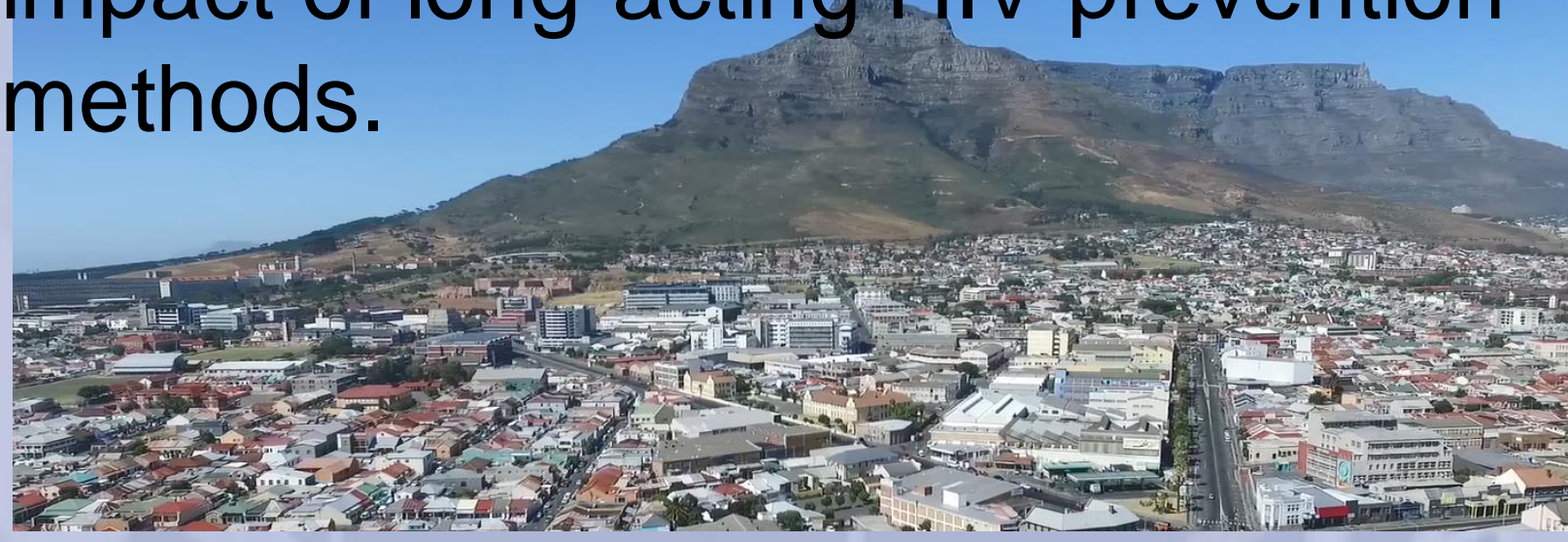


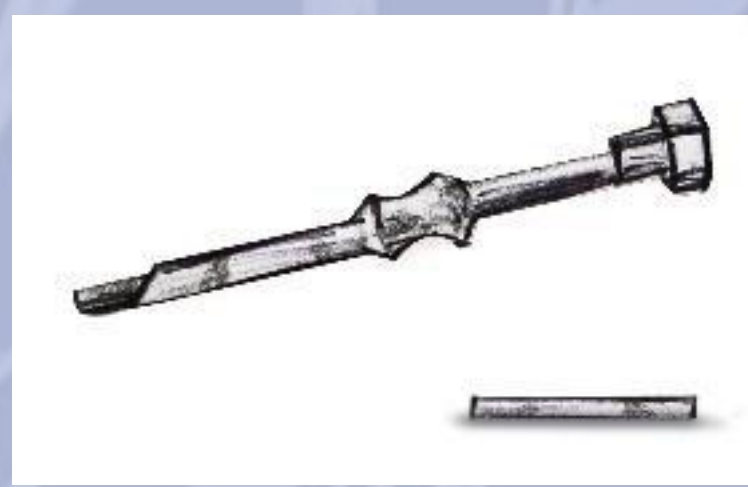
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Background

- Uptake and sustained adherence to HIV prevention methods is a widely recognized challenge that long-acting injectable and implantable approaches aim to overcome.
- Youth are a key end-user target population for these methods.
- Examination of product attributes and preferences that might impact youth's adherence provides an opportunity to inform product development and optimize the potential public health impact of long-acting HIV prevention methods.



Methods



- The iPrevent study is a two stage **end-user research study** to identify aspects of sustained-release **long-acting PrEP** that are important to male and female **youth in South Africa**.
- In Cape Town, **50 in-depth interviews** and **6 focus group discussions** with male and female youth aged 18-24 were conducted in English or Xhosa by trained social scientists. A total of 95 participants were enrolled.
- To ensure participants could provide opinions **rooted in actual experience** we purposively selected youth with a variety of HIV prevention product experience, and contraceptive implant experience (Table 1).
- Interviews were audio-recorded, transcribed and uploaded into **Dedoose software** for coding and analysis.

Table 1. Distribution of previous PrEP and contraceptive method experience in the iPrevent formative research, by gender and interview type

	Oral PrEP-experienced	Sustained-Release (ring) PrEP-experienced	Injectable PrEP-experienced	Contraceptive Implant-experienced*	Contraceptive Implant-naïve**
Male IDI	18	-	-	-	-
Female IDI	10	10	12	-	-
Male FGD	-	-	-	-	17*
Female FGD	-	-	-	12	19*

*2 male and 1 female participant were in both IDI and implant-naïve FGD

Results

Table 2. Select Study Population Characteristics (n=95)

	Mean	Median (IQR)
Age	21.5	22 (20,23)
Age of first penetrative sex	16.4	17 (16,18)
Number of sexual partners in lifetime	6.8	4 (3,7)
Number of sexual partners in past 30 days	1.3	1 (1,1)
Number of children	0.4	0 (0,1)
How long lived in this location (years)	12.7	13.5(4,20)
	N	(%)
Xhosa ethnicity	89	(94)
Currently receive income	46	(48)
Completed secondary school or higher	59	(63)
Unmarried, in a partnership	86	(91)
Living with partner	12	(14)
Sexuality	MSM	(20)
	Hetero Male	(15)
	Hetero Female	(63)
	Other	(02)
Condom used last time you had sex	54	(61)
Currently have casual partner	32	(34)
Methods of family planning/HIV prevention ever used	Pills	(52)
	Implants	(24)
	Injectable	(61)

- Irrespective of previous method-use experience, gender, or sexual orientation, participants expressed a preference for injectables and implants, compared to other methods, because of their longer duration, increased discretion and reduced stigma. Systemic absorption ("it stays in the body") resonated with youth.
- Attributes suggested dimensions of "invisibility" were favored: effortless flow through the body for an extended period; pain free with no side effects; products that could go unnoticed and not be felt by friends, family, partners or community-members and did not necessitate disclosure.
- Implants were perceived as less "invisible" than injectables due to concerns that rods would be visible and/or palpable. FGD participants, who had more opportunity for interactive discussion and learning about implants, preferred a flexible (vs. stiff) rod to enhance discretion, and most favored implants over injections due to fewer clinic visits and longer duration of effectiveness.
- Many expressed concerns about gang members attacking an implant-user to cut out, steal and smoke the drug in the implant.

Table 3. Product attributes most and least favored, by product and previous-experience group

	Oral Prep-experienced	Sustained-Release (ring) experienced	Injectable PrEP experienced	Implant-experienced	Implant-naïve*
Oral PrEP	<ul style="list-style-type: none"> No pain Systemic flow Daily use Side effects Large size Associated with illness 	<ul style="list-style-type: none"> No pain Ease of administration Daily use 	<ul style="list-style-type: none"> No pain No change in menstruation Daily use Potential side effects 	<ul style="list-style-type: none"> Daily use 	<ul style="list-style-type: none"> Daily use
Ring	<ul style="list-style-type: none"> Vaginal insertion Clinician-administered (misperception) Changes feeling of sex 	<ul style="list-style-type: none"> Stays in the body- perceived protection Vaginal insertion Impact on sex Size- too big Partner knows about it 	<ul style="list-style-type: none"> Vaginal insertion Wearing continuously 	N/A	<ul style="list-style-type: none"> Vaginal insertion
Injectable PrEP	<ul style="list-style-type: none"> Long duration Fewer issues with adherence than pill Discreet- able to keep it a secret Stays "in the system" Pain Scared of needles 	<ul style="list-style-type: none"> Long duration, Quick procedure Can't see it Partner doesn't know Systemic flow Pain Fear of side effects 	<ul style="list-style-type: none"> Systemic flow Long duration Fewer issues with adherence Efficacy (better than condoms) Pain Side effects 	<ul style="list-style-type: none"> Pain 	<ul style="list-style-type: none"> Long duration Pain
Implant-able PrEP	<ul style="list-style-type: none"> Long duration Works inside the body Discreet (small size, flexible / less palpable) Mixed preference for dissolving implant Pain during insertion or removal Inserting something under the skin Fear of implant robbery 	<ul style="list-style-type: none"> Long duration Removability Close to surface – can confirm its there Mixed preference for dissolving implant Removal painful Inserting something under the skin Fear of implant robbery 	<ul style="list-style-type: none"> Long duration Not visible; discreet Preferred dissolving implant Pain during insertion or removal Fear of implant robbery 	<ul style="list-style-type: none"> Longer duration than injections Flexible (discreet) Preferred dissolving implant Fear of implant robbery Fear of side effects 	<ul style="list-style-type: none"> Longer duration than injections (more discreet) Works inside the body Preferred dissolving implant Fear of implant robbery Fear of side effects Scared of pain during insertion



Unseen, pain free
"I want it to be inserted but to be unseen that it is in you... Not to be something that will be associated with sewing (stitches)... Yes, leave me with no pains and not to be felt" (IDI, female, ring-experienced)



Invisible to community
"...and also because now it's said that the implant can be removed for smoking and all [gangs remove the implant to smoke the drug]... (IDI, male, oral Prep-experienced)



Privacy, invisible to family
"It was a problem for him to keep the pills at home, so I had to keep the pills for him. Every time he had to come and take them from my house... Although his parents knew about the pill but they didn't want the pill at home.... I think it will be good if they just go one day to get the injection because they won't see anything....To carry around... yes. Or to be seen taking it... Yes, for three months and you would be just sitting with the injection in you." (IDI, male, oral-PrEP experienced)

Systemic flow, invisible to partner
"The injection is better because some people didn't use the ring. They removed it for their partners because of what I told you... So the injection would be fine, something that will be in the blood." (IDI, female, ring-experienced)

Conclusions & Next Steps

Several attributes of long-acting HIV prevention methods were perceived as important to young South African end-users. A discrete choice survey conducted as stage 2 of iPrevent will assess relative preferences and attribute trade-offs. Most notable were attributes resonant of an "invisible" product: one that was unnoticeable to the user in terms of pain/ discomfort and required minimal user burden in terms of dosing/ insertion and clinic visits; one that could not be seen by partners, family or community members. End-user preferences of product attributes can be used to inform product development and testing to optimize adherence among youth.