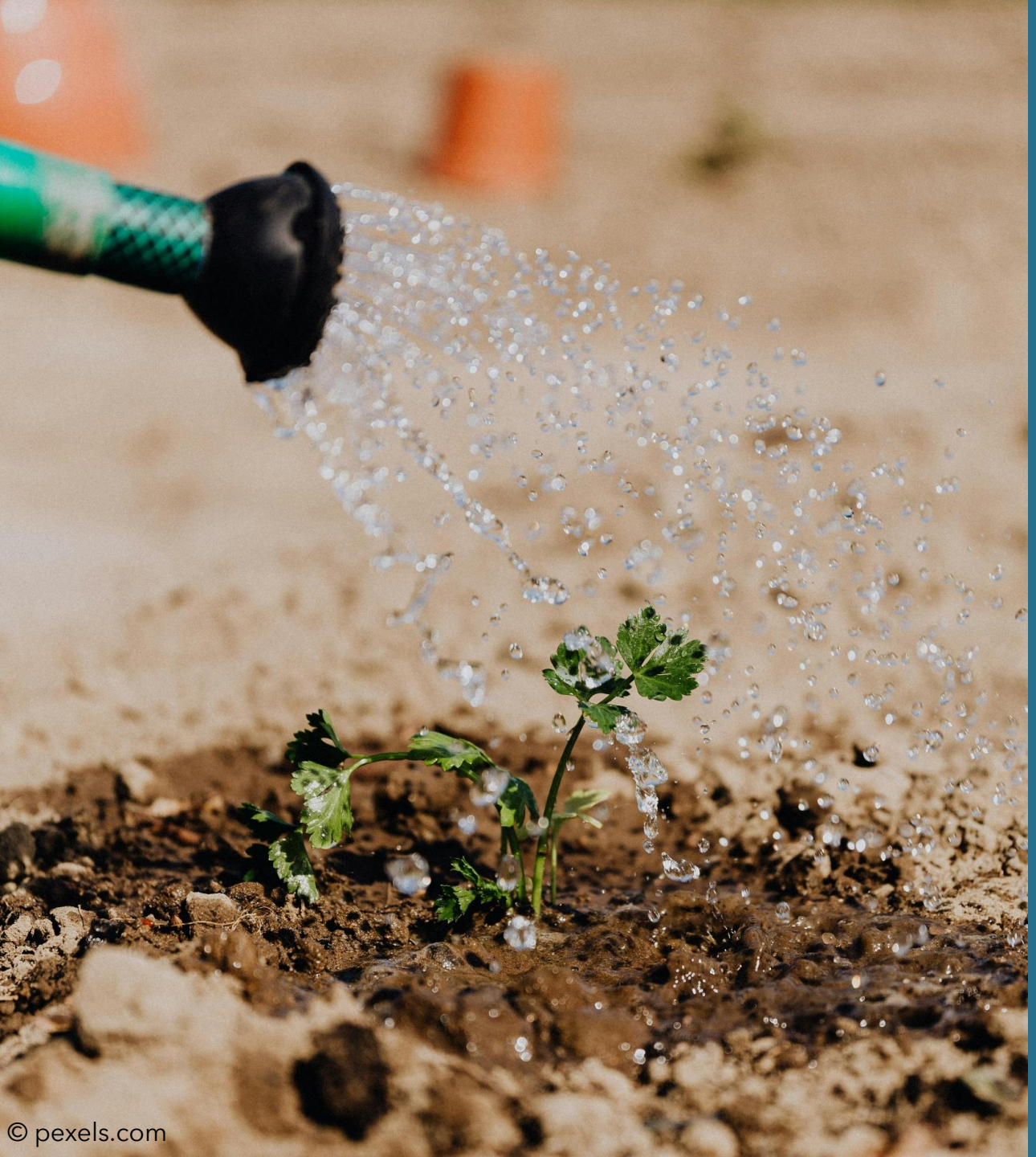


40 years of HIV science · Paris · 30 nov. 2023

Transforming effective innovations into efficient interventions:

contributions from social and implementation sciences

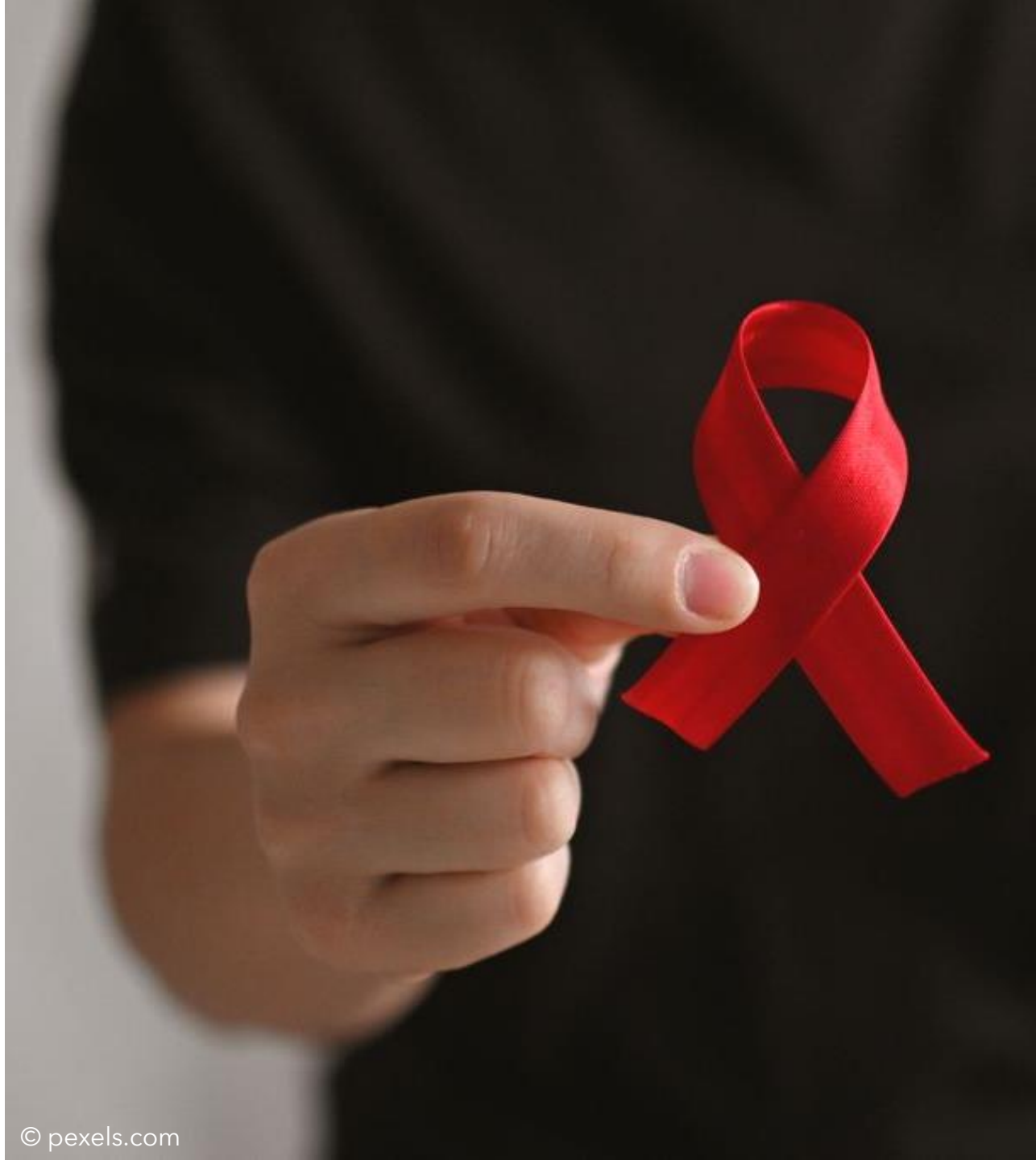
Joseph Larmarange
Institut de Recherche pour le Développement

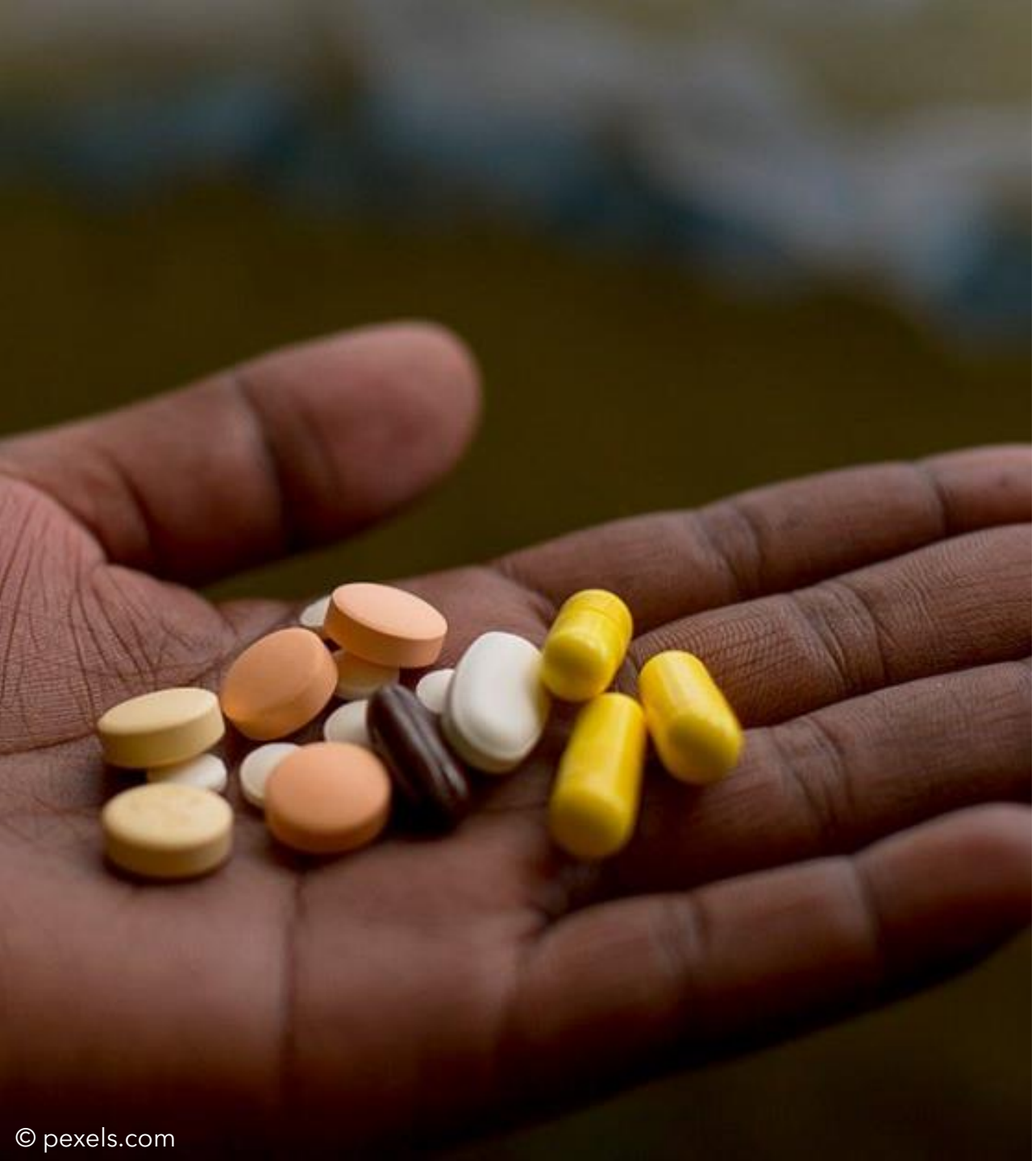
Ceped UMR 196 · Université Paris Cité · IRD Institut de Recherche pour le Développement FRANCE — French National Research Institute for Sustainable Development

Fight against HIV

- shaped by major **scientific and biomedical innovations**

- however, these innovations have often been insufficient, on their own, to curve the epidemics





Antiretroviral treatments

- Research on the mechanisms of HIV replication has led to the development of new treatments
- **1996** · Therapeutic revolution with protease inhibitors and multitherapy
- **Lack of funding:**
  most patients did not have access to them

- New innovative mechanisms of funding required:
  - **2002** · creation of the *Global Fund*
  - **2003** · creation of *Pepfar*
- and political commitment
  - **3by5** initiative for example in 2003
- to start / expand free access to treatment

- 100 000 PLHIV on ART in 2003,
  19.5 millions in 2020
  ➔ huge reduction in AIDS-related deaths

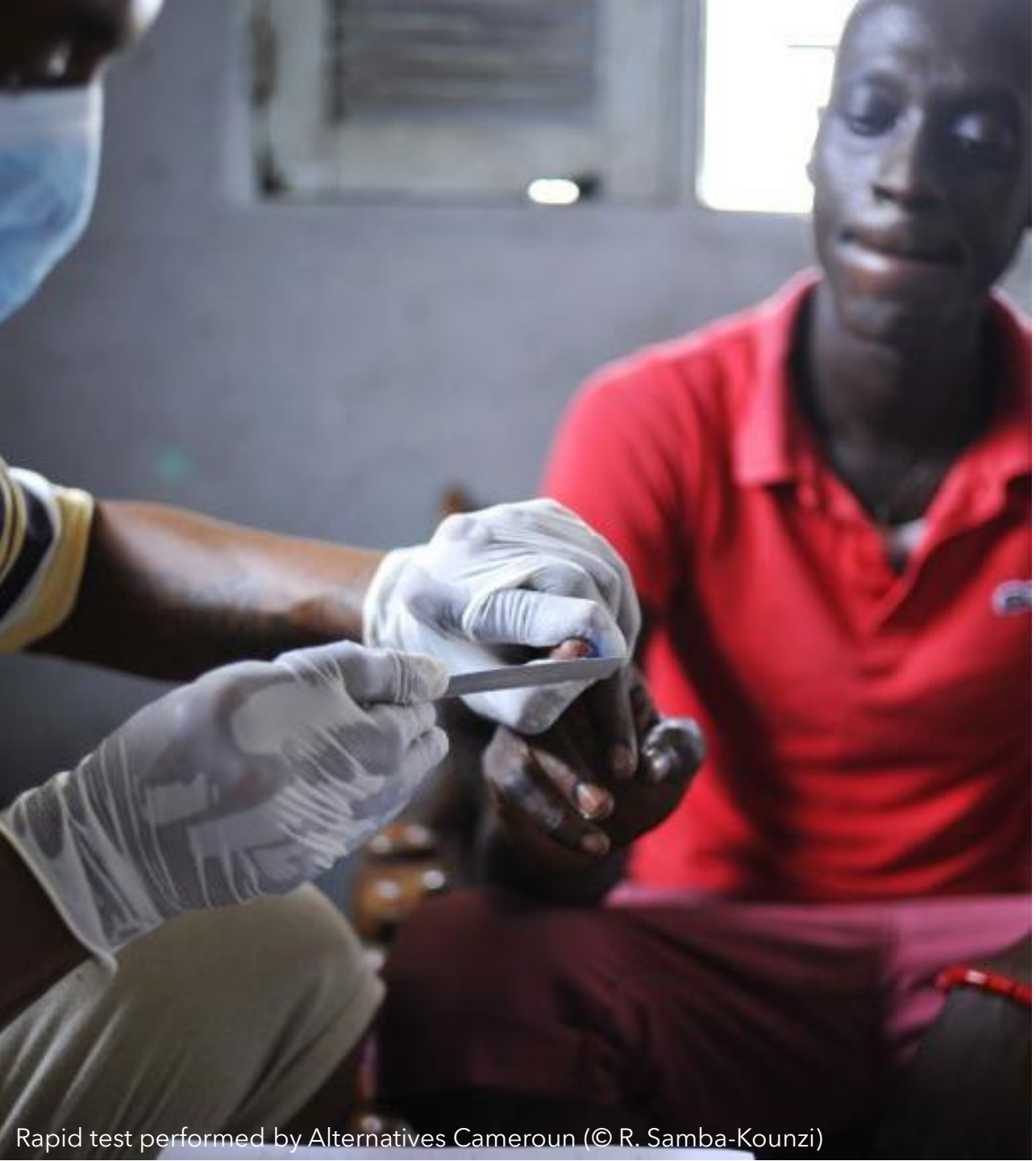
Scaling-up ART also required

- Drug price reduction & New mechanisms of funding
- Development of generics & Combined pills
- Strengthening health systems
- Organization of health services & Task shifting
- Governance & Engagement of communities
- Linkage to care & Retention interventions
- Therapeutic education
- Fighting stigma & Discrimination…

Supported by research to describe, experiment, pilot, evaluate and anticipate

- Economy & Costing, Political science, Clinical studies, Implementation science, Epidemiology, Sociology, Anthropology, Modelling…

We can’t scale-up without evidence.



Rapid test performed by Alternatives Cameroun (© R. Samba-Kounzi)

HIV testing

- free and available treatments are insufficient if PLHIV do not know their HIV status
  - 2000s: <25% coverage in many countries

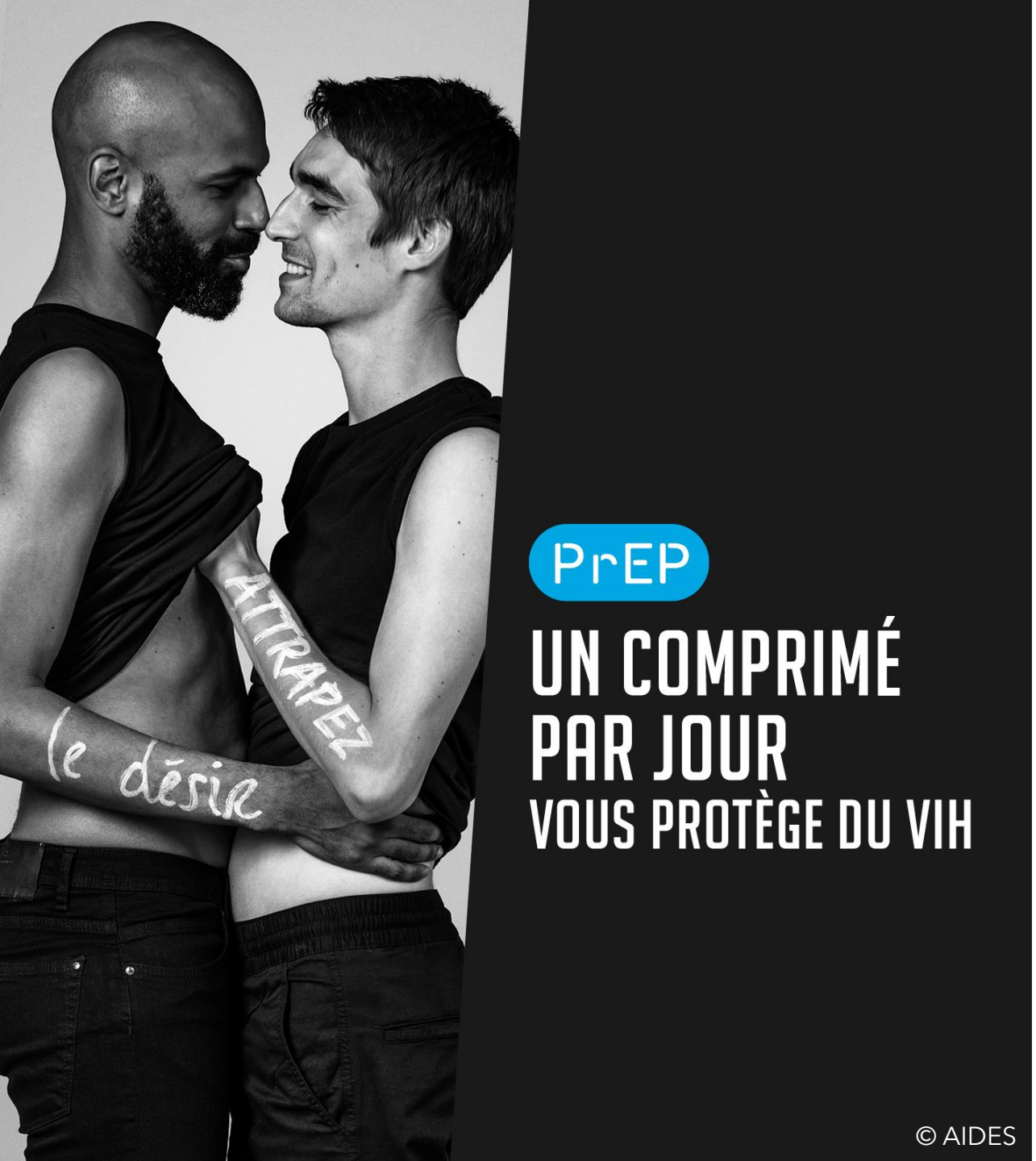
- **1990s:** development of **rapid tests**
  - allowing point of care approaches
- **1997** · First WHO strategies with rapid testing
  - in the absence of treatments, will not be implemented in low- and middle- income countries

- Real game changers have been
  - **provider-initiated testing** (recommended in 2007)
  - **task-shifting** (testing done by non-medical staff) opening the door to **community-based testing** (recommended in 2013)

Reaching new and underserved populations

- Community-based testing through outreach
  - door to door
  - working places
  - meeting points
  - …
- Adaptation of survey methods as interventions
  - respondent driven-sampling
  - time-location sampling
- HIV self-testing
  - empowering tool
  - secondary distribution to partners, clients and relatives of key populations

Again, all these innovations needed to be experimented and evaluated through multidisciplinary research to generate evidence for scaling-up



PrEP
an effective tool for prevention

- **2014** · ANRS Ipergay (FR) & PROUD (UK) : PrEP effective in preventing HIV acquisition
- **2015** · Strong WHO recommendation for people at substantial risk

- Importance of offering **community-based support** and **sexual health services**

- **Decline of new HIV infections** in many regions
  - San Francisco (US)
  - Île-de-France (France)
  - New South Wales (Australia)

Who is receiving PrEP?

ANRS Prévenir (Île-de-France)

- > 3000 individuals enrolled
- 99% were MSM / median age: 36 years old (Molina et al. *IAS* 2019)

DREAMS Kenya (adolescent girls & young women)

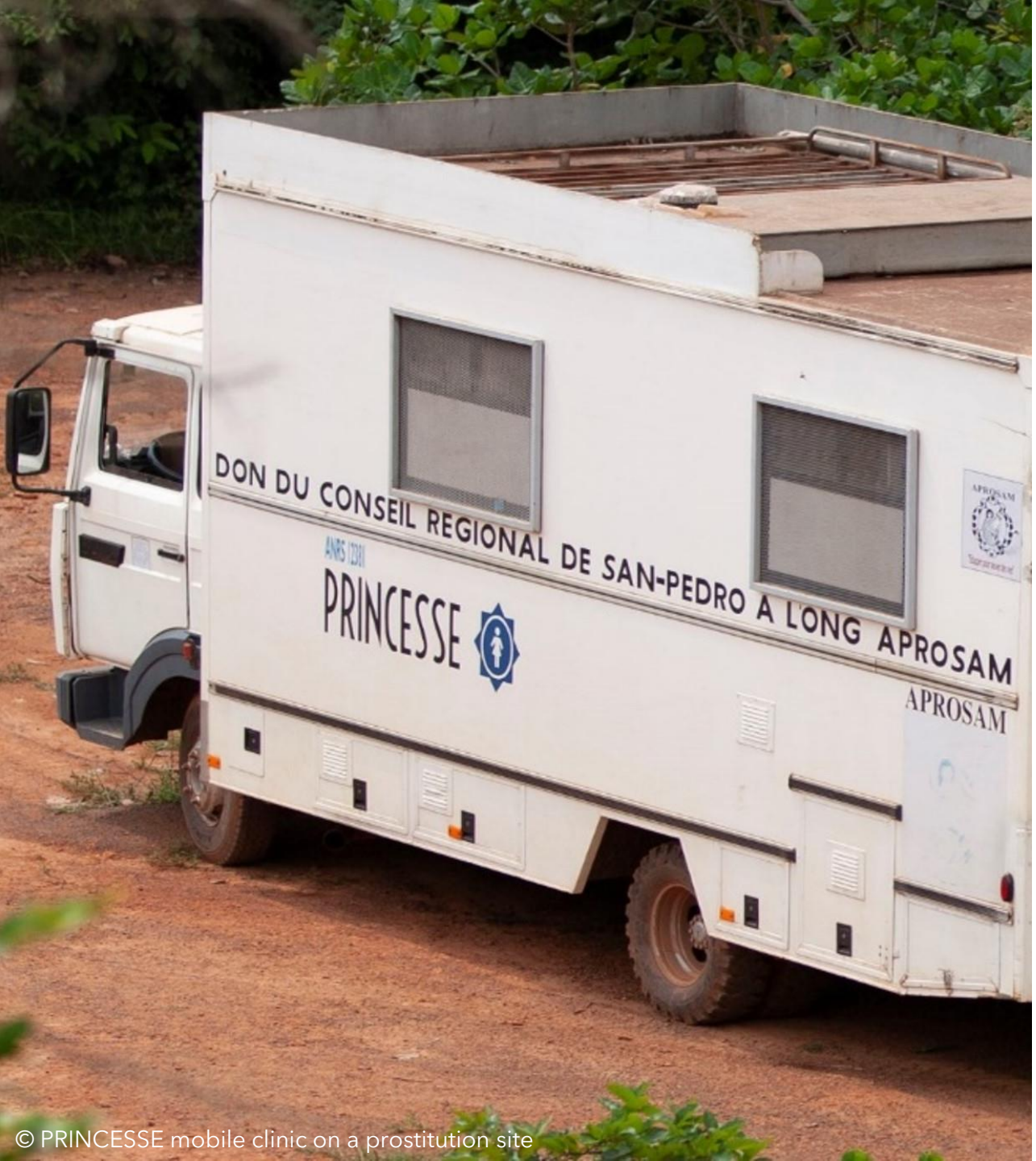
- Retention at M3 after initiation: 37% (Tapsoba et al. *AIDS Care* 2020)

FSW in South Africa (Stone et al. *JIAS* 2023)

- 20 754 PrEP initiations between 2016 and 2020
- only 1258 currently on PrEP in December 2020

Challenges for enrolling & retaining

- young MSM, sex workers, transgender people, migrants, adolescent girls & young women…



© PRINCESSE mobile clinic on a prostitution site

It's not a "magic bullet"

(preliminary results from ANRS 12381 PRINCESSE, mobile sexual health clinics for FSW in Côte d'Ivoire)
(Becquet et al. *AIDS Impact* 2020)

- 96% interested by PrEP at inclusion
- 57% exited care before initiation
  - not seen within six weeks after inclusion
- 64% of those who initiated did not come back for their 1st follow-up visit
  - among those who came for their 1st follow-up visit, 27% reported having stopped PrEP since initiation

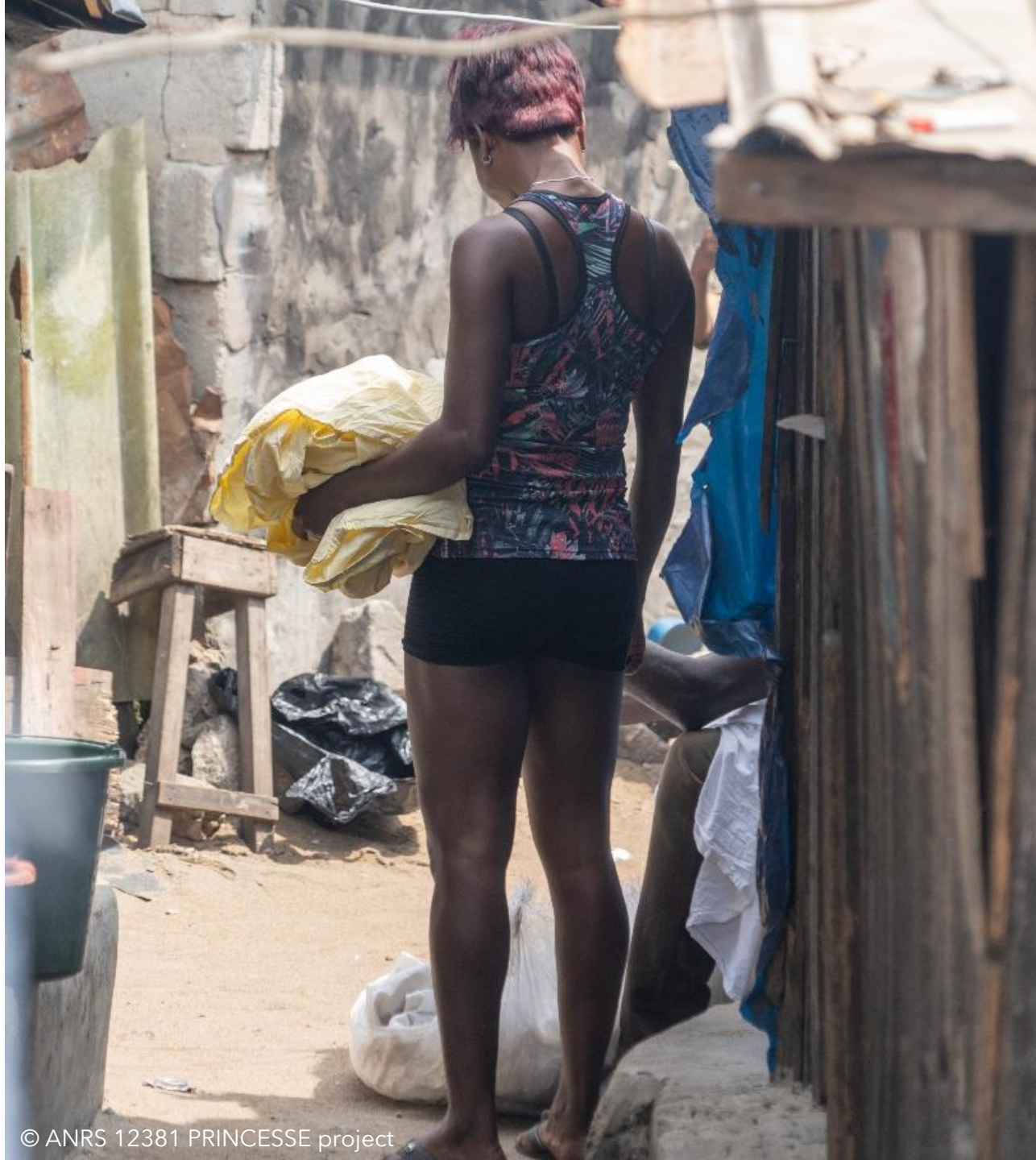
"It's hard to take a medication every day, I'm not used to it. I should take it every time, at a specific time. I'm not used to it, I can forget. I use my condoms very well. I use my female condoms very well. (…) I don't use the AIDS drug. I don't like it, I'm not sick."

Precious, not interested in PrEP

"I tried it once but it made me tired so I don't take it (...) It made me very tired (...) Because when I took the tablet, my whole body was itching and then I couldn't feel my legs anymore."

Cynthia, stopped PrEP after 1 day

The balance benefits / constraints is reassessed at each step!



When prevention monitoring and follow-up
has become more burdensome
than treatment monitoring and follow-up,
something went wrong.

We need to simplify prevention.

Being gay, being a sex worker is not a chronic condition!

New tools are in the pipeline...

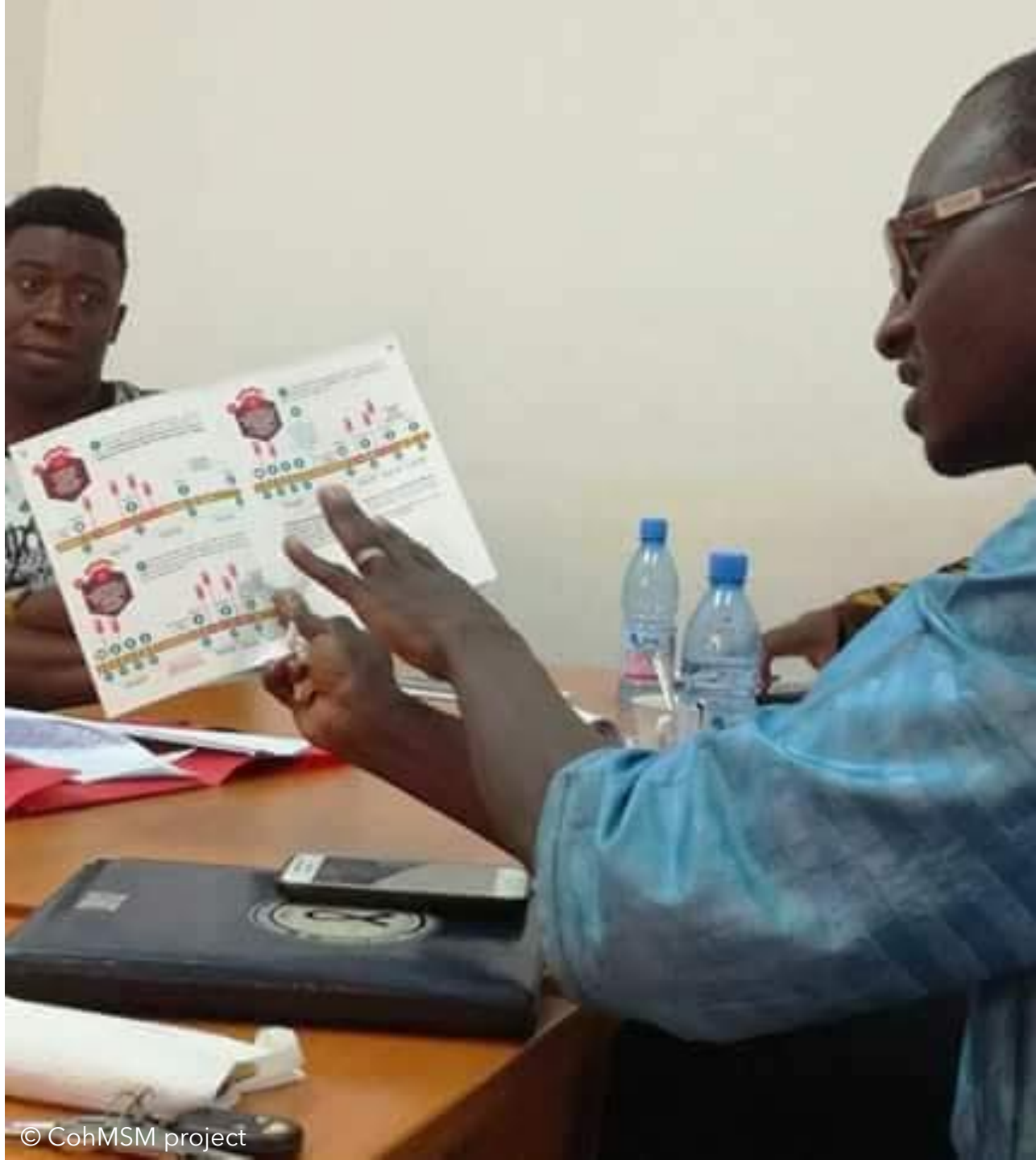
- injectable PrEP every 2 months (cabotegravir)
- injectable PrEP every 6 months (lenacapavir) results of phase 3 trials expected in 2027
- other delivery systems in development

We need them,
but have to keep in mind
that none will solve all barriers

Sexual health clinics

- Whatever innovations come along, they must be part of a more comprehensive service offering
- We do not need PrEP programmes with sexual health services, but rather sexual health programmes including PrEP
- For the most vulnerable populations, it is essential to combine **medical care** with **community support**

This is the purpose of **sexual health clinics**, targeting populations, not diseases



No tool is a “magic bullet”

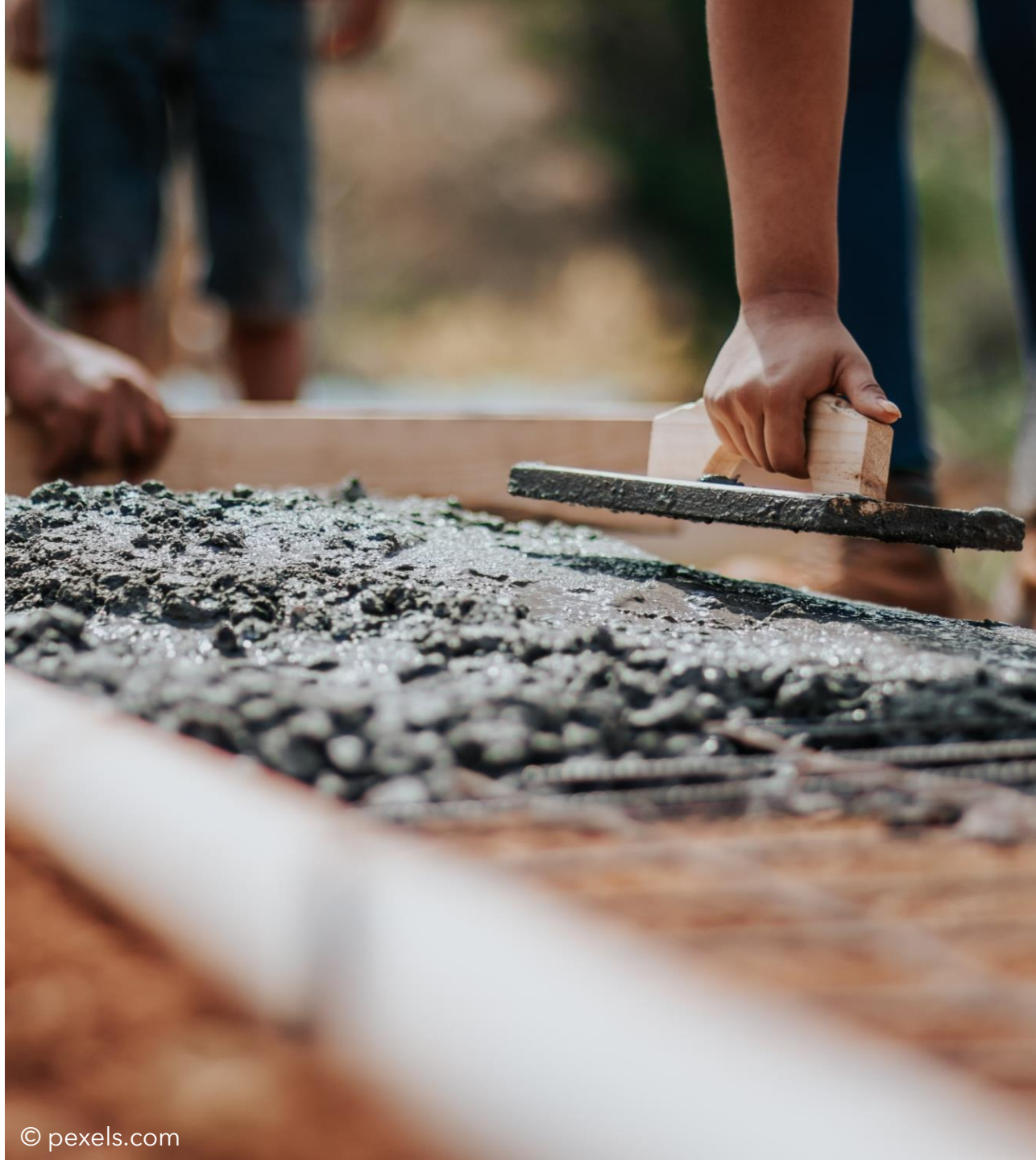
Effective innovations will be inefficient if they are not adapted to the social, cultural, and legal constraints faced by populations and to the structural, organisational, and economic constraints of healthcare systems.

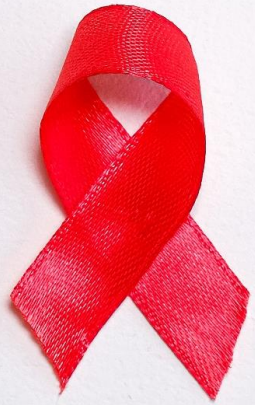
We need implementation science!

- Implementation and scaling up are not just operational issues
- It requires an understanding of how interventions can fit into the **constraints of people's lives**
- but also how to embed interventions with **health systems** and how to strengthen them

- To reach epidemic control, biomedical innovations are crucial but not enough
- we also need social and implementation innovations
- To scale up and to advocate, policy makers / civil society needs **evidence**

- Hence the need for a genuine **science of implementation** that is necessarily **interdisciplinary** and **intersectoral** (involving stakeholders, policy makers, implementers, NGOs and populations themselves)





Thank you