



Update on Lenacapavir for PrEP: Results From the Interim Analyses of PURPOSE 1 and PURPOSE 2

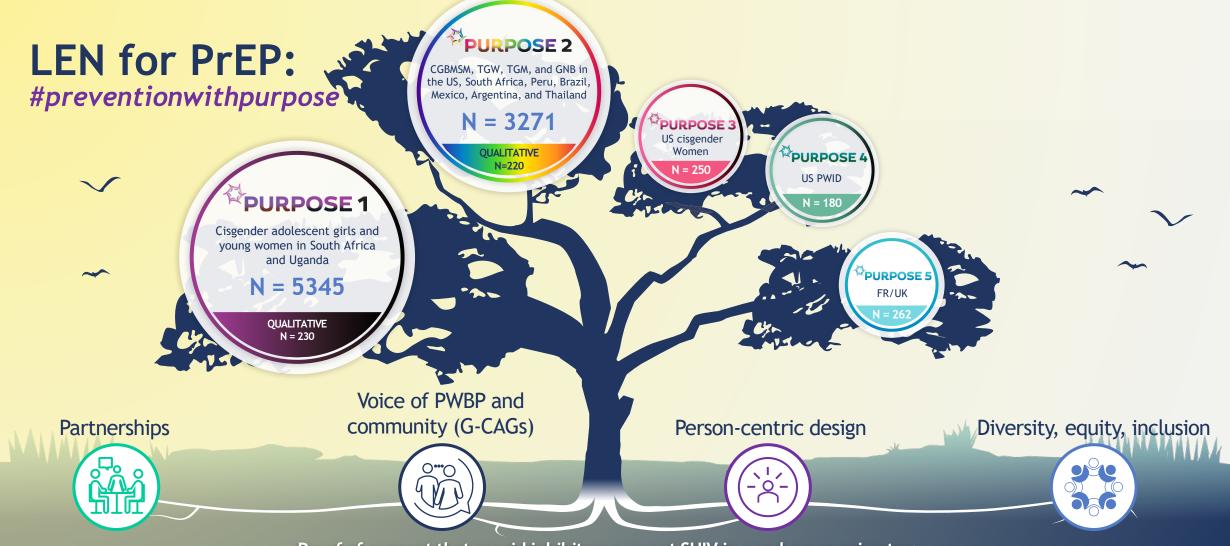
Colleen F. Kelley, MD, MPH, on behalf of the PURPOSE 1 and PURPOSE 2 Study Teams

Division of Infectious Diseases, Department of Medicine, Emory University School of Medicine and Grady Health System, Atlanta, GA, USA

Disclosures

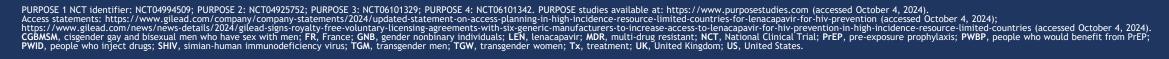
- Research grants to Emory University School of Medicine obtained from Gilead Sciences, Inc., Humanigen, Moderna, Novavax, and ViiV
- Honoraria for the development of CME content from Clinical Care Options, Medscape, and Practice Point Communications
- Chair of Category H (HIV) for the 2024 IDWeek Program Committee
- Vice Chair for the HIV Medicine Association
- Gilead Sciences, Inc., funded the study and designed the study with input from the PIs and G-CAG. The PIs and study staff gathered data; Gilead Sciences, Inc., monitored conduct of the trial, received the data, and performed analyses. The PURPOSE 2 Study Team all vouch for the data and analysis
- Medical writing support was provided by Heather Davies, PhD, of Aspire Scientific (Bollington, UK), and was funded by Gilead Sciences, Inc.





Proof of concept that capsid inhibitors prevent SHIV in non-human primates; Robust pharmacokinetic and safety database in persons with and without HIV;





Cisgender Women and Populations Disproportionately Affected by HIV Incidence Need New HIV Prevention Choices





The uptake of, adherence to, and persistence on oral PrEP remains suboptimal in populations globally, with 1.3 million new HIV infections annually¹⁻¹¹

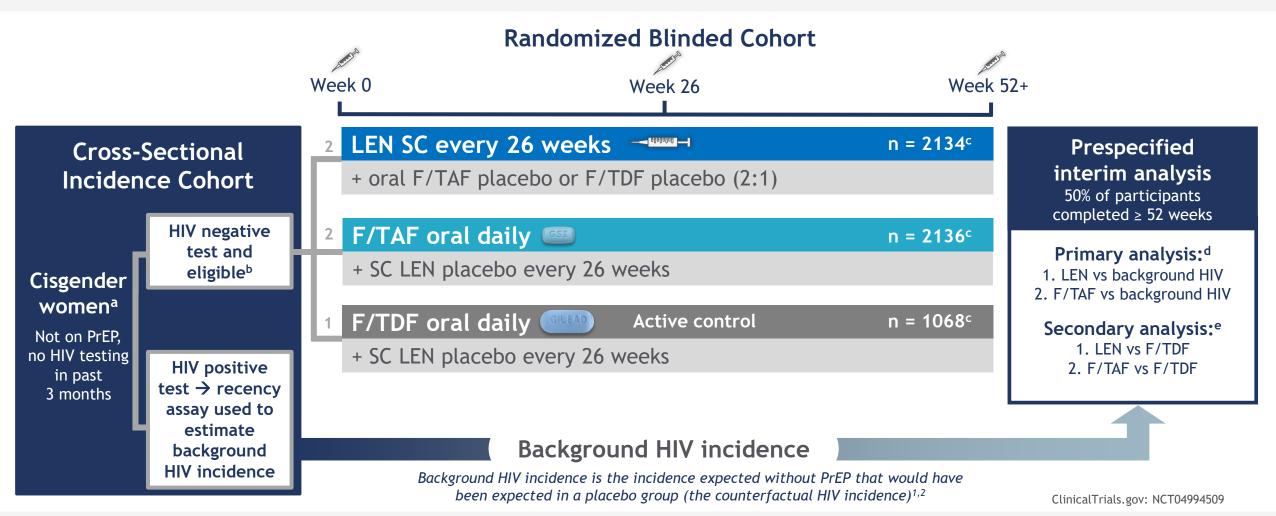
We need to develop new PrEP options that do not require daily oral adherence to pills or frequent clinic visits



LEN is a first-in-class, multistage HIV-1 capsid inhibitor with high potency and a long half-life, supporting twice-yearly SC injection^{12,13}

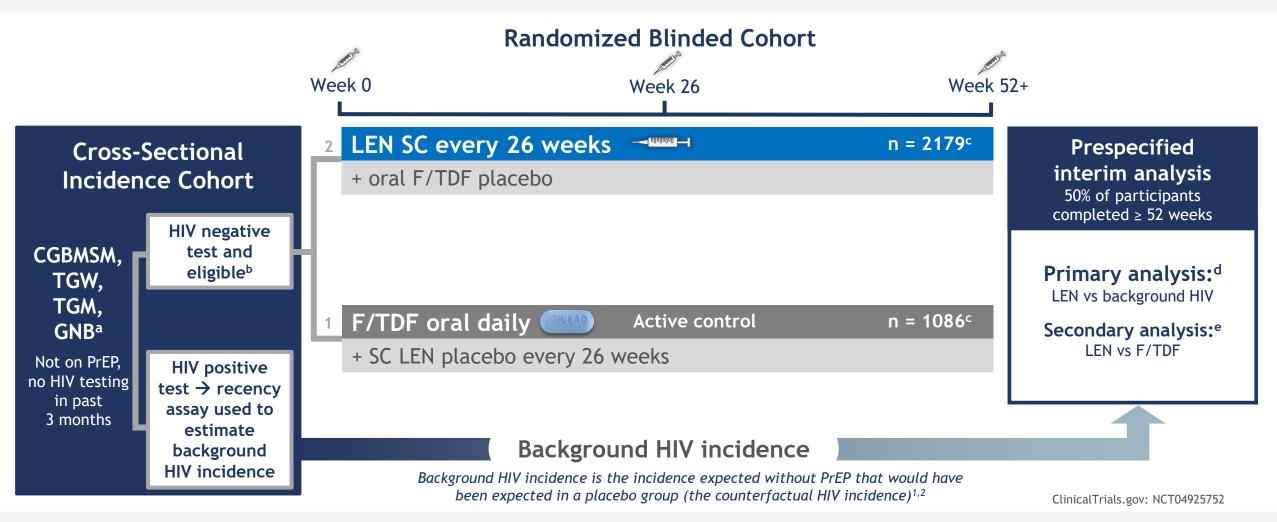
We evaluated the safety and efficacy of twice-yearly SC LEN for HIV prevention in cisgender women (PURPOSE 1) and in cisgender gay, bisexual, and other men; transgender women; transgender men; and gender nonbinary individuals who have sex with partners assigned male sex at birth (PURPOSE 2)

PURPOSE 1 Study Design



^aThe first participant was screened in August 2021, the 50th percentile participant was randomized in May 2023, and the last participant was randomized in September 2023. ^bEligibility criteria included: weight ≥ 35 kg, eGFR ≥ 60 ml/min, not pregnant. ^cn numbers represent the full analysis set for efficacy analyses. ^dIRR was assessed using a Wald test or likelihood ratio test if there were zero infections. ^{1,2} ^eIRR was assessed using Poisson regression or an exact conditional Poisson regression model in case of zero infections. **eGFR**, estimated glomerular filtration rate; **F/TAF**, emtricitabine/tenofovir alafenamide; **F/TDF**, emtricitabine/tenofovir disoproxil furnarate; **IRR**, incidence rate ratio.

PURPOSE 2 Study Design



Baseline Characteristics





Characteristic	LEN, n = 2138	F/TAF, n = 2137	F/TDF, n = 1070	
Age, years, median (range)	21 (16-25)	21 (16-26) ^a	21 (16-25)	
Age 16 to <18, years, n (%)	56 (2.6)	45 (2.1)	23 (2.1)	
Black race, ^b n (%)	2135 (99.9)	2136 (100)	1068 (99.8)	
Highest education level college/university, c n (%)	183 (8.6)	198 (9.3)	109 (10.2)	
Marital status, n (%)				
Married	26 (1.2)	30 (1.4)	17 (1.6)	
Living with primary partner	148 (6.9)	132 (6.2)	73 (6.8)	
STIs, n (%)				
Chlamydia trachomatis	520 (24.3)	562 (26.3)	263 (24.6)	
Neisseria gonorrhoeae	197 (9.2)	178 (8.3)	90 (8.4)	
Trichomonas vaginalis	154 (7.2)	165 (7.7)	82 (7.7)	
Syphilis	57 (2.7)	63 (2.9)	29 (2.7)	
Any prior use of PrEP, n (%)	143 (6.7)	121 (5.7)	71 (6.6)	
Any prior HIV testing, n (%)	1713 (80.1)	1731 (81.0)	860 (80.4)	
Median time since last HIV test, months (Q1, Q3)	6.8 (4.7, 11.5)	6.6 (4.8, 11.0)	6.5 (4.6, 11.0)	

Characteristic	LEN, n = 2183	F/TDF, n = 1088	
Age, years, median (range)	28 (17-74)	29 (17-73)	
Age 16 to ≤ 25, years, n (%)	752 (34.4)	344 (31.6)	
Non-White race, ^d n (%)	1453 (66.8)	742 (68.3)	
Hispanic/Latine ethnicity,e n (%)	1378 (63.2)	675 (62.0)	
Gender identity, n (%)			
Cisgender man	1697 (77.7)	846 (77.8)	
Gender-diverse	486 (22.3)	242 (22.2)	
STIs, n (%)			
Chlamydia trachomatis, Neisseria gonorrhoeae or Trichomonas vaginalis ^{f,g}	382 (18.2)	207 (20.0)	
Syphilis	84 (3.8)	43 (4.0)	
No prior HIV test, n (%)	597 (27.3)	306 (28.1)	
Any prior lifetime use of PrEP, n (%)	515 (23.6)	249 (22.9)	
Self-reported use of stimulants with sex in last 12 weeks, n (%)	491 (22.5)	271 (24.9)	

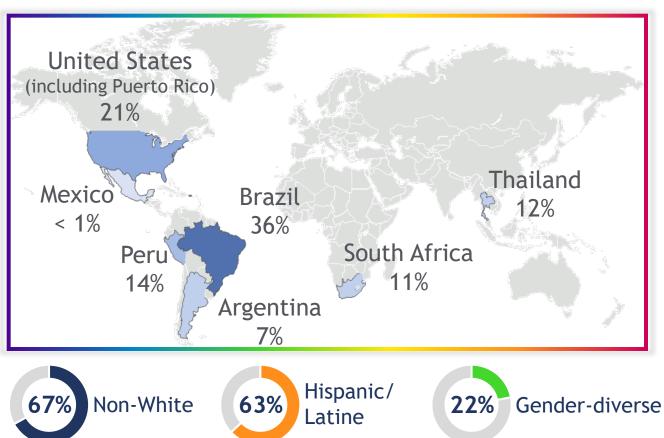
Baseline demographics and clinical characteristics were balanced across randomized groups

Global Distribution of Participants



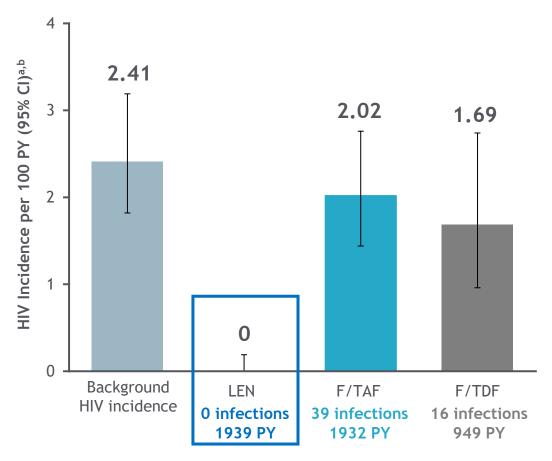


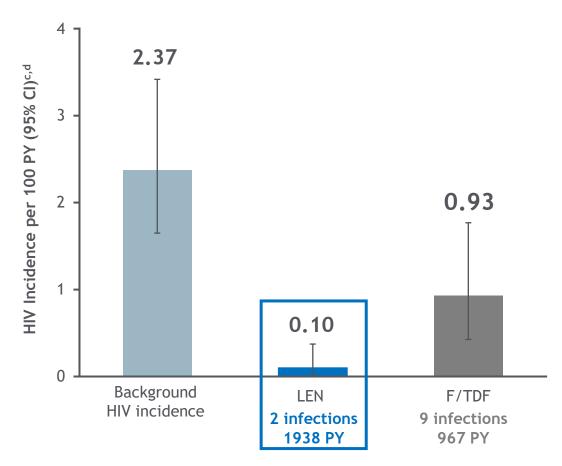




PURPOSE 1: Zero HIV Infections in Cisgender Women Receiving LEN

PURPOSE 2: Two HIV Infections in Participants Receiving LEN





Median follow-up duration: 44.0 weeks

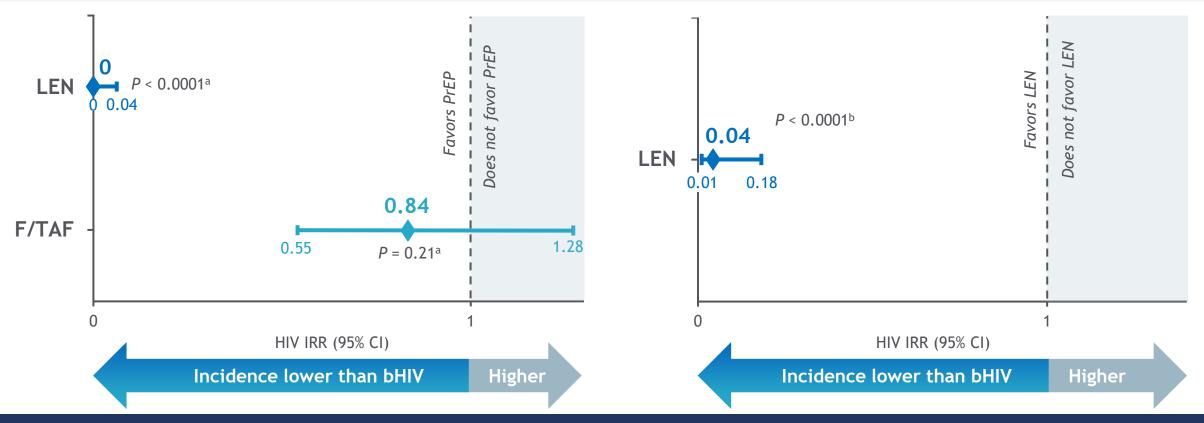
Median follow-up duration: 39.4 weeks

PY, person-years.

^aOverall n: background HIV incidence group, 8094; LEN, 2134; F/TAF, 2136; F/TDF, 1068. ^b95% Cls: background HIV incidence group, 1.82-3.19; LEN, 0-0.19; F/TAF, 1.44-2.76; F/TDF, 0.96-2.74. ^cOverall n: background HIV incidence group, 4634; LEN, 2179; F/TDF, 1086. ^d95% Cls: background HIV incidence group, 1.649-3.417; LEN, 0.012-0.373; F/TDF, 0.426-1.768.

PURPOSE 1 Primary Analysis: LEN Has 100% Efficacy for PrEP

PURPOSE 2 Primary Analysis: LEN Has 96% Efficacy for PrEP

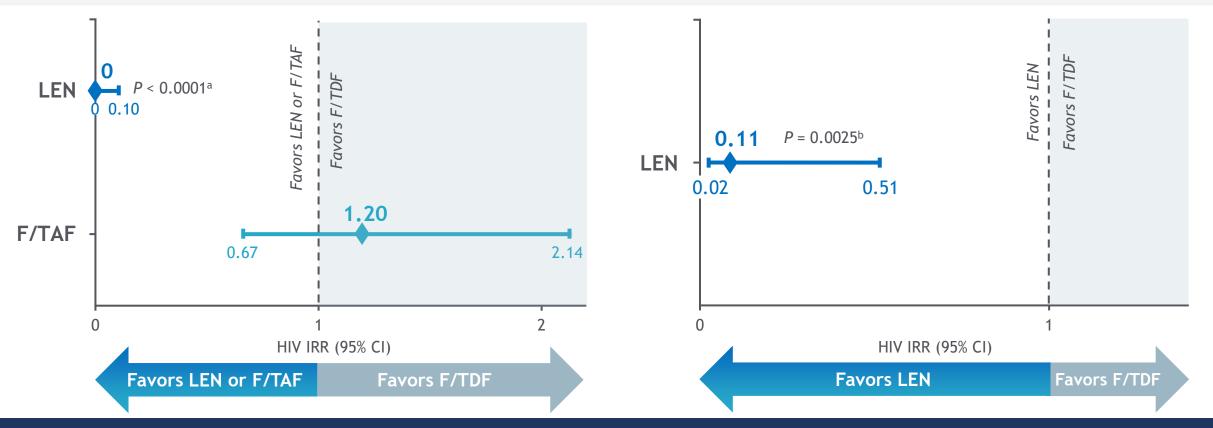


LEN reduced HIV infections by 100% in PURPOSE 1 and by 96% in PURPOSE 2 compared with background HIV incidence; in PURPOSE 1, F/TAF was not different from background HIV incidence

^aHIV IRR vs background HIV was assessed using a likelihood ratio test (LEN, due to zero infections), and a Wald test (F/TAF).^{1,2} ^bHIV IRR vs background HIV was assessed using a Wald test.² **bHIV**, background HIV incidence.

LEN Superior to F/TDF

PURPOSE 1 Secondary Analysis: PURPOSE 2 Secondary Analysis: LEN Superior to F/TDF



LEN reduced HIV infections by 100% in PURPOSE 1 and by 89% in PURPOSE 2 compared with daily oral F/TDF; in PURPOSE 1, F/TAF was not numerically different from F/TDF

PURPOSE 1 Adherence to Injections Was Much Higher vs Oral F/TAF and F/TDF

Adherence by TFV-DP Concentration in 10% Cohort

Injections were on timea for:

- 91.5% (4545/4967) at Week 26
- 92.8% (2025/2181) at Week 52



Notably in the F/TAF group, there was a significantly lower likelihood of HIV infection associated with medium or high adherence compared with low adherence (odds ratio 0.11; 95% CI 0.012-0.49; P = 0.0006)

PURPOSE 1 Pregnancies Were Common and Outcomes Similar to Expected Rates in the Population

Participants and Pregnancies, n (%)	LEN n = 2138	F/TAF n = 2137	F/TDF n = 1070
Participants with confirmed pregnancies	184	208	95
Confirmed pregnancies	193	219	98
Completed pregnancies	105 (54.4)	119 (54.3)	53 (54.1)
Ongoing pregnancies	88 (45.6)	100 (45.7)	45 (45.9)
Birthsa	55 (28.5)	45 (20.5)	21 (21.4)
Interrupted pregnancies	50 (25.9)	74 (33.8)	32 (32.7)
Induced abortion	30 (15.5)	40 (18.3)	20 (20.4)
Spontaneous miscarriage ^b	20 (10.4)	34 (15.5)	12 (12.2)

Expected spontaneous miscarriage rate: 1,2

- ~10-20% of clinically recognized pregnancies
- ~30% of biochemically detected pregnancies

Available pregnancy outcomes were similar to those expected for the population³

LEN, F/TAF, and F/TDF Are Safe and Well Tolerated





Adverse Event, a	LEN n = 2138	F/TAF n = 2137	F/TDF n = 1070
Any, n (%)	1631 (76)	1665 (78)	830 (78)
Grade ≥ 2	1111 (52)	1078 (50)	533 (50)
Grade ≥ 3	88 (4)	95 (4)	50 (5)
Serious AEs	59 (3)	85 (4)	35 (3)
AEs leading to discontinuation of study drug	5 (<1) ^b	2 (< 1) ^c	0
AEs occurring in ≥ 10% of participants, n (%)			
Headache	285 (13)	352 (16)	155 (14)
Urinary tract infection	307 (14)	305 (14)	163 (15)
Genitourinary chlamydia infection	300 (14)	317 (15)	129 (12)
Upper respiratory tract infection	271 (13)	274 (13)	121 (11)
Nausea	144 (7)	234 (11)	142 (13)
Vomiting	125 (6)	235 (11)	107 (10)
Laboratory abnormalities, n with ≥ 1 post-baseline result	2126	2113	1054
Any grade ≥ 1, n (%)	1929 (91)	1904 (90)	959 (91)

Adverse Event, ^a	LEN n = 2183	F/TDF n = 1088
Any, n (%)	1607 (74)	803 (74)
Grade ≥ 2	1173 (54)	594 (55)
Grade ≥ 3	91 (4)	65 (6)
Serious AEs	71 (3)	43 (4)
AEs leading to discontinuation of study drug	7 (< 1)	7 (< 1) ^e
AEs occurring in ≥ 5% of participants, n (%)		
Rectal chlamydia infection	289 (13)	128 (12)
Oropharyngeal gonococcal infection	283 (13)	119 (11)
Rectal gonococcal infection	233 (11)	99 (9)
Upper respiratory tract infection	148 (7)	77 (7)
Diarrhea	146 (7)	75 (7)
Headache	119 (5)	76 (7)
Influenza	120 (5)	66 (6)
Latent syphilis	114 (5)	44 (4)
Nausea	89 (4)	67 (6)
Laboratory abnormalities, n with ≥ 1 post-baseline result	2153	1071
Any grade ≥ 1, n (%)	1822 (85)	937 (87)

6 deaths, all in the F/TAF group; d none related to study drug per investigator

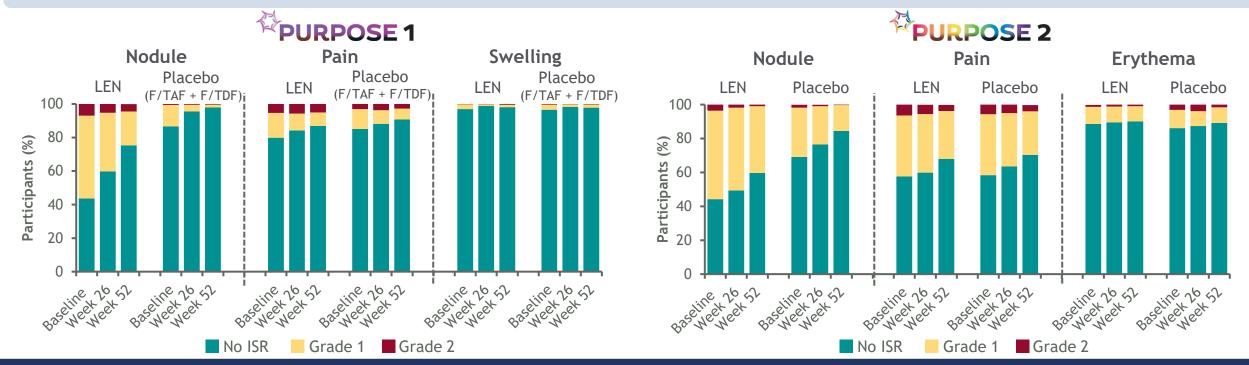
4 deaths in the LEN group and 2 deaths in the F/TDF group; f none related to study drug per investigator

AEs were consistent with prior LEN, F/TAF and F/TDF trials.¹⁻⁴ In PURPOSE 2, the frequency of AEs and laboratory abnormalities was similar between arms, with the exception of changes in eGFR (significantly different at Week 26 and Week 52).^g

[&]quot;AEs are treatment emergent in persons who received at least 1 dose of study drug; AEs exclude ISRs; AEs coded according to Medical Dictionary for Regulatory Activities, Version, 27.0 and graded by the Division of AIDS Table for Grading the Severity of Adult and Pediatric AEs, Version 2.1. bn = 1 for each of: nausea, decreased creatinine renal clearance, increased hepatic enzyme, spontaneous miscarriage, suicide attempt/major depression. cn = 1 for each of: suicide attempt/depressive symptoms/drug overdose, angioedema. dAsphyxia secondary to strangulation, non-accidental burns, knife stab to chest, hemorrhage due to traffic accident, autopsy-confirmed ischemic cardiomyopathy, and ovarian cancer. AEs leading to discontinuation of study drug in > 1 participant in any group: decreased creatinine renal clearance (2 participants in the F/TDF group): hence the first proper of the first proper of the prope

Injection-Site Reaction Frequency and Grade Diminish With Subsequent Injections

LEN is injected into the SC space and forms a drug depot that may be palpable under the skin but is usually not visible. As the drug elutes over time, the depot gets smaller, and the nodules resolve or reduce in size substantially prior to the next injection. The frequency of ISRs, including nodules, decreased with subsequent doses (also observed with HIV treatment¹).



In PURPOSE 1, among 25,329 LEN/placebo injections, only 4 ISRs led to discontinuation (all LEN)
In PURPOSE 2, among 15,239 LEN/placebo injections, only 29 ISRs led to discontinuation (LEN, 26; F/TDF, 3)

PURPOSE 1 and 2 Data Summary





Study population

Baseline demographics and clinical characteristics

Efficacy

Safety

Cisgender women

Balanced across randomized groups

LEN HIV prevention efficacy was **superior** to both background HIV incidence and daily oral F/TDF

Zero HIV infections among 2134 participants receiving LEN

LEN reduced HIV infections by **100**% compared with bHIV incidence and daily oral F/TDF

I FN and F/TAF were safe and well tolerated

Most common ISRs: SC nodules, injection-site pain, and swelling

ISR frequency and grade diminished with subsequent injections (also observed in other studies¹⁻³)

Adherence to F/TDF was too low to impact eGFR

CGBMSM, TGW, TGM, and GNB people who have sex with partners assigned male sex at birth

Balanced across randomized groups

LEN HIV prevention efficacy was **superior** to both background HIV incidence and daily oral F/TDF

Two HIV infections among 2179 participants receiving LEN

LEN reduced HIV infections by **96%** compared with bHIV incidence and by 89% compared with daily oral F/TDF

LEN and F/TDF were safe and well tolerated

Most common ISRs: SC nodules, injection-site pain, and erythema

ISR frequency and grade diminished with subsequent injections (also observed in other studies¹⁻⁴)

LEN increased eGFR while F/TDF decreased eGFR; this **difference** was more pronounced in PURPOSE 2 vs PURPOSE 1

Twice-yearly LEN offers an efficacious, safe, and well-tolerated choice for HIV prevention in the most globally racially, ethnically, and gender-diverse Phase 3 program conducted to date. All trial participants are being offered open-label LEN.





First to intentionally include pregnant and lactating people in Phase 3 clinical trials

Intentionally focusing on CGMSM and TGW of color and first to include TGM and GNB people

PURPOSE 1 and 2: First to include adolescents in Phase 3 clinical trials





Partnerships



Voice of the PWBP and Community (G-CAGs)



Person-Centric Design



Diversity, Equity, and Inclusion

Changing where, with whom, and how we work so we can end the HIV epidemic for everyone, everywhere

PURPOSE Next Steps



Global regulatory filings are urgently in progress so that LEN, if approved, can be authorized for all those who need or want PrEP, particularly those most disproportionately affected by HIV

Gilead has been developing a strategy to enable broad, sustainable access globally

- Royalty-free, voluntary licensing agreements are in place with 6 pharmaceutical manufacturers to make generic LEN available in 120 high-incidence, resource-limited countries, covering LEN for HIV prevention, if approved, and treatment in HTE adults with MDR HIV
- These agreements are just one component of Gilead's overall global strategy to enable broad, sustainable access to LEN for PrEP, if approved, prioritizing timely regulatory filings, engagement with partners and governments, and manufacturing planning, including for Argentina, Brazil, Mexico, Peru, and the United States

Please see the full access statements at Gilead.com^{a,b}

Acknowledgments

We extend our gratitude to the PURPOSE 1 and 2 trial participants and their communities, the investigators and site staff, our Global Community Advisory Group, and the members of the PURPOSE 1 and 2 Study Teams

PURPOSE 1 Study Team

Quarraisha Abdool Karim, Khatija Ahmed, Dos Santos Ankomisyani, Joanne Batting, Johanna Alida Baumgarten, Trevor Beattie, Ngundu Behuhuma, Linda-Gail Bekker, Mags Beksinska, Gabriella Benade, William Brumskine, Sithandiwe Buthelezi, Valma Craffert, Alicia Catherine Desmond, Nkosilathi Dlodlo, Nokuphiwa Doncabe, Linamandla Douglas, Phillip du Preez, Megan Easton, Carla Edeling, Vinodh Aroon Edward, Lindsey Faul, Katherine Gill, Nicole Glover, Thasha Gounden, Vaneshree Govender, Nicole Gracie, Willem Hanekom, Ishana Harkoo, Chiara Ilett, Manjeetha Jaggernath, Nitesha Jeenarain, Lindsay Jeffrey, Alex Jemba, Samuel Kabwigu, Edrine Kalule, Priya Kassim, Lindsay Kew, Reolebogile Kgoa, Johara Khan, Mlungisi Khanyile, Zainab Kharva, Noluthando Khiya, Khensani Khoza, Godfrey Kigozi, Ronald Kisitu, Noah Kiwanuka, Carla Kloppers, Philip Kotze, Limakatso Lebina, Cheryl E Louw, Mmatshepho Maditsi, Philisiwe Makhoba, Heeran Makkan, Morakane Alicia Caroline Makwela, Moelo Malahleha, Moeko Malahleha, Malebo Mampane, Mmatsie Manentsa, Leila Mansoor, Flavia Matovu Kiweewa, Valerie Mlotshwa, Mbalizethu Mntambo, Rorisang Mofokeng, Dhayendre Moodley, Mgcini Moyo, Timothy Muwonge, Vimla Naicker, Kavith Naidoo, Logashvari Naidoo, Megeshinee Naidoo, Gonasagri Nair, Joan Nakakande, Gertrude Nakigozi, Fred Nalugoda, Joyce Namale Matovu, Anusha Nana, Esther Nantambi, Terusha Navsaria, Nkosiphile Ndlovu, Theodorah Ndzhukule, Tanya Nielson, Nomfundo Ntuli, Thesla Palanee-Phillips, Ravindre Panchia, Menoka Pillay, Saresha Pillay, Disebo Potloane, Sunai Ramdhani, Caro-Lee Saal, Khanyile Saleni, Ni Ni Sein, Pearl Selepe, Melissa Senne, Nishanta Singh, Yashna Singh, Jennifer Smit, Elizabeth Spooner, Ali Ssetaala, Nicola Thomas, Andrew Tlagadi, Mishka Valjee, Amy M. Ward, Ben Wasswa, Zinhle Ayanda Zwane, Zwelethu Zwane.

PURPOSE 2 Study Team

Maribel Acevedo-Quiñones, Allison L Ágwu, Suvaporn Anugulruengkitt, Anchalee Avihingsanon, Joanne Batting, Jose A Bazan, Paul Benson, Vladimir Berthaud, Jill Blumenthal, Indira Brar, Cynthia Brinson, Carlos Roberto Brites Alves, Pedro Cahn, Thomas B Campbell IV, Valeria D Cantos, Michelle Cespedes, Ploenchan Chetchotisakd, Jesse Clark, Meredith Clement, Katya Corado, Gonzalo Corral, Catherine Creticos, Gordon Crofoot, Edwin Dejesus, Ricardo S Diaz, Craig Dietz, Susanne Doblecki-Lewis, David F Dougherty, Ian Frank, James W Galbraith, Jorge Antonio Gallardo Cartagena, Aditya Gaur, Beatriz Gilda Jegerhorn Grinsztejn, Marcus Guimaraes De Lacerda, Michael Guyton-Nunley, Shawn Hassler, Christine Heumann, Juan Carlos Hinojosa Boyer, Theo Hodge, Moises A Huaman, Richard Kaplan, Colleen F Kelley, Sasisopin Kiertiburanakul, Javier R Lama Valdivia, Anthony LaMarca, Marcelo Losso, Christopher Lucasti, Morakane Alicia Caroline Makwela, Weerawat Manosuthi, Kenneth H Mayer, Eric G Meissner, Ivan Melendez-Rivera, Anthony Mills, Kathryn Mngadi, Caryn G Morse, Karam Mounzer, Nkosiphile Ndlovu, Richard M Novak, Onyema Ogbuagu, Alma Minerva Perez Rios, Nittaya Phanuphak, Jose Henrique Pilotto, Jorge Pinto, Jose Valdez Ramalho Madruga, Moti Ramgopal, Jeffrey Reeves, Lina Rosengren-Hovee, Peter J Ruane, Kamla Sanasi-Bhola, Breno Santos, Tanya Schreibman, Hyman Scott, Namrata Shah, Peter Shalit, Jihad Slim, LaShonda Spencer, Khuanchai Supparatpinyo, Javier Valencia, Cornelius N Van Dam, Olivia T Van Gerwen, Ricardo Vasconcelos, Jose Gabriel Vasquez Cerro, Jennifer Veltman, Robert Woolard, Kimberly Workowski, Ashraf Zadshir, Zwelethu Zwane.

PURPOSE

To access a copy of this presentation and other supplemental information, please scan the QR code



