

# How does **D2D Pillar 2** support product development?

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# D2D Pillar 2

## Who are we?



# Pillar 2: Sociobehavioral Research in Clinical Trials

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- We work with the clinical trial (CT) teams and product developers to ensure sociobehavioral research (SBR) embedded in each trial is done rigorously and provides valuable feedback...
  - To the product developer
  - To the MATRIX program
  - To the field



## Pillar 2: What are our objectives?

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- Design and implement SBR components of clinical trials
- Assess product **acceptability, end-user experience** and **preferences**; identify **barriers** and **facilitators** that may impact acceptability and adherence.
- Identify **product attributes** and **use considerations** likely to challenge and/or facilitate adherence and inform implementation of later phase clinical trials.



# Role of Pillar 2 in MATRIX clinical trials

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## Protocol development

- Contributing to study aims and trial
- Planning for when/how SBR data are collected and analyzed
- Integrating social harms/benefits data

## Instrument development

- CRFs
- In-depth interview guides

Other materials, like product use instructions

## Analysis & dissemination

- Analyzing quantitative and qualitative SBR data
- Providing rapid feedback to PD teams
- Liaising with Pillar 1 to feed into RRN
- Publications and presentations

# Role of Pillar 2 in MATRIX clinical trials

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Instrument  
development

- CRFs
- In-depth  
interview guides

Other materials, like  
product use  
instructions

# Why have “core” sociobehavioral CRFs in MATRIX?

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## For each MATRIX clinical trial...

1. Allow for a similar understanding of key topics of interest
2. Ensure SBR questions asked are evidence-based (where relevant/appropriate)
3. Achieve efficiency across trials by having a common/pre-developed set of questions

- Baseline socio-demographics & behaviors
- Comfort with product
- Worries and excitement
- Ease of use
- Gains and losses
- Burden
- Adherence
- Discreetness and product use
- Interest in future use

# Journey of a (sociobehavioral) CRF

- Let's start by looking at one sociobehavioral CRF that will be implemented in MATRIX-001
  - (Just 1 section)
- Let's trace back how to see how we ended up with these questions

MATRIX-001: Final behavioral and acceptability (FU3) CRF [Visit 7]

*Note: Information in italics is for the interviewer and will not be read aloud to the participant. All response options should be read aloud to the participant unless shown in italics.*

<i>Impact on sex</i>			
INTERVIEWER READS: The next questions ask about whether your use of the [study product] affected your sexual behavior and relationship.			
30. Did using the insert affect...	Yes	No	
a. How often you had sex	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	
b. Your overall desire to have sex?	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	
c. Your feelings of intimacy or emotional closeness with your partner during sex? <i>If 24=4, skip</i>	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	
d. The types of sex you engaged in? <i>If 24=4, skip</i>	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	
31. What did you think about this effect of product use? <i>Response options included only if selected "yes" in prior question</i>	Acceptable	Somewhat acceptable	Not acceptable
e. How often you had sex	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
f. Your overall desire to have sex	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
g. Your feelings of intimacy or emotional closeness with your partner during sex	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
h. The types of sex you engaged in	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
32. How did the insert affect your sexual pleasure? <i>If 24=4, skip</i>	<input type="checkbox"/> <sub>1</sub> It was not affected <input type="checkbox"/> <sub>2</sub> I had less sexual pleasure than usual <input type="checkbox"/> <sub>3</sub> I had more sexual pleasure than usual		
33. How did the insert affect your (main sexual) partner(s)' sexual pleasure? <i>If 24=4, skip</i>	<input type="checkbox"/> <sub>1</sub> It was not affected <input type="checkbox"/> <sub>2</sub> They had less sexual pleasure than usual <input type="checkbox"/> <sub>3</sub> They had more sexual pleasure than usual <input type="checkbox"/> <sub>4</sub> I do not know		



# A long and winding road...

We solicited a broad range of sociobehavioral instruments for our initial "bank"

We grouped together similar measures and organized them within a framework

We assessed and tailored candidate questions, to fit into a CRF format, creating the "core" SBR CRF packet

D2D input



1

3

5



D2D input

2

4

6



Product developer input

We coded them to be able to draw similar questions together across these 93 instruments collected

A team of experts vetted questions from each TFA\* construct (and ones that did not fit) to determine best candidates for MATRIX

Core SBR CRFs are being tailored, now, for each clinical trial

\*Note that "TFA" = Theoretical Framework of Acceptability

# Where did we start?

## 1. Solicited sociobehavioral data collection instruments from array of D2D collaborators

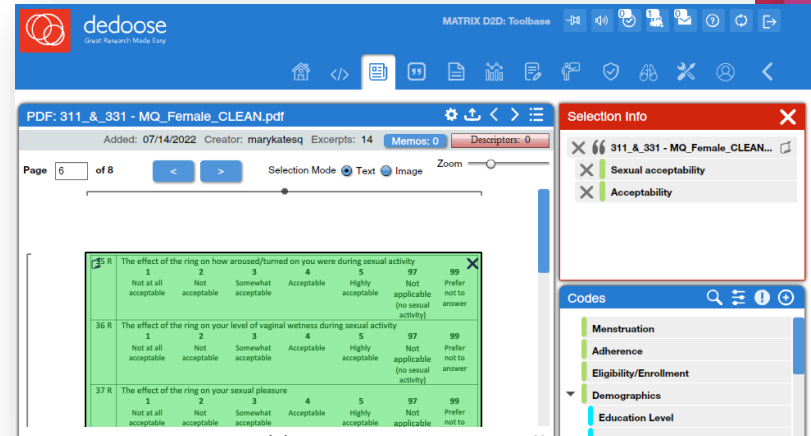
- 93 instruments collected from multiple studies (MTN-023/027/028/036/038/030/034, Quatro, TRIO, HPTN-059/083/084/076/077, PC 957, etc.)

Let's follow a question from the Pop Council 957 study...

Population Council Protocol 957 – Non-medicated ring crossover study								
Monthly CASI questionnaire for women								
Effects on sex and intimacy								
For the following statements, please think about the ring you used over the past month. Please mark how acceptable the effect of the ring was on each aspect of your sexual experience, on a scale from 1 (not at all acceptable) to 5 (highly acceptable).								
32 R	The effect of the ring on your overall sexual desire/sex drive	1 Not at all acceptable	2 Not acceptable	3 Somewhat acceptable	4 Acceptable	5 Highly acceptable	99 Prefer not to answer	
33 R	The effect of the ring on how often you had sex	1 Not at all acceptable	2 Not acceptable	3 Somewhat acceptable	4 Acceptable	5 Highly acceptable	99 Prefer not to answer	
34 R	The effect of the ring on the types of sexual activity you engaged in	1 Not at all acceptable	2 Not acceptable	3 Somewhat acceptable	4 Acceptable	5 Highly acceptable	97 Not applicable	99 Prefer not to answer
35 R	The effect of the ring on how aroused/turned on you were during sexual activity	1 Not at all acceptable	2 Not acceptable	3 Somewhat acceptable	4 Acceptable	5 Highly acceptable	97 Not applicable (no sexual activity)	99 Prefer not to answer
36 R	The effect of the ring on your level of vaginal wetness during sexual activity	1 Not at all acceptable	2 Not acceptable	3 Somewhat acceptable	4 Acceptable	5 Highly acceptable	97 Not applicable (no sexual activity)	99 Prefer not to answer
37 R	The effect of the ring on your sexual pleasure	1 Not at all acceptable	2 Not acceptable	3 Somewhat acceptable	4 Acceptable	5 Highly acceptable	97 Not applicable (no sexual activity)	99 Prefer not to answer
38 R	The effect of the ring on your ability to reach orgasm/climax	1 Not at all acceptable	2 Not acceptable	3 Somewhat acceptable	4 Acceptable	5 Highly acceptable	97 Not applicable (no sexual activity)	99 Prefer not to answer
39 R	The effect of the ring on how comfortable vaginal sex was for you	1 Not at all acceptable	2 Not acceptable	3 Somewhat acceptable	4 Acceptable	5 Highly acceptable	97 Not applicable (no vaginal sex)	99 Prefer not to answer
40 R	The effect of the ring on your feelings of intimacy or emotional closeness with your partner during sex	1 Not at all acceptable	2 Not acceptable	3 Somewhat acceptable	4 Acceptable	5 Highly acceptable	97 Not applicable (no sexual activity)	99 Prefer not to answer
41 R	The effect of the ring on your partner's experience of sex overall	1 Not at all acceptable	2 Not acceptable	3 Somewhat acceptable	4 Acceptable	5 Highly acceptable	97 Not applicable (no sexual activity)	99 Prefer not to answer

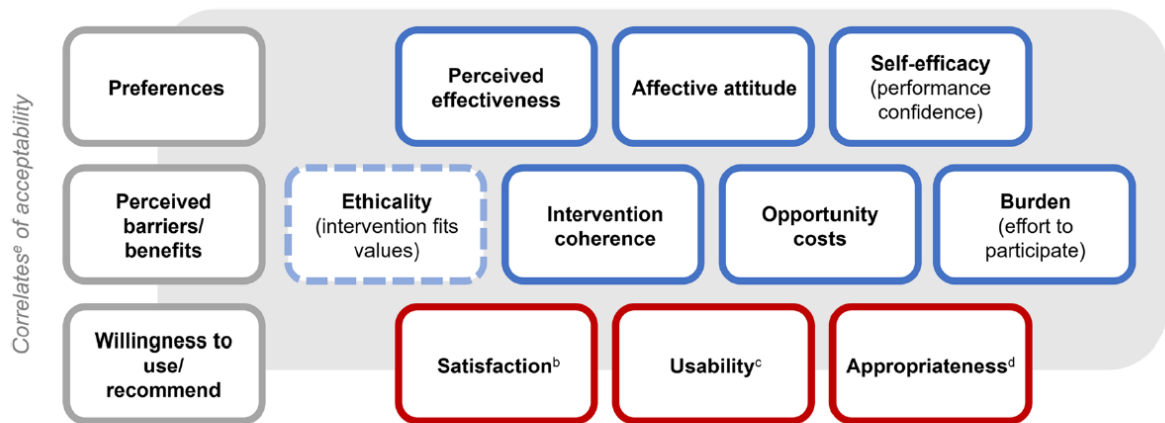
# How did we sort?

1. Solicited sociobehavioral data collection instruments from array of D2D collaborators
2. All 93 instruments were coded question-by-question in a qualitative coding software to categorize similar questions
  - About 1,230 questions coded!
  - This code, “sexual acceptability” was used for 52 questions, pulling from 20 different source CRFs/questionnaires



# Pause: How did we prioritize areas of inquiry?

- Largely based on the expanded Theoretical Framework of Acceptability from Ortblad, et al.



*Unique implementation constructs, separate from acceptability*

- Acceptability<sup>a</sup> components from the Theoretical Framework of Acceptability identified in the review
- - - Acceptability<sup>a</sup> components from the Theoretical Framework of Acceptability not identified in the review

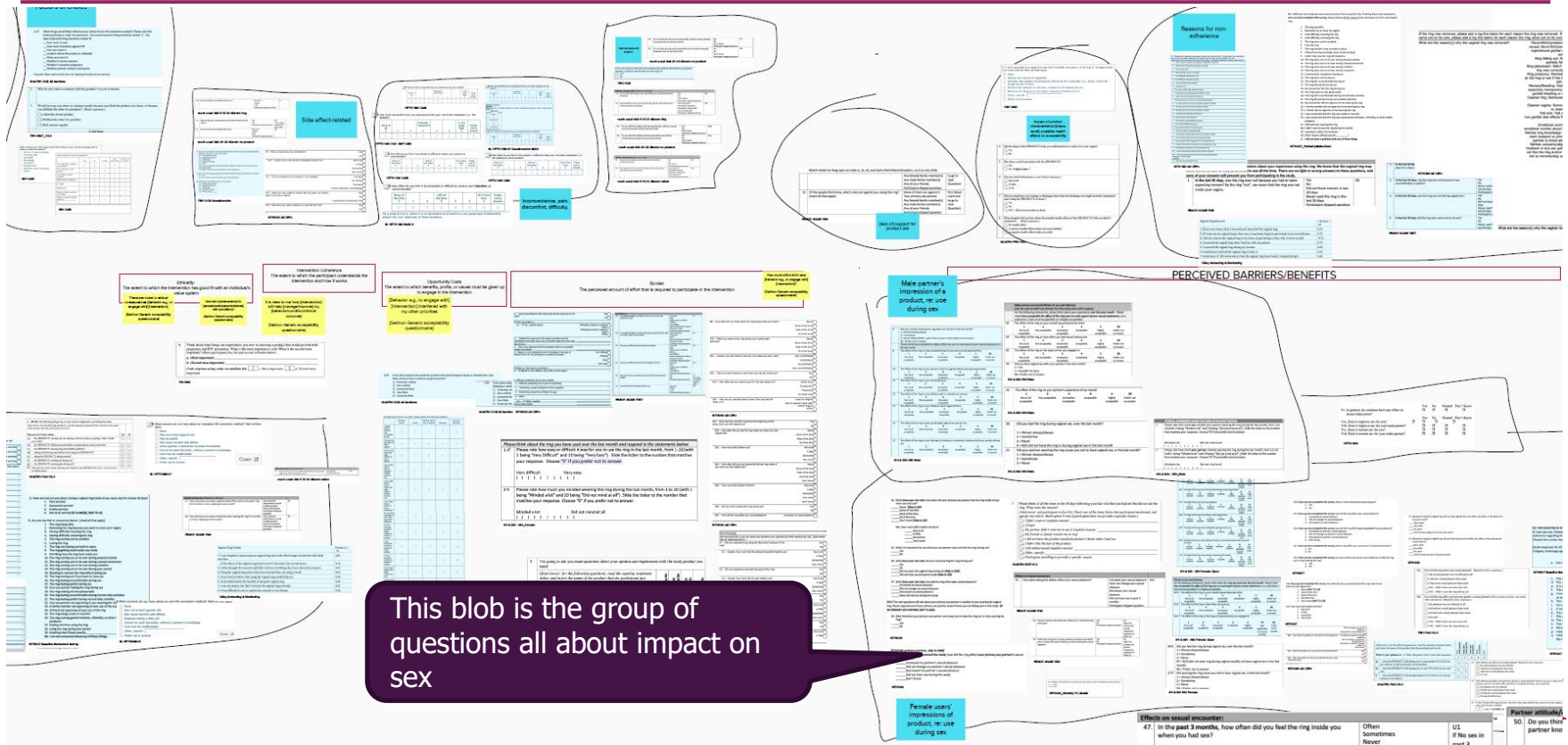
Source: Ortblad KF, et al. Acceptability Assessment in HIV Prevention and Treatment Intervention and Service Delivery Research: A Systematic Review and Qualitative Analysis. AIDS Behav. 2022 Jul 23

# So, how did we categorize questions into that framework?

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1. Solicited sociobehavioral data collection instruments from array of D2D collaborators
2. All 93 instruments were coded question-by-question in a qualitative coding software to categorize similar questions
3. Similar questions collected in MURAL – organized to align with the guiding framework – to allow for sticky-note style categorization and prioritization

# So, how did we categorize into that framework?



This blob is the group of questions all about impact on sex

# Whittling down and tailoring for MATRIX

<b>REACH</b>	Effects on sexual encounter:	
	45. How does taking the tablets affect your sexual pleasure?	<p>Increases your sexual pleasure</p> <p>Does not change your sexual pleasure</p> <p>Decreases your sexual pleasure</p> <p>Did not have sex in past 3 months</p> <p>Participant skipped question</p>

<b>PC 957</b>	Effects on sex and intimacy						
	For the following statements, please think about the ring you used over the past month. Please mark how acceptable the effect of the ring was on each aspect of your sexual experience, on a scale from 1 (not at all acceptable) to 5 (highly acceptable).						
	32 R	The effect of the ring on your overall sexual desire/sex drive					99
		1 Not at all acceptable	2 Not acceptable	3 Somewhat acceptable	4 Acceptable	5 Highly acceptable	Prefer not to answer
33 R	The effect of the ring on how often you had sex					99	
	1 Not at all acceptable	2 Not acceptable	3 Somewhat acceptable	4 Acceptable	5 Highly acceptable	Prefer not to answer	
34 R	The effect of the ring on the types of sexual activity you engaged in						
	1 Not at all acceptable	2 Not acceptable	3 Somewhat acceptable	4 Acceptable	5 Highly acceptable	97 Not applicable (no sexual activity)	99 Prefer not to answer

<b>TRIO/Quatro</b>	How did the ring affect your sexual pleasure? <i>(Read first three responses.)</i>
	<input type="checkbox"/> 1 My sexual pleasure was not affected at all <input type="checkbox"/> 2 I had less sexual pleasure than usual <input type="checkbox"/> 3 I had more sexual pleasure than usual <input type="checkbox"/> 4 N/A – Didn't have sex since last visit <input type="checkbox"/> 5 N/A – Didn't wear the ring during sex
	How did the ring affect your primary partner's sexual pleasure? <i>(If no primary partner, ask about other partner(s)) (Read first four responses.)</i>
	<input type="checkbox"/> 1 His pleasure was not affected at all <input type="checkbox"/> 2 He had less sexual pleasure than usual <input type="checkbox"/> 3 He had more sexual pleasure than usual <input type="checkbox"/> 4 Not sure <input type="checkbox"/> 5 N/A – Didn't have sex since last visit <input type="checkbox"/> 6 N/A – Didn't wear the ring during sex

<b>MTN-023</b>	12. Because of using the vaginal ring, did you have vaginal sex more often, less often, or the same as in the past month? ___ More often ___ Less often ___ The same ___ I did not have vaginal sex in the past month.
	13. Because of using the vaginal ring, did you have oral sex more often, less often, or the same as the month before? ___ More often ___ Less often ___ The same ___ I did not have oral sex in the past month

# Core CRFs

- This is what is included in the “core SBR CRF” packet as the template question to be used in each clinical trial
  - Pillar 2 developed Q17 to set the stage for the section
  - Q18 is adapted from PC 957
  - Q19 & 20: pull from MTN-023, MTN-034, TRIO, Quatro

MATRIX: Core [FOLLOW-UP ACCEPTABILITY \(FU\)](#) CRF questions for use in clinical trials

<i>Impact on sex [Note: questions included in studies where sexual activity not restricted by protocol]</i>			
INTERVIEWER READS: The next questions ask about whether your use of the [study product] affected your sexual behavior and relationship.			
17. Did using the [study product] affect...	Yes	No	
a. How often you had sex	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	
b. Your overall desire to have sex	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	
c. Your feelings of intimacy or emotional closeness with your partner during sex	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	
d. The types of sex you engaged in	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>2</sub>	
18. What did you think about this effect of product use? <i>Response option only included if selected in prior question</i>	Acceptable	Somewhat acceptable	Not acceptable
a. How often you had sex	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
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d. The types of sex you engaged in	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
<i>Only for vaginally inserted study products</i>			
19. How did the [product] affect your sexual pleasure?	<input type="checkbox"/> <sub>1</sub> It was not affected <input type="checkbox"/> <sub>2</sub> I had less sexual pleasure than usual <input type="checkbox"/> <sub>3</sub> I had more sexual pleasure than usual		
20. How did the [product] affect your (main sexual) partner(s)' sexual pleasure?	<input type="checkbox"/> <sub>1</sub> It was not affected <input type="checkbox"/> <sub>2</sub> They had less sexual pleasure than usual <input type="checkbox"/> <sub>3</sub> They had more sexual pleasure than usual <input type="checkbox"/> <sub>4</sub> I do not know		



# So, back to MATRIX-001...

And, by design, what is in the Core is very close to what is shown in the -001 CRFs

- All questions are tailored to ask specifically about the vaginal insert with the study-specific dosing regimen
- Links to in-depth interview

## MATRIX-001: In-Depth Interview Guide

Please can you tell me how the vaginal insert fitted or did not fit into your life?

- What adjustments did you have to make to your life when using it?
- Did it have any impact on how you engaged with others? With your partner?
- Were you nervous that other people would find out?

### MATRIX-001: Final behavioral and acceptability (FU3) CRF [Visit 7]


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c. Your feelings of intimacy or emotional closeness with your partner during sex? <i>If 24=4, skip</i>	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	
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# Many inputs (and some hiccups) along the way!

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- In applying the “core” to -001 and -002, PDs & CT hub provided valuable feedback: then, required updates across study-specific & core CRFs
- Critical conversations with PDs helped shape study-specific questions 
- Outputs from Pillar 1 activities
  - Design Consultations, Rapid Response Network, Market Segmentation Survey

Sample questions from conversation with Oak Crest to inform instruments for MATRIX-003:

1. What would feel most useful to learn from the product development perspective? What will feel like a “successful” learning from SBR in 003?
2. Do you have concerns or potential challenges you anticipate users might have with the ring?
3. What have you already learned from people who have used the ring?
4. What has felt missing from what you’ve already learned?

# Pillar 1 Pillar 2 integration



- Plan to integrate findings from Pillar 1's design consultations into MATRIX clinical trials
  - MATRIX-001 and -002: design consultation findings used to identify priority topics in the finalized IDI guides
  - Clinical trials in development: product-specific findings can inform CRF and IDI guide content
- From clinical trials findings, Pillar 2 to identify potential follow-up questions for Pillar 1's RRN to solicit input and pursue questions in community-based populations
  - Complement to clinical trials with larger sample size of the RRN
  - Pursue clinical trials findings with broader community-based sample

# D2D Pillar 2 Contributions to MATRIX

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- Continued synergy with Pillar 1 work will help leverage findings from complementary methods and populations to inform MATRIX work
- Quantitative and qualitative data from clinical trials will be used by PDs to help inform next steps for their product (product design, next clinical trials, informational materials, etc.)

All with the goal of ultimately enhancing acceptability, adherence, feasibility, and ease of delivery of HIV prevention products!

# Next Up!



- MATRIX-001 and -002 teams
  - We'll have a session during each training: tomorrowFriday
  - We'll see you at site shortly! Next week for South African sites, in the near future for Kenya and US sites
- MATRIX-003
  - Finalizing data collection instruments for upcoming IRB submissions
- MATRIX-004 and beyond!

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*The contents in this presentation are those of the presenter and do not necessarily reflect the view of the U.S. President's Emergency Plan for AIDS Relief, the U.S. Agency for International Development or the U.S. Government.*

