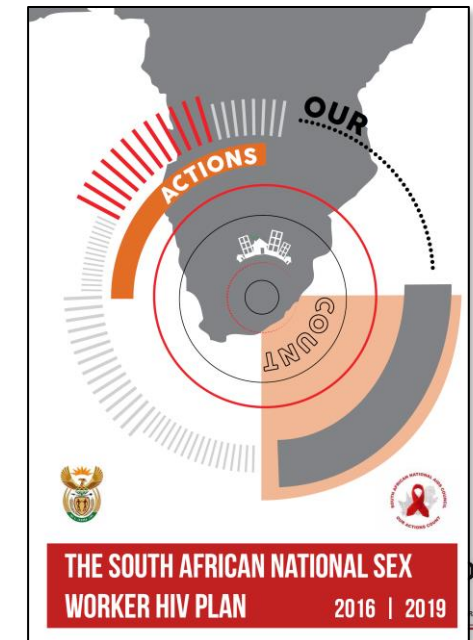
PrEP empowering women to prevent HIV: WHO guidelines to clinic-based provision of tenofovir for PrEP



PrEP recommended as global standard for all at high risk in 2015



Implementation of PrEP for HIV prevention in women - 2017



CAP008: Integration of PrEP into SRH services is feasible



Integrated provision of topical pre-exposure prophylaxis in routine family planning services in South Africa: a non-inferiority randomized controlled trial

Leila E Mansoor^{1§} , Nonhlanhla Yende-Zuma¹, Cheryl Baxter¹, Kathryn T Mngadi¹, Halima Dawood¹, Tanuja N Gengiah¹, Natasha Samsunder¹, Jill L Schwartz², Gustavo F Doncel² and Quarraisha Abdool Karim^{1,3}

	Intervention clinic (N=189) (95% CI)	Control clinic (N=183) (95% CI)
ADHERENCE		
ITT: Mean returned used applicators/mth	5.2 (4.7–5.7)	5.7 (5.2–6.2)
Mean difference	-0.47 (–1.16 to 0.21)	
Per-Protocol: Mean returned used applicators/mth	5.5 (5.0-6.1)	5.8 (5.3-6.3)
Mean difference	-0.25 (-0.98 to 0.48)	
HIV INCIDENCE		
HIV incidence per 100w-y	3.5 (1.8–6.0)	3.6 (1.9–6.3)
Incidence rate ratio	0.96 (0.40 to 2.35)	

PrEP field : Towards longer acting, less user dependent technologies



The NEW ENGLAND
JOURNAL of MEDICINE

Enhancing HIV Prevention with Injectable Preexposure Prophylaxis

Quarraisha Abdool Karim, Ph.D.

- **PrEP uptake constrained by the challenge: poor risk perception or acceptance of high risk**
- **PrEP awareness & acceptance & Self-efficacy to use PrEP**
- **Increasing PrEP coverage may need more than additional PrEP options**
- **Alternative approaches: Promote and provide at user choice venues**
- **Implementation studies increasingly important as the array of longer-acting PrEP options**

CAP251: STIs & HIV - implications for epidemic control



INTERNATIONAL
SOCIETY
FOR INFECTIOUS
DISEASES

Population prevalence of sexually transmitted infections in a high HIV burden district in KwaZulu-Natal, South Africa: Implications for HIV epidemic control

Ayesha B.M. Kharsany^{a,b,*}, Lyle R. McKinnon^{a,c}, Lara Lewis^a, Cherie Cawood^d, David Khanyile^d, Domiciled Venessa Maseko^e, Tawni C. Goodman^{a,1}, Sean Beckett^f, Kaymarlin Govender^f, Gavin George^f, Kassahun Abere Ayalew^g, Carlos Toledo^g

Association of curable STIs and HIV positive status, CD4 cell count and HIV viral load

	Males HIV pos / neg	Females HIV pos / neg	CD4 cell count <350 vs ≥350 per µL	HIV viral load ≥ 400 vs <400 copies per mL
Adjusted prevalence ratio (% CI)				
<i>Syphilis</i>	1.15 (0.46-2.86)	2.54 (1.32-4.86)	1.26 (0.82-1.94)	1.71 (0.97-3.02)
<i>N. gonorrhoeae</i>	1.73 (0.67-4.50)	2.39 (1.62-3.52)	1.59 (1.00-2.52)	1.91 (1.36-2.70)
<i>C. trachomatis</i>	0.96 (0.57-1.63)	1.01 (0.82-1.25)	0.72 (0.47-1.11)	1.52 (1.12-2.05)
<i>T. vaginalis</i>	1.50 (0.93-2.41)	1.70 (1.43-2.01)	1.11 (0.92-1.35)	1.01 (0.83-1.21)
<i>M. genitalium</i>	1.49 (1.02-2.19)	1.60 (1.15-2.22)	2.01 (1.52-2.66)	1.82 (1.27-2.63)

Public health implications of sustained onward transmission risk of STIs and HIV, threatening the goal to achieving HIV epidemic control in the region

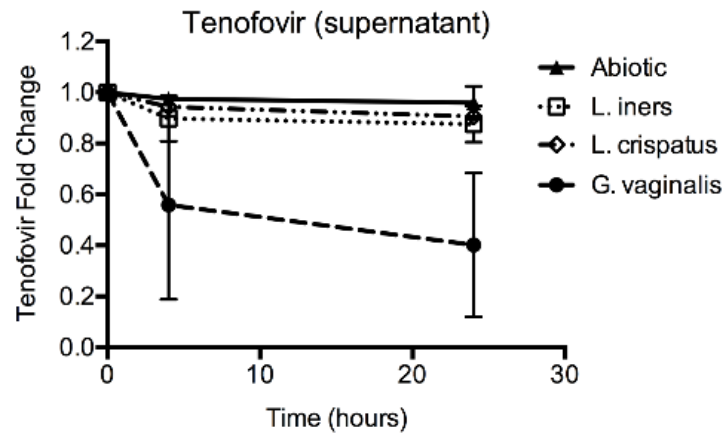
Vaginal bacteria / microbiome impact the efficacy of topical tenofovir



Vaginal bacteria modify HIV tenofovir microbicide efficacy in African women

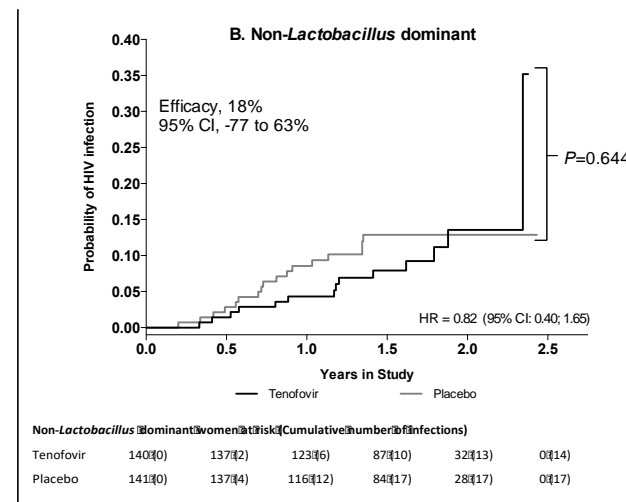
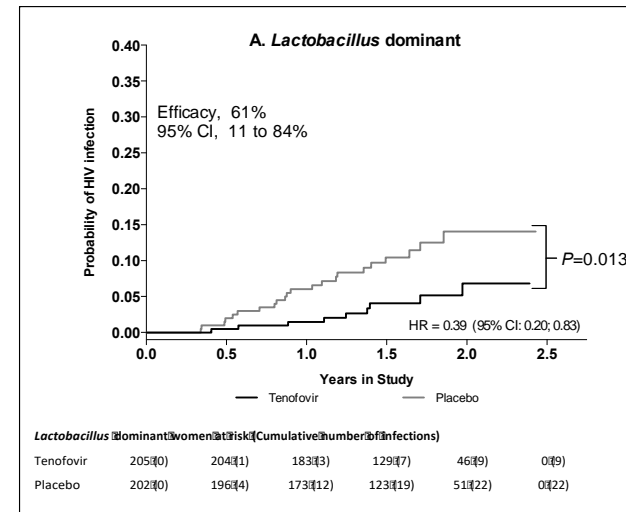


Nichole R. Klatt,^{1*†} Ryan Cheu,^{1†} Kenzie Birse,^{2,3†} Alexander S. Zevin,^{1†} Michelle Perner,^{2,3†} Laura Noël-Romas,^{2,3†} Anneke Grobler,⁴ Garrett Westmacott,⁵ Irene Y. Xie,^{2,3} Jennifer Butler,^{2,3} Leila Mansoor,⁴ Lyle R. McKinnon,^{3,4} Jo-Ann S. Passmore,^{6,4} Quarraisha Abdool Karim,^{4,7} Salim S. Abdool Karim,^{4,7} Adam D. Burgener^{2,3,8*†}



4 hours:
 G. vag vs Abiotic: $P < 0.0001$
 G. vag vs. L. iners: $P = 0.0037$
 G. vag vs. L. crisp: $P = 0.0019$
 L. iners vs L. crisp: $P = ns$

24 hours:
 G. vag vs Abiotic: $P < 0.0001$
 G. vag vs. L. iners: $P < 0.0001$
 G. vag vs. L. crisp: $P < 0.0001$
 L. iners vs. L. crisp: $P = ns$



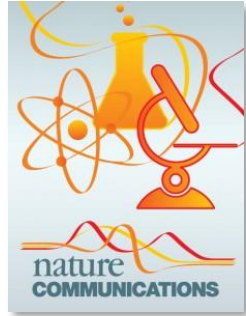
Women with *Lactobacillus* dominance

Efficacy: 61%

Women with <50% *Lactobacilli*

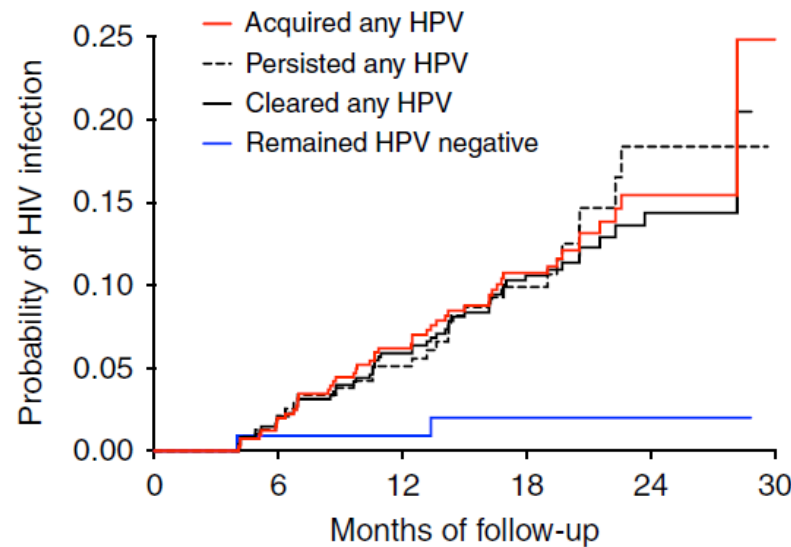
Efficacy: 18%

HPV, genital inflammation and HIV acquisition



HPV infection and the genital cytokine milieu in women at high risk of HIV acquisition

Lenine J.P. Liebenberg^{1,2,8*}, Lyle R. McKinnon^{1,2,3,8}, Nonhlanhla Yende-Zuma^{1,8}, Nigel Garrett¹, Cheryl Baxter¹, Ayesha B.M. Kharsany^{1,2}, Derseree Archary^{1,2}, Anne Rositch⁴, Natasha Samsunder¹, Leila E. Mansoor¹, Jo-Ann S. Passmore^{1,5,6}, Salim S. Abdool Karim^{1,7} & Quarraisha Abdool Karim^{1,7}



Acquired any HPV	0/405	8/397	25/348	40/251	48/83	49/1
Persisted any HPV	0/236	5/231	12/200	21/142	28/37	28/0
Cleared any HPV	0/477	10/467	28/408	46/302	53/99	54/0
Remained HPV negative	0/108	1/106	1/100	2/72	2/30	2/0

HPV infection associated with a **2.5-fold** increase in HIV acquisition risk

Increasing HPV vaccination coverage may carry an additional benefit of reducing the risk of contracting HIV

Community engagement: “Do things *with* people - not *on* people” & “Nothing for us without us”



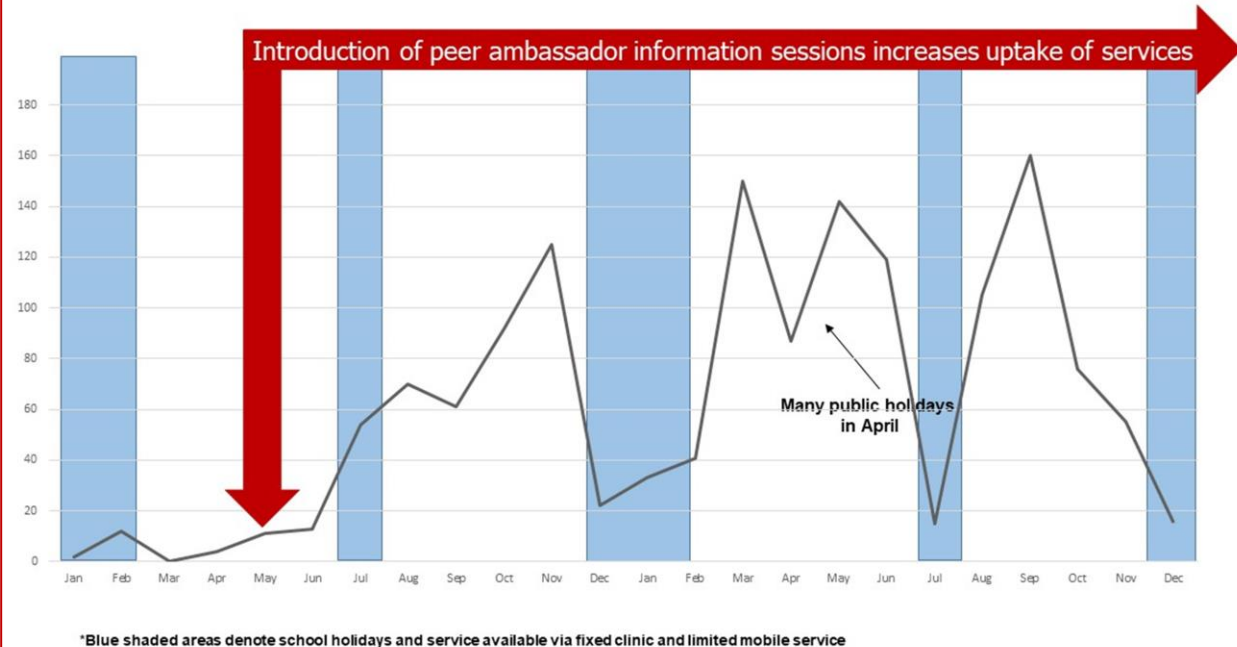
Community = Users and Providers at the Coalface



Decentralising SRH services: Taking Services to Young People

- **CAPRISA 072: Novel approach providing SRH services to over 1441 AGYW in 5 High School in rural KZN**
- **SRH services provided a school through mobile and fixed clinics**
- **Weekly in-school group SRH information and awareness sessions;**
- **Peer ambassador programme to drive SRH uptake in schools**
- **Quarterly adolescent “boot-camps” were held to discuss SRH information.**

Effect of Peer Ambassadors on mobile SRH services (Jan 2014-Dec 2015)

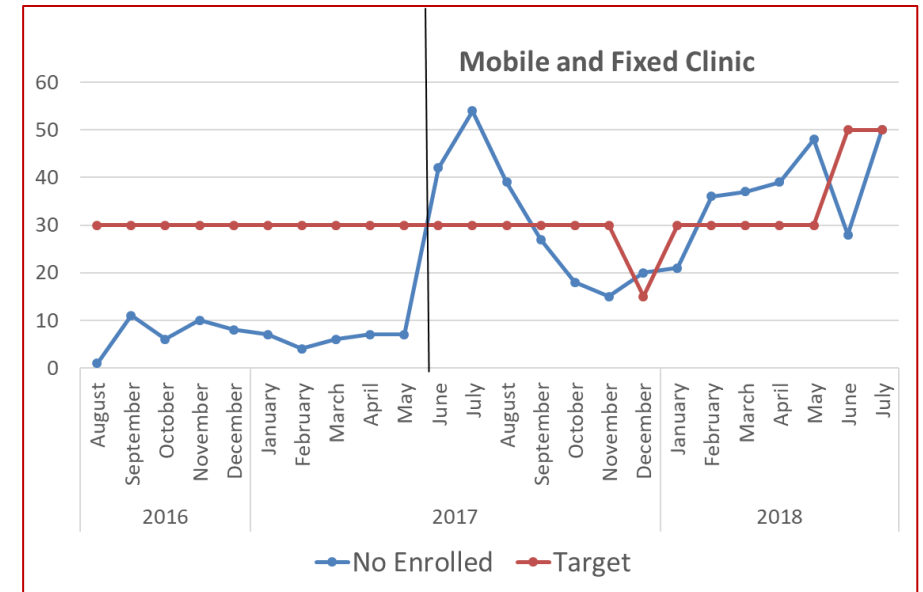


Key Lessons

- **Peer-led demand creation is key for driving SRH uptake** - Post-implementation of peer ambassadors in May 2014, visits at the mobile clinic increased from an average of 4 visits/month, to an average of 37 visits/month. Peer-led demand creation is also a sustainable solution to support the uptake of SRH and future HIV prevention technologies
- **Seasons of Uptake and access** - when schools closed female adolescent visits to mobile and fixed SRH clinics decreased
- **Out of school Youth** – this significantly vulnerable group are missed by school programmes, peer programmes could help reach these groups

Integrating PrEP into SRH services: Lessons from rural KZN

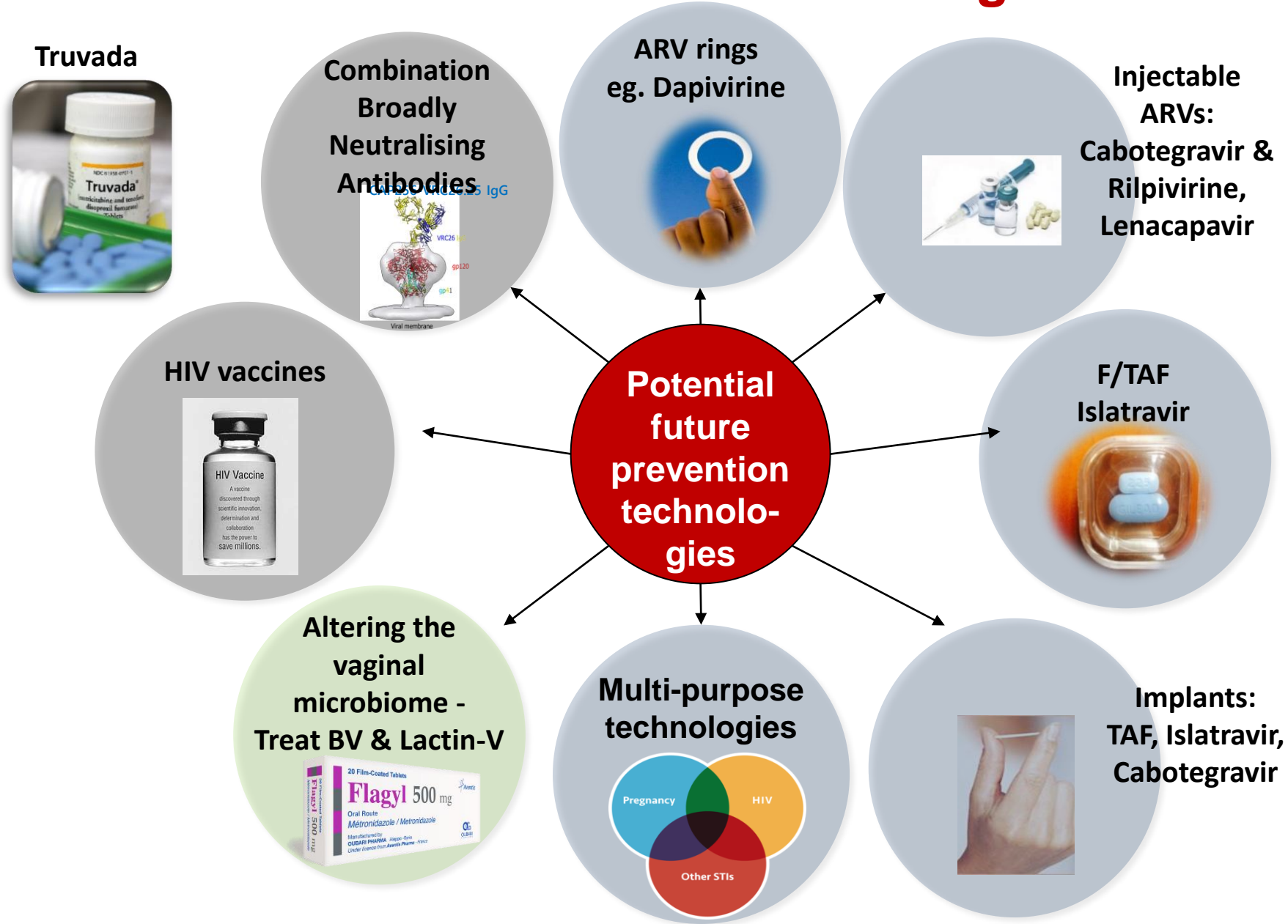
- **CAPRISA 084 provided oral PrEP to young women and men in rural KwaZulu-Natal**
- **Oral PrEP was provided as part of the SRH package of services via mobile and fixed clinic venues**
- **Aimed to develop a strategy to inform the public response and better access hard-to-reach groups**



Key lessons

- **Differentiated service models to support uptake and retention** - 72.5% accessed PrEP through the mobile clinic, 27.5% through fixed clinic services
- **Integration into SRH services** – support confidentiality, decreases stigma of using HIV prevention services, and provides opportunity to identify and treat other SRH issues
- **Mobile services engage men and adolescents**– greater accessibility, longer service provision hours supported uptake, 40% of PrEP users were male, and 60% were female

The future of biomedical research on technologies to prevent HIV in women – no one size fits all/magic bullets



Conclusion

- Preventing HIV in young women key to breaking chains of transmission in ESA and further reducing MTCT and Maternal Mortality Rates
- UTT is important but not sufficient on its own to reduce HIV incidence rates/MTCT in SSA
- Opportunities for prevention guided by cycle of transmission
 - Targeted male testing and treatment reduces HIV infection in young women
 - Reaching young men <25 years – gender norms; VMMC; ... - no quick returns!
 - Missed opportunities for primary prevention in PMTCT & Treatment Programmes
- PrEP for young women address an important social challenge: Feasible to integrate PrEP into FP services & Mobile services; School based CSE; SRH services; Peer-support; digital technologies enhance uptake
- Partnerships & Community Inclusion Critical
- Need to invest in manufacturing, regulatory and communication capacity now

Acknowledgements

- **Key investigators involved in these studies:**
 - Salim Abdool Karim, CAPRISA & Columbia University
 - Ayesha Kharsany, Leila Mansoor, Cheryl Baxter, Tanuja Gengiah, Natasha Samsunder, Sharana Mohammed, Nonhlanhla Yende & Nigel Garrett, CAPRISA
 - Jo-Ann Passmore, Lindi Masson & Carolyn Williamson, CAPRISA & UCT
 - Lynn Morris & Penny Moore, CAPRISA & NICD
 - Tulio D'Oliviera, KRISP & CAPRISA
 - Marc Baum & John Moss, Oak Crest Institute of Science
 - Dan Barouch & Doug Kwon, Ragon Institute of MGH, MIT & Harvard
 - Brent Williams, Center for Infection & Immunity, Columbia University
 - Adam Burgener, Public Health Agency of Canada
 - Nichole Klatt, University of Washington-Seattle
 - Lyle McKinnon, CAPRISA & University of Manitoba
- **Research teams involving >200 scientists & students**

RESEARCH SUPPORT WAS PROVIDED BY:



Reflections from the first global community advisory board focused on long-acting technologies



Mr. Yves Kugbe

The Long Acting Technologies
Community Advisory Board

SOME ROLES OF COMMUNITY ADVISORY BOARDS

- ❖ Promote norms and standards that advance needs-driven research;
- ❖ Review and inform the design of clinical trial design to ensure good participatory practices with the affected communities;
- ❖ Influence research and implementation decisions of researchers and developers from community perspectives
- ❖ Assist by providing country-specific data;
- ❖ Advocate strategically to accelerate affordable access to long-acting technologies and interventions and overcome barriers (e.g., normative guidance, regulatory, pricing, intellectual property, licensing, etc.);
- ❖ Engage with donors and policymakers to drive development and access to new LAT tools.

CAB may be informed by other fields and policies but DOES NOT:

- ❖ Focus on the health systems barriers and social determinants of health



THE LONG-ACTING TECHNOLOGIES COMMUNITY ADVISORY BOARD (LAT CAB)

- ❖ Treatment Action Group is part of the Unitaaid-funded [LONGEVITY Project](#) aiming to [develop novel, long-acting therapeutics for HCV cure; and prevention of malaria and latent TB infection \(LTBI\) from 2021-2024.](#)

TAG is coordinating the community engagement aspects of the project & developing treatment literacy materials about long-acting technologies (LATs)

- ❖ To ensure broader community engagement & participation, [TAG](#) partnered with [AfroCAB](#) recruited members May-July 2021, with independent external reviewers.
- ❖ External Advisory Group provides additional guidance.
- ❖ LAT CAB was established in Sept 2021 to:
 - Review the state of treatment research, contribute to research protocols and engage in research & development (R&D) process, including advising on research questions & trial design for LATs specifically under LONGEVITY Project
 - Engage with research scientists, community survey partners, product developers, & other research partners involved in developing malaria, HCV, and latent TB infection (LTBI) LATs during key moments in the development process.

- ❖ The LAT CAB focuses on the 3 diseases areas of the LONGEVITY Project:

- Latent TB infection and malaria prevention & HCV cure
- Composed 12 members from 10 countries for 4-year tenure
- [We are accepting additional LAT CAB members from Asia, EECA, MENA, and LAC regions on a rolling basis:](#)
www.hepCoalition.org

[Call for new Global Long-Acting Technologies CAB members from Asian, Eastern European, MENA, and Latin American countries](#)



PROS & CONS OF LATs FOR AFFECTED COMMUNITIES

- Provides more freedom about the daily pills taken matter
- Addresses the main barriers to treatment adherence—namely, pill fatigue and stigma associated with taking medications
- Addresses some systematic barriers that cisgender women face with PrEP
- Example: long-acting injectable antiretroviral regimen Cabenuva has dramatically reduced the dosing days from 365 days/year to 12 days/year
- other benefits such as the removal of PrEP behavioural barriers among cisgender women

- The management of side effects may be more challenging with LA formulations due to the discontinuous release of active ingredients in the bloodstream
 - However, only drugs with existing oral formulations with known and tolerable side effects are being developed as LAT reduces the risk for adverse side effects
- Accessibility related to costs and proximity to a health facilities for periodic injections (especially for populations in rural areas)
- Injection may be a trigger for a return to drug use for people with a history of injection drug use

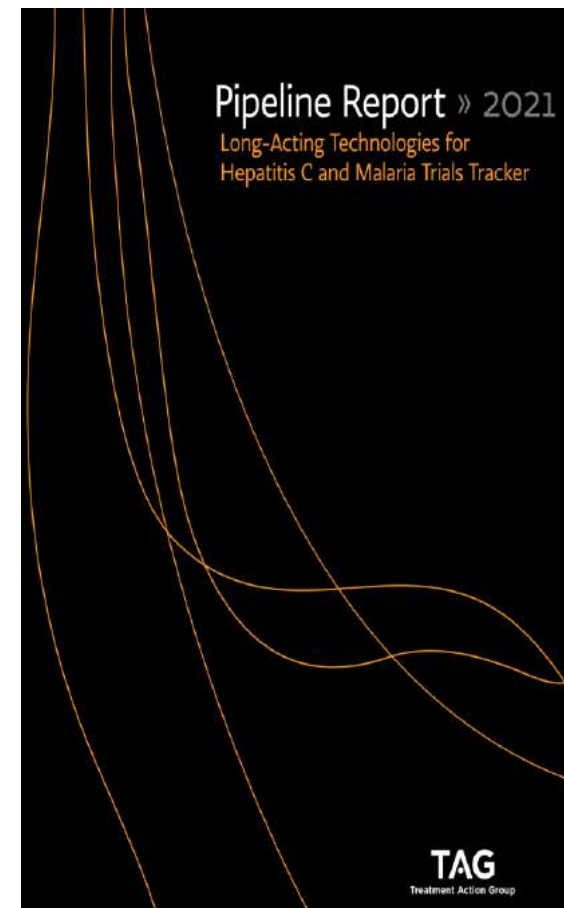
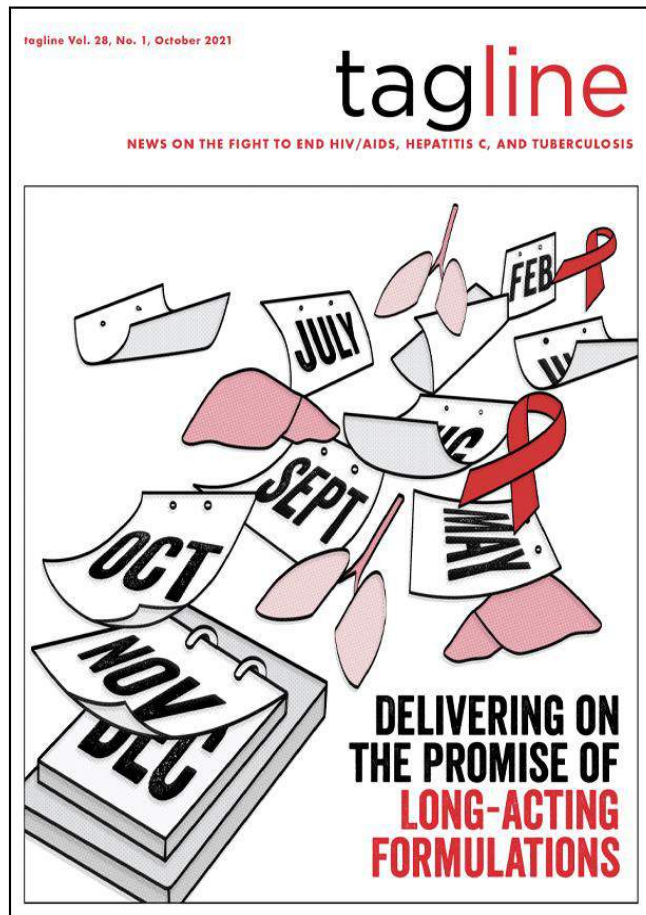


Access Needs & Community Recommendations

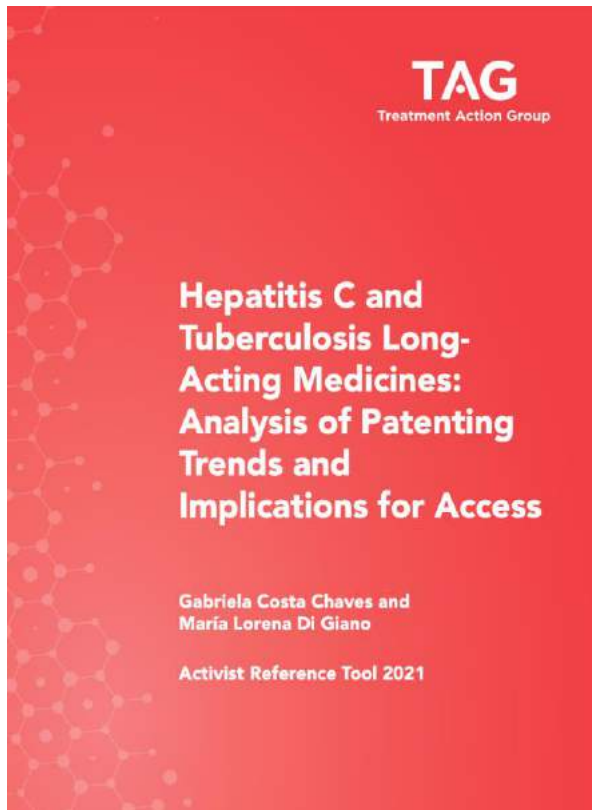
- Negotiate inclusion of high burden, upper- and middle-income countries in voluntary licenses
- Ensure multiple generic suppliers in-country under voluntary licenses to spur competitive pricing
- Involve affected communities and the consideration of their needs in all stages of product development




ACTIVIST TOOLS TO LEARN MORE ABOUT LATs



Activist Tools to Learn More About LATs



Same Meds, New Patents:
What Do Activists Need to Know About the Patent Landscape on Long-Acting Technologies?

SPEAKER	PANELISTS	MODERATORS
 Gabriela Chaves Independent Researcher	Pedro Villardi ABIA Mykyta Trofymenko 100% Life Chalerm Sak Kittittrakul AIDS Access Foundation	Othoman Mellouk ITPC Bryn Gay TAG Joelle Dountio TAG

TAG Treatment Action Group ITPC INTERNATIONAL TREATMENT PARTNERSHIPS COALITION

Nov 4, 2021
9 AM EST



What's on the Horizon for Long-Acting Pre-Exposure Prophylaxis (PrEP)?

Long-Acting Technologies Resource Compendium

HCV Long-Acting Technologies Resource Compendium

Our resource compendium is a non-exhaustive list of materials covering long-acting technologies to inform the hepatitis C, latent tuberculosis infection, and malaria scope of work under the LONGEVITY Project.



Considerations for inclusion of all populations throughout the product lifecycle, including pregnant individuals and children



Dr. N. Kumarasamy

Director at the Infectious Diseases Medical Center and the Chennai Antiviral Research and Treatment Clinical Research Site

Determinants for successful roll-out and uptake



Dr. Siobhan Crowley

Head of HIV at The Global Fund to
Fight AIDS, Tuberculosis & Malaria

Links to announcements

[MPP-UW licence about the pre-clinical all-in one TLD injectable candidate for HIV treatment](#)

- ⊕ To know more about the LA injectable drug combination technology from UW, please visit its profile on the brand-new [database of long-acting technologies patents and licences: LAPaL](#)

[Technology landscape of multi-purpose prevention technologies and their potential for LMICs](#)

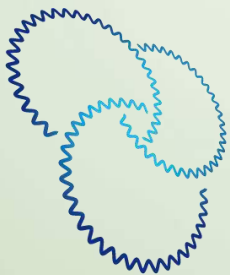
- ⊕ You may also be interested in browsing the online [MPT product development database](#)

Questions?

- About MPP-UW licence agreement, LAPaL, or MPP work, please send them to Lobna Gaayeb, MPP's long-acting therapeutics manager
→ lgaayeb@medicinespatentpool.org
- About UW long-acting technology, please send them to Prof. Rodney J. Ho from University of Washington
→ rodneyho@uw.edu
- About MPT landscape, please send them to Dr. Bethany Young Holt from CAMI Health
→ byh@cami-health.org

ICSA 2021

**Thank you for your
attention,
stay safe!**



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