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# Correspondence

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## Implementing preexposure prophylaxis among key populations: an opportunity for patient-centered services and management of hepatitis B

When taken properly, Tenofovir-based oral preexposure prophylaxis (PrEP) has been proven to be efficient to prevent HIV acquisition [1–5]. Since 2015, PrEP is recommended by the WHO for populations at ‘substantial risk’ of HIV [6]. However, WHO points out the need for additional research on PrEP in ‘real life’ on questions such as demand creation for oral PrEP; best delivery models in different contexts and for different populations; social and behavioral impact of PrEP; or integration of PrEP services with other services [6]. Transitioning from efficacy trials to implementation requires to adapt interventions. Preliminary research (ANRS 12361 PrEP-CI [7]) has been conducted in Côte d’Ivoire (CI) in collaboration with community non-governmental organizations to explore relevance and feasibility of implementing a PrEP program among female sex workers, one of the most exposed populations countrywide (estimated HIV prevalence: 29% [8]). The following observations emerged from that collective work.

All efficacy PrEP trials provided a range of sexual healthcare services in addition to PrEP drugs [9–11]. Such services appeared essential for any PrEP program. By design, they were conditional to PrEP use. However, regardless of their interest in using PrEP, female sex workers interviewed in Côte d’Ivoire, and more broadly key populations worldwide [12–16], have many unmet sexual and reproductive health needs: sexually transmitted infections screening and care, contraception and birth control, menstrual management, addictions and risky behaviors. . . When transitioning to real life, we should not reproduce the service model of efficacy PrEP trials, that is a PrEP program with additional services. Instead, a paradigm shift toward a patient-centered approach should be preferred, that is offering sexual and reproductive health services in which PrEP is an option but not mandatory.

In Western and Central Africa, the prevalence of hepatitis B is relatively high [17]. In Cote d’Ivoire, more than 11% of new blood donors were positive for hepatitis B surface antigen in 2008–2012 [18]. Tenofovir is also used for hepatitis B treatment. But, currently, treatment is not free for monoinfected hepatitis B patients, whereas it is covered by AIDS programs for HIV-hepatitis B coinfecting patients. In such context, it would be ethically unacceptable to provide free HIV PrEP without taking into account patients in needs of hepatitis B treatment. Actually, for those patients, offering Tenofovir-based HIV PrEP constitutes an opportunity to simultaneously treat their hepatitis B. It requires to integrate WHO recommendations on hepatitis B [19] within PrEP

guidelines [20], possibly to simplify hepatitis B care algorithms and to allow hepatitis B care in decentralized sexual health clinics and not only in hospital services. Most efficacy PrEP trials excluded hepatitis B patients. Additional clinical research exploring interactions between HIV PrEP and hepatitis B treatment, in particular the risk of flare if PrEP is stopped, is required.

PrEP programs could be built on the existing community services for HIV care and treatment. Providing services for HIV positives and HIV negatives within the same clinics could be a way of minimizing the stigma associated with entry and retention into HIV care. In addition, HIV patients have unmet sexual and reproductive health needs as well. Integrating services together and transforming HIV clinics into sexual health clinics could lead to many health outcomes improvements and also to possible cost sharing and savings.

So far, the focus of HIV programs has mainly been on reaching individuals never tested for HIV, identifying new positives and linking them to HIV care and treatment. Transitioning PrEP from trials to implementation constitutes an opportunity for developing people-centered approaches integrating all sexual and reproductive health services together, including hepatitis B. It is crucial to avoid a silo-based perspective in which services are separated from each other. Moving from HIV care clinics to sexual health clinics would allow to globally improve the health of key populations and their partners, beyond HIV outcomes alone. To ensure the success of new prevention programs, we have to take the next step forward. Beyond biomedical innovations, innovations in terms of intervention implementation, delivery models and public health policies are urgently required [21], in particular in Western and Central Africa [22]. Scaling-up PrEP is a key moment. We should not miss out on this opportunity.

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### Conflicts of interest

There are no conflicts of interest.

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## References

- Molina J-M, Capitant C, Spire B, Pialoux G, Cotte L, Charreau I, et al. **On-demand preexposure prophylaxis in men at high risk for HIV-1 infection.** *N Engl J Med* 2015; **373**:2237–2246.
- McCormack S, Dunn DT, Desai M, Dolling DI, Gafos M, Gilson R, et al. **Preexposure prophylaxis to prevent the acquisition of HIV-1 infection (PROUD): effectiveness results from the pilot phase of a pragmatic open-label randomised trial.** *Lancet* 2016; **387**:53–60.
- Grant RM, Lama JR, Anderson PL, McMahan V, Liu AY, Vargas L, et al. **Preexposure chemoprophylaxis for HIV prevention in men who have sex with men.** *N Engl J Med* 2010; **363**:2587–2599.
- Baeten JM, Donnell D, Ndase P, Mugo NR, Campbell JD, Wangisi J, et al. **Antiretroviral prophylaxis for HIV prevention in heterosexual men and women.** *N Engl J Med* 2012; **367**:399–410.
- Choopanya K, Martin M, Suntharasamai P, Sangkum U, Mock PA, Leethochawalit M, et al. **Antiretroviral prophylaxis for HIV infection in injecting drug users in Bangkok, Thailand (the Bangkok Tenofovir Study): a randomised, double-blind, placebo-controlled phase 3 trial.** *Lancet* 2013; **381**:2083–2090.
- Department of HIV/AIDS, World Health Organization. *Guideline on when to start antiretroviral therapy and on preexposure prophylaxis for HIV.* 2015, <http://www.ncbi.nlm.nih.gov/books/NBK327115/>. [Accessed 23 October 2017].
- Becquet V, Nouaman M, Masumbuko J-M, Anoma C, Soh K, Alain T, et al. **The challenges of implementing PrEP: the case of female sex workers in Côte d'Ivoire.** Presented at the 19th ICASA International Conference on AIDS and STIs in Africa, 2017. Abidjan: Poster no. WEPDC159.
- UNAIDS. *On the fast-track to end AIDS by 2030: focus on location and population.* 2015, <http://www.unaids.org/en/resources/documents/2015/FocusLocationPopulation>.
- Grant RM, Anderson PL, McMahan V, Liu A, Amico KR, Mehrotra M, et al. **Uptake of preexposure prophylaxis, sexual practices, and HIV incidence in men and transgender women who have sex with men: a cohort study.** *Lancet Infect Dis* 2014; **14**:820–829.
- Molina J-M, Charreau I, Spire B, Cotte L, Chas J, Capitant C, et al. **Efficacy, safety, and effect on sexual behaviour of on-demand preexposure prophylaxis for HIV in men who have sex with men: an observational cohort study.** *Lancet HIV* 2017; **4**:e402–e410.
- Durand-Zaleski I, Mutuon P, Charreau I, Tremblay C, Rojas-Castro D, Pialoux G, et al. **Costs and benefits of on-demand HIV pre-exposure prophylaxis in men who have sex with men analysis of the ANRS IPERGAY study with a one-year follow-up.** *AIDS* 2018; **32**:95–102.
- Bamba A, Grover E, Ezouatchi R, Thiam-Niangoin M, Papworth E, Grosso A, et al. *Étude biologique et comportementale des IST/VIH/Sida chez les professionnelles du sexe du District d'Abidjan et examen des interventions en direction des populations clés en Côte d'Ivoire.* Abidjan: Ministère de la Santé et de la Lutte contre le Sida, Enda Santé, Johns Hopkins University; 2014.
- Schwartz S, Papworth E, Thiam-Niangoin M, Abo K, Drame F, Diouf D, et al. **An urgent need for integration of family planning services into HIV care: the high burden of unplanned pregnancy, termination of pregnancy, and limited contraception use among female sex workers in Côte d'Ivoire.** *J Acquir Immune Defic Syndr* 2015; **68**:S91–S98.
- Katz KR, McDowell M, Green M, Jahan S, Johnson L, Chen M. **Understanding the broader sexual and reproductive health needs of female sex workers in Dhaka, Bangladesh.** *Int Perspect Sex Reprod Health* 2015; **41**:182–190.
- Wahed T, Alam A, Sultana S, Rahman M, Alam N, Martens M, et al. **Barriers to sexual and reproductive healthcare services as experienced by female sex workers and service providers in Dhaka city, Bangladesh.** *PLoS One* 2017; **12**:e0182249.
- Ippoliti NB, Nanda G, Wilcher R. **Meeting the reproductive health needs of female key populations affected by HIV in low- and middle-income countries: a review of the evidence.** *Stud Fam Plann* 2017; **48**:121–151.
- Stasi C, Silvestri C, Voller F. **Emerging trends in epidemiology of hepatitis B virus infection.** *J Clin Transl Hepatol* 2017; **5**:272–276.
- Séri B. *Prévalence, incidence et facteurs associés des infections par les virus du VIH, de l'hépatite B et de l'hépatite C chez les donneurs de sang: analyse de la base de données du Centre National de Transfusion Sanguine (CNTS) d'Abidjan, 1992–2012.* Abidjan: CNTS; 2013.
- World Health Organization, Global Hepatitis Programme. *WHO guidelines on hepatitis B and C testing.* 2017, <http://apps.who.int/iris/bitstream/10665/254621/1/9789241549981-eng.pdf>. [Accessed 24 October 2017].
- World Health Organization. *WHO implementation tool for preexposure prophylaxis (PrEP) of HIV infection.* World Health Organization; 2017.
- Ridde V, Olivier de Sardan JP. **La mise en œuvre des interventions de santé publique en Afrique: un thème stratégique négligé [The implementation of public health interventions in Africa: a neglected strategic theme].** *Médecine Santé Trop* 2017; **27**:6–9.
- Larmarange J, Sow K, Broqua C, Akindès F, Bekelync A, Koné M. **Social and implementation research for ending AIDS in Africa.** *Lancet Public Health* 2017; **2**:e540.

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## John Cunningham virus large T antigen detection in brain biopsy of an HIV-infected patient with glioblastoma multiforme: more than a coincidental finding

Double-stranded DNA of John Cunningham virus (JCV) contains the early genes region, the late genes region, and the noncoding regulatory region. The large T antigen (LT-Ag), small T antigen, and T proteins encoded by the

first region play a critical role in the transformation, genetic regulation, and replication of the virus. The late genes region produces the capsid proteins VP1, VP2, and VP3 in addition to the accessory Agno protein [1,2].