

Demand for Novel Male Contraceptives

Reproductive Health Innovation Summit
Boston, February 15, 2023

BILL & MELINDA
GATES *foundation*



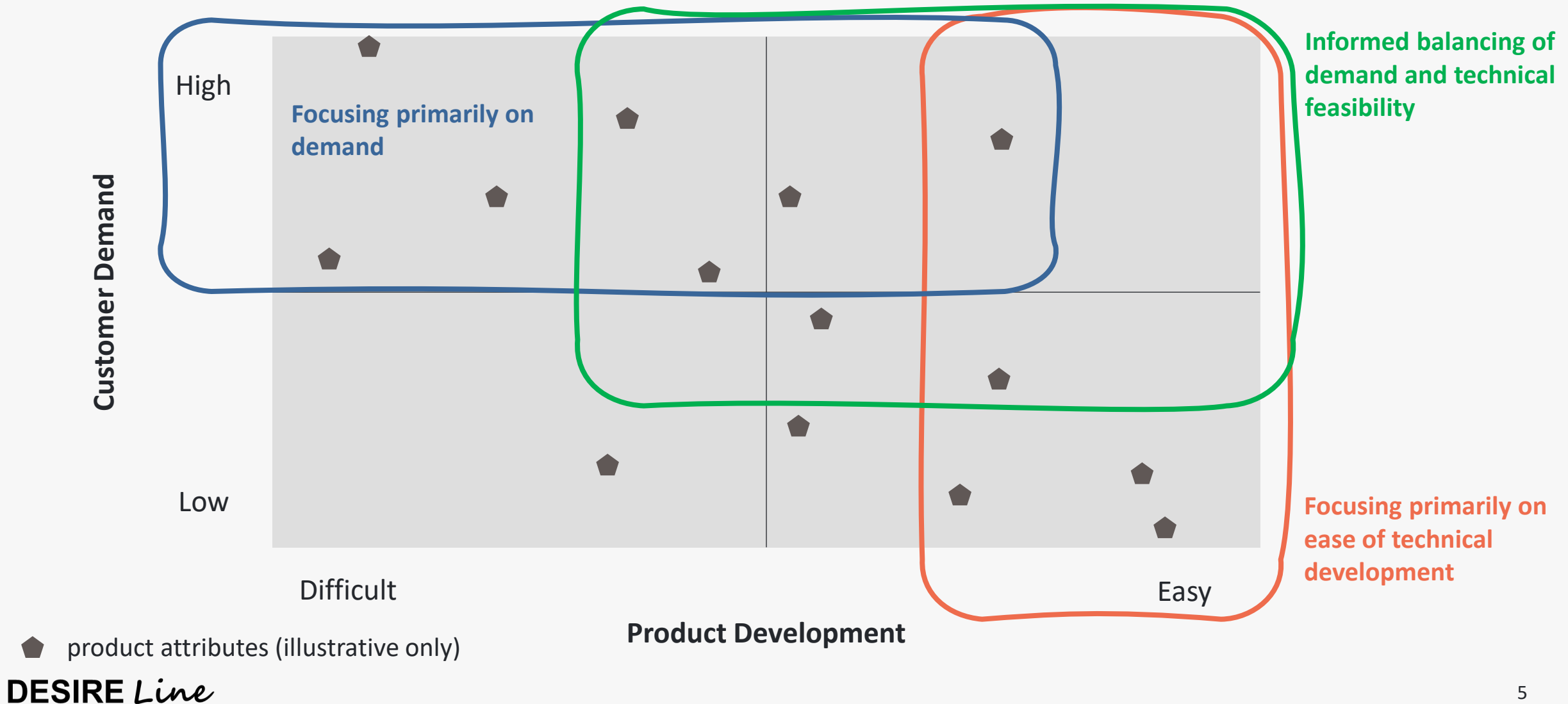
Key questions about demand for Male CTs

- Do men want additional Male CT options?
- What additional Male CT options do men want?
- Who wants which Male CT options?
- Would women trust men to use Male CTs to protect them from pregnancy?
- What will women do – continue using or rely on their partner?

Objectives of the Research

1. **Assess latent demand for potential CT attributes / products** on the 5-30-year development horizon to inform funding and development decisions among development community stakeholders
 - Provide **population-representative results** across geographies accounting for 50+% of FP unmet need in FP2020 countries & United States (largest commercial market)
2. Identify CT **product attributes and attribute clusters** (TPPs) most preferred
3. **Cluster-segment** according to CT attribute preferences – who wants what?
 - Size and profile segments
4. Provide user-based demand data as inputs into **Demand Forecasts and Impact Modelling**
5. **Assess trade-offs** made by female & male partners in their FP method use if mix of male and female methods are available

Understanding customer demand upfront, we can assess trade-offs in development decisions to optimize alignment to it



Research Scope & Approach

Research Design

- ~40-minute quantitative survey among 2-3K men, and their female partners
 - Discrete choice survey + detailed segmentation profile questions
- Inclusion criteria:
 - Men, ages 18-60; Have had sex with 1+ women within past 12 months
 - Not have had vasectomy 5+ years ago
 - Able to father children (except vasectomy <5 years ago)
 - Not have a partner who has had sterilization 5+ years ago (India only, where female sterilization rates are non-negligible)

Geographies

Accounting for >50%
Global Unmet FP Need

African LMICs

- Côte d'Ivoire
- DR Congo
- Kenya
- Nigeria

Asian LMICs

- Bangladesh
- Maharashtra State, India
- Uttar Pradesh State, India
- Vietnam

Developed Markets

- United States

Sampling frame by geography

Geography	Male Survey Sample Size (n)	Approx. Adult Male Population Ages 18-49 (N)	Primary Sampling Unit Sampling Frame
Bangladesh	2,000	46 M	675 Enumeration Areas (EA) constituting the sample of 2017-18 Bangladesh Demographic and Health Survey (BDHS)
DR Congo	2,000	20 M	National list of approximately 9,000 health zone catchment areas
Maharashtra state (India)	2,000	36 M	Anganwadi centre catchment areas in rural settings, and Census Enumeration Blocks in urban settings
Uttar Pradesh state (India)	2,000	65 M	Anganwadi centre catchment areas in rural settings, and Census Enumeration Blocks in urban settings
Côte d'Ivoire	2,000	6 M	National list of approximately 8,500 villages (the smallest administrative unit) catchment areas
Kenya	2,000	14 M	96,251 Enumeration Areas (EA) constituting the sample of 2014 Kenya Demographic and Health Survey (KDHS)
Nigeria	2,000	48 M	Enumeration Areas (EA) generated from the enumeration demarcation survey in 2020-2021
Vietnam	2,000	25 M	National list of blocks where each block consists of 200 living quarters (houses)
United States	3,000	79 M	NORC AmeriSpeak web panel, which is a probability-based panel built on a sampling frame of micro-areas nationwide, also drawn with selection probability proportional to size (PPS) within urban/rural stratum

Male Survey Overview



Screener

- Respondent age
- Respondent gender
- Methods currently using to prevent pregnancy
- If he had vasectomy in past 5 years
- If partner sterilized in past 5 years (India only)



CT usage & perceptions

- Use of methods
- Frequency of use
- Satisfaction
- Perceived side effects
- Past use of male methods



DCE & form-specific attributes

- Discrete choice
- Form specific side effects
- Form specific preferences
- Trust in efficacy
- Trust in safety



Fertility norms & beliefs

- Gender norms
- Religious norms
- Beliefs & concerns about male CT



Channels & access

- Sources of family planning information
- Use of channels
- Points of care/access
- Willingness to pay



Life stage

- Frequency of sex
- Relationship type & quality
- Contraceptive decisions
- Number of current & desired children

- Education
- Occupation
- Income
- Household makeup
- Religion

Socio-demographics



Male CT Discrete Choice Attributes & Levels

Form	Frequency	Time to Onset	Time to Reverse	Efficacy
1. Pill	1. Before sex only when needed	1. 30 minutes	1. 24 hours	1. 75% Effective
2. Gel on shoulder	2. Once a day	2. 4 hours	2. 4 weeks	2. 85% Effective
3. Liquid patch	3. Once a week	3. 24 hours	3. 2 months	3. 95% Effective
4. Micro-array patch	4. Once a month	4. 4 weeks	4. 3 months	4. 99% Effective
5. Auto-injector at home	5. Once every 3 months	5. 2 months		
6. Injection in clinic	6. Once every 6 months	6. 3 months		
7. Skin piercing	7. Once a year			
8. Implant under skin	8. Once every 2 years			
9. Nasal spray	9. Once every 5 years			
10. Inserted through hole where you urinate	10. Once every 10 years			
11. Small surgical cuts in scrotum	11. One time procedure			

Sex Drive	Testes	Ejaculation	Energy	Mood	STI Protection
1. No Change	1. No Change	1. No Change	1. No Change	1. No Change	1. No STI Protection
2. Higher Sex Drive	2. Testes shrink by a bit	2. Less Fluids at Orgasm	2. Less Energy & Weight Gain	2. Mood Swings	2. STI Protection
3. Lower Sex Drive	3. Testes shrink by half	3. No Fluids at Orgasm	3. More Energy & Strong Muscles		

Example Discrete Choice Card

Looking at these products, would you want to use X or Y or neither.

Attributes	Product X	Product Y	Neither
How do I take it?	Injection in clinic	Gel on shoulder	I don't want product X or Y
How often do I take it?	Once every 3 months	Once a day	
How long before it starts working?	30 minutes	8 weeks	
How long after I stop will it stop working?	24 hours	8 weeks	
Affect sex drive?	Higher Sex Drive	Higher Sex Drive	
Affect testes size?	Testes shrink by half	No Change in Testes	
Affect ejaculation?	No Change in Ejaculation	No Ejaculation at Orgasm	
Affect energy?	No Change	No Change	
Affect mood?	No Change	No Change	
STI Protection?	No STI Protection	STI Protection	
How effective is it?	85% Effective	75% Effective	

Additional Attributes Tested Outside DCE

Overall side effects & benefits
1. Lower blood pressure
2. Higher cholesterol
3. Lower cancer risk
4. Better erections
5. Nausea
6. Fatigue
7. Acne
8. Skin rash

Topical gel side effects
1. Stained clothing
2. Period changes in female partner if gel rubs off on her
3. Body or facial hair on female partner if gel rubs off on her
4. Acne in female partner if gel rubs off on her

Administration side effects
1. Pain during injection on arm or abdomen
2. itching or swelling on arm or abdomen for few days after injection
3. Pain in scrotum for few days after procedure
4. Bleeding and swelling in scrotum for few days after procedure

Inconvenience
1. It must be taken with food
2. Sperm check needed at a doctor's office after 3 months
3. Sperm check needed at home after 3 months

Mechanism of action
1. Stops your body from making sperm
2. Keeps sperm out of your semen during ejaculation
3. Prevents any semen from being ejaculated, while still allowing orgasm
4. Changes the shape of your sperm so they cannot fertilize the egg
5. Impairs the ability of your sperm to swim to the egg

Implant removal
1. Prefer doctor removal
2. No preference
3. Prefer natural breakdown in body

Female Partner Survey

- Also implemented a **female survey among female partners of men surveyed** to assess relationship-level trade-offs to inform mCPR modelling and investment decisions

- **Inclusion Criteria**
 - If the man surveyed is **married or living together with a woman as if married** (full-time or part-time), that woman will be the default respondent for the female survey
 - If the man surveyed has a **female partner not living in the same household, but living within/near the same PSU**, that woman will be approached and included as a respondent for the female survey
 - **If the man surveyed has a female partner not living in close proximity**, the parallel female survey would be skipped
 - **If the man surveyed has multiple partners, with one or more living within/near the same PSU**, one selected by the man as a “closest partner” will be surveyed

Female Partner Survey Overview



CT usage & perceptions

- Use of methods
- Frequency of use
- Satisfaction
- Perceived side effects
- Past use of male methods



Product attributes

- Duration Preference
- Preference for time to onset and reversibility
- Preference for STI and HIV protection
- Side effects



Fertility norms & beliefs

- Gender norms
- Religious norms
- Beliefs & concerns about CT and specifically male CT
- Trust in partner usage



Channels & access

- Sources of family planning information
- Use of channels
- Ease of access



Life stage

- Frequency of sex
- Relationship type & quality
- Contraceptive decisions
- Number of current & desired children

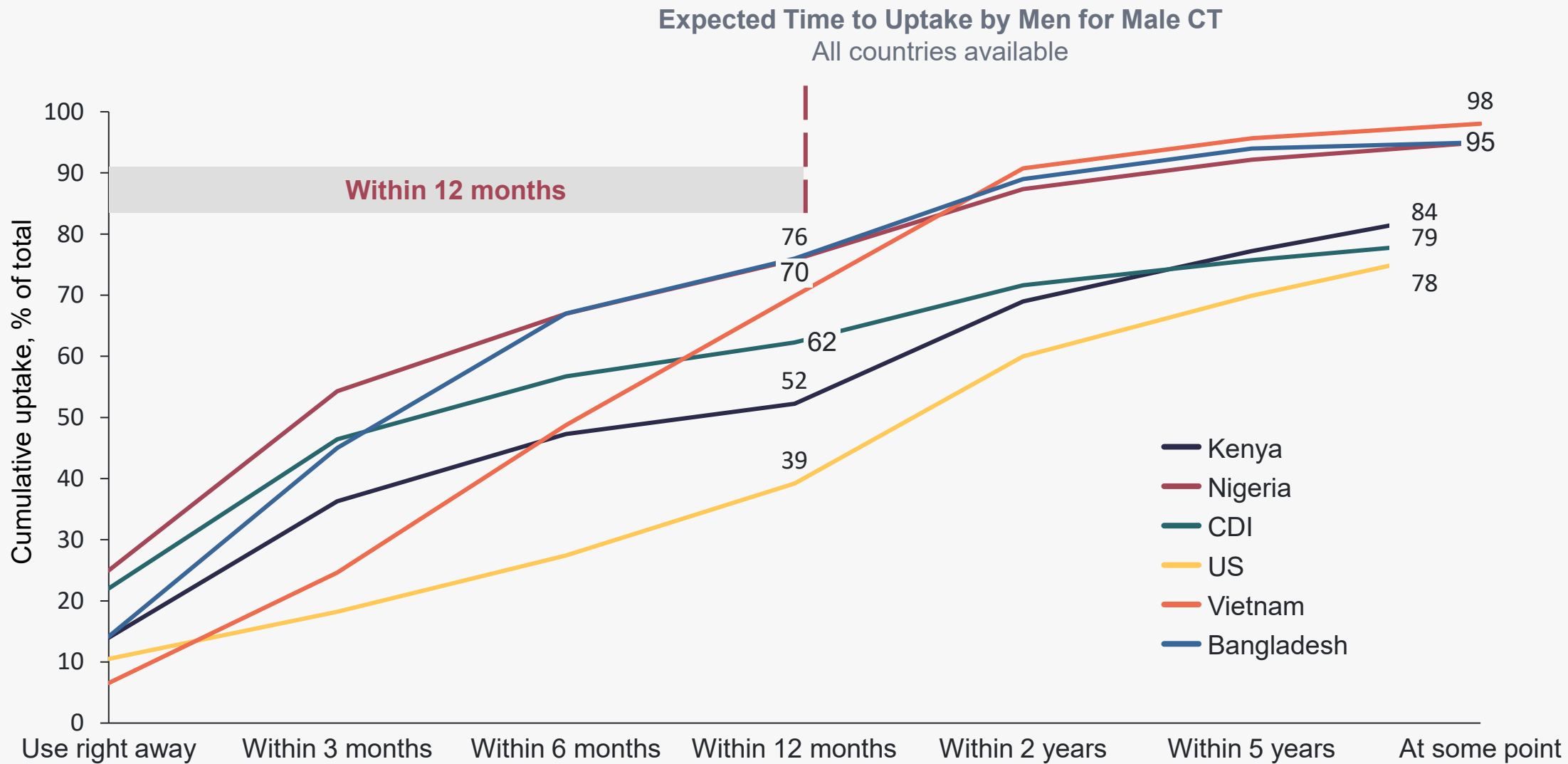
- Education
- Occupation
- Religion

Socio-demographics



Do men want additional Male CT options?

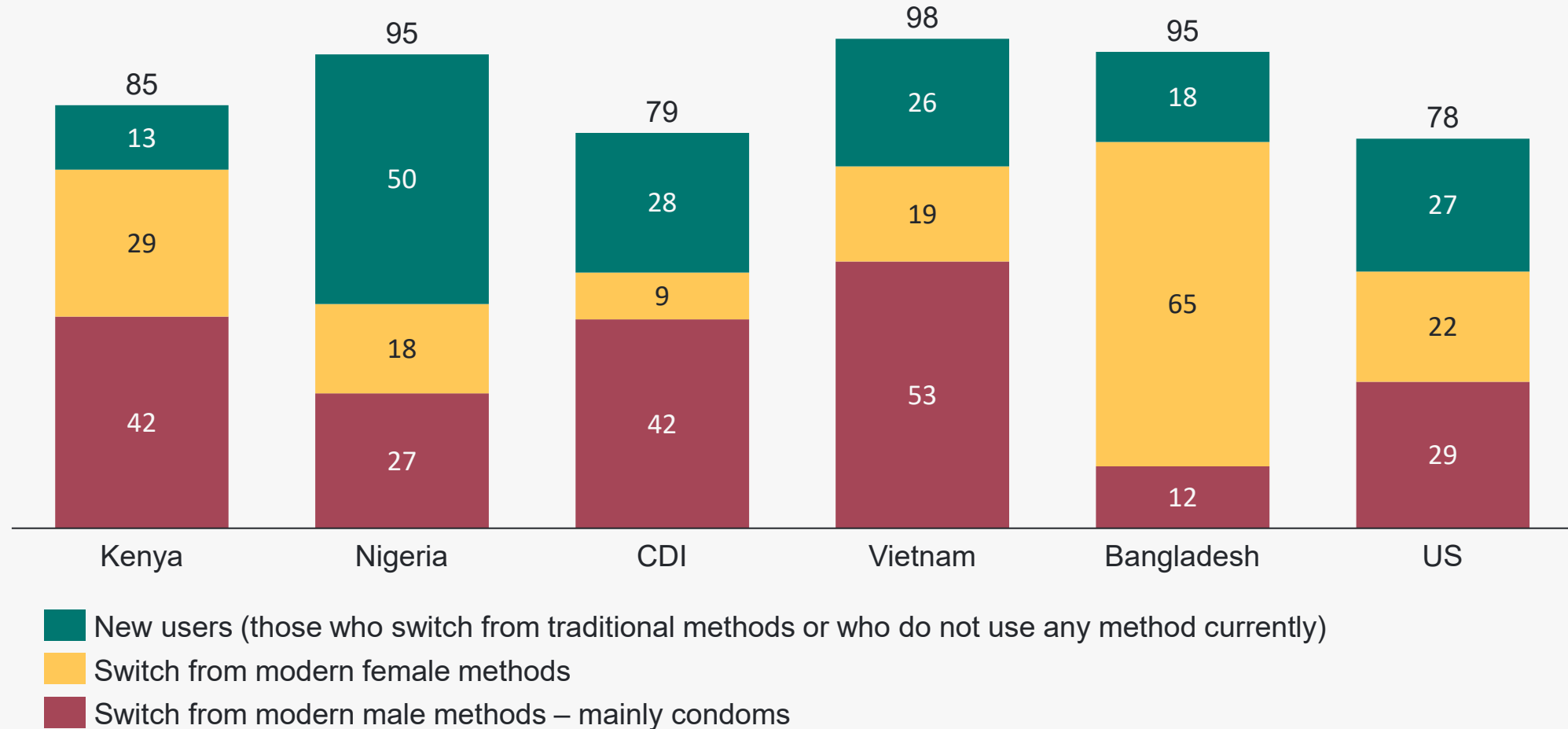
High demand for new Male CTs across countries; Time to uptake fastest in Bangladesh and Nigeria within a year, and lowest in United States



DESIRE Line

Novel male CTs would displace existing male and female methods as well as attract a new set of users who currently do not use modern contraception

Willingness to use male CT at some point by current main method used,
In % of total men, by current method used



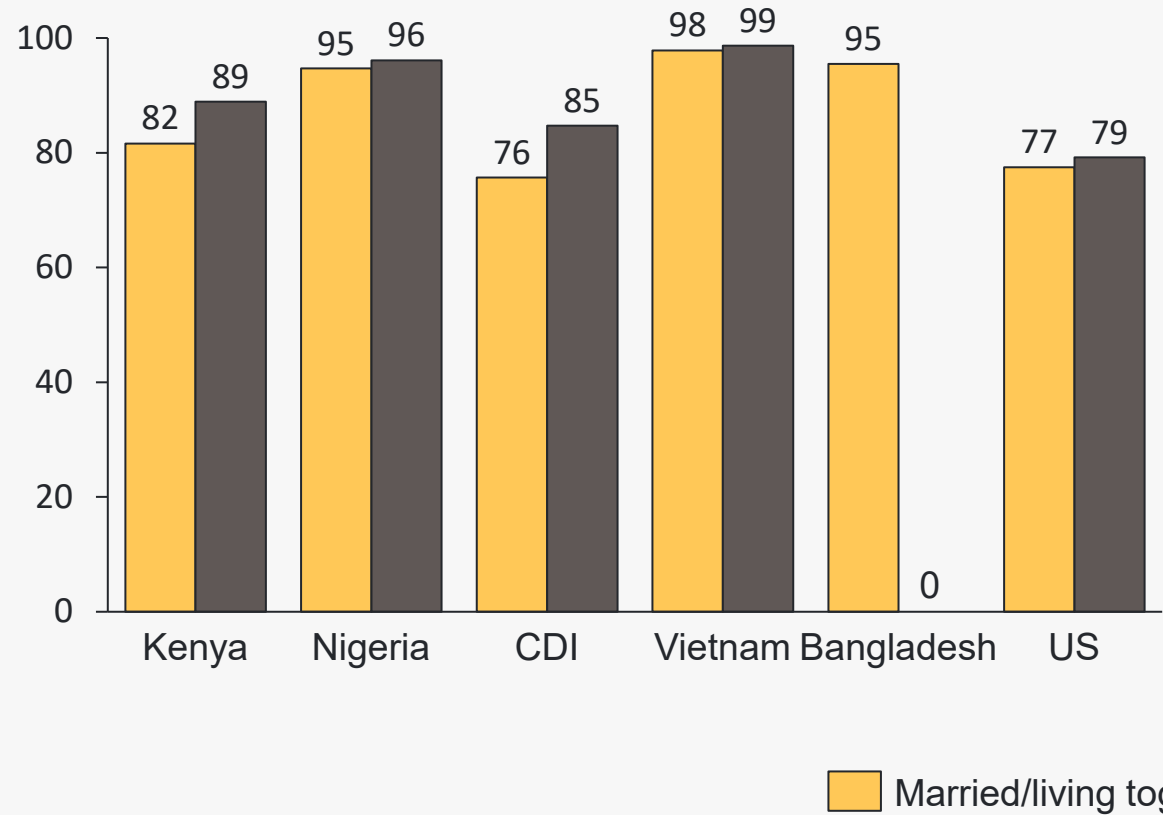
Note: 1) Excluded cases where the method was not clearly specified by the respondent

2) Modern male method is mainly condoms with less than 0.5% men with vasectomy in all countries except US. In US, 4% men have had vasectomy

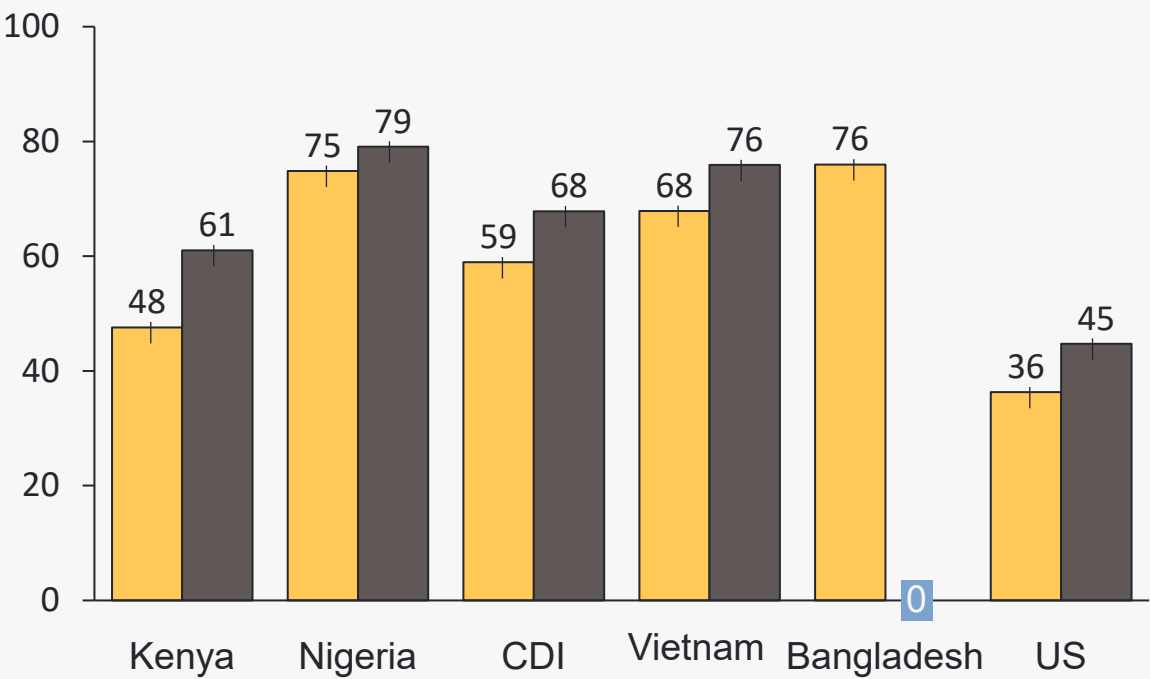
3) These results are based on the main method reported by the respondents

Demand for male CT high across men, irrespective of their marital status; Only directionally higher among men who are not married/living together

Demand for male CT by marital status (Ever use)

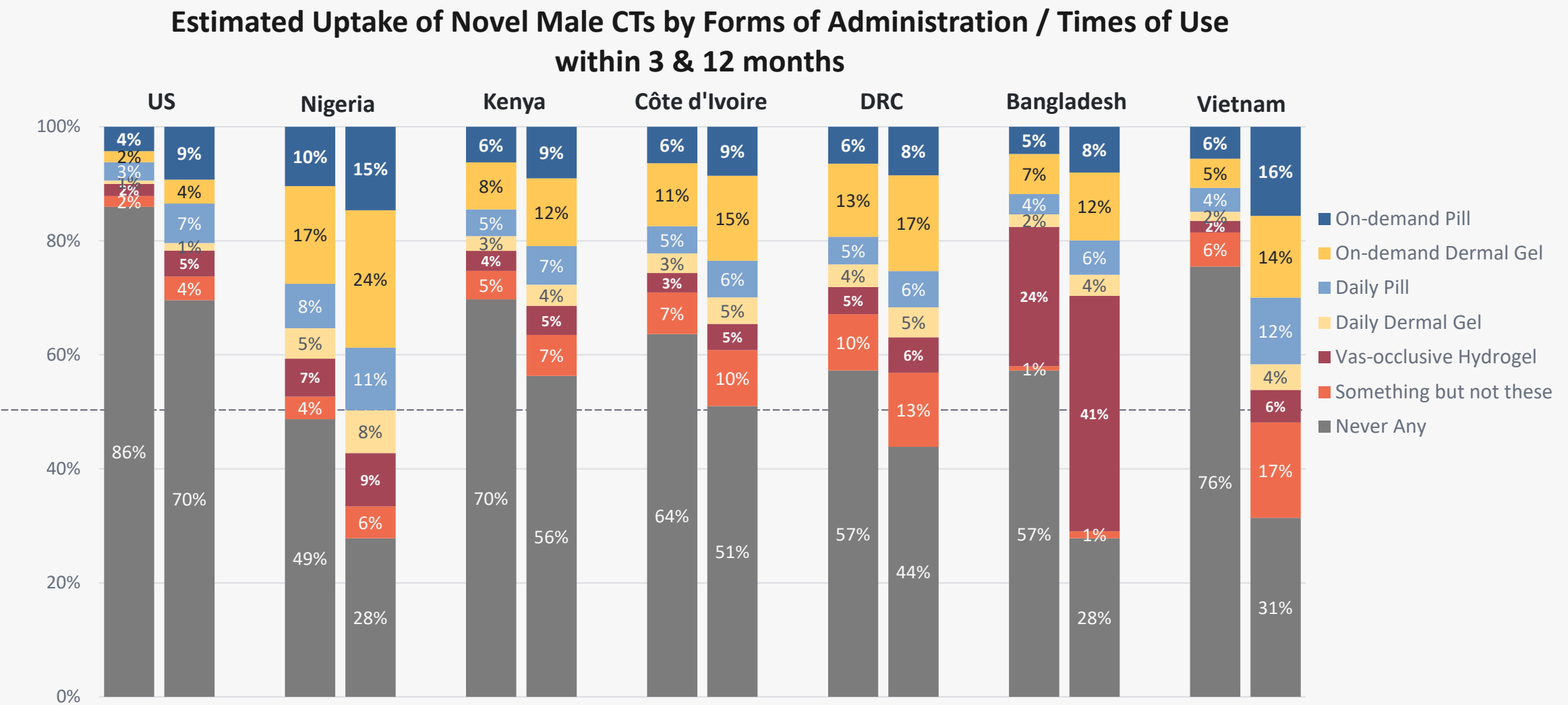


Demand for male CT by marital status (Use within a year)



In Bangladesh, given the cultural norms, only married men were included in our study

Forecasted demand is significant within 1 year; on-demand methods lead across markets, except in Bangladesh, where vas-occlusive hydrogel is dominant



What additional Male CT options do men want?

Attributes driving choice – Form dominates; STI protection strong in African countries; Energy & Weight, Testes Size & Sex Drive prominent in some markets



United States

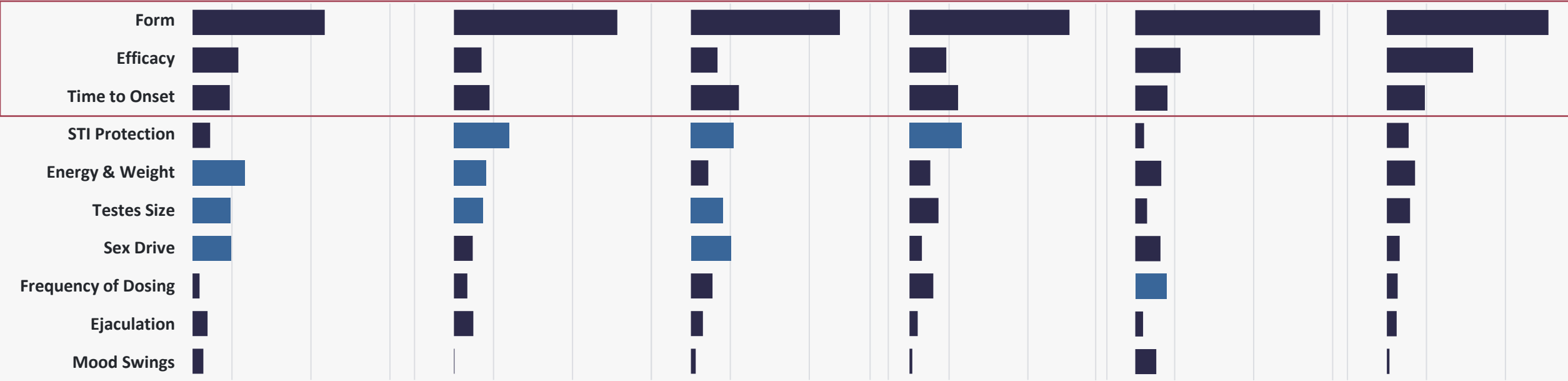
Nigeria

Kenya

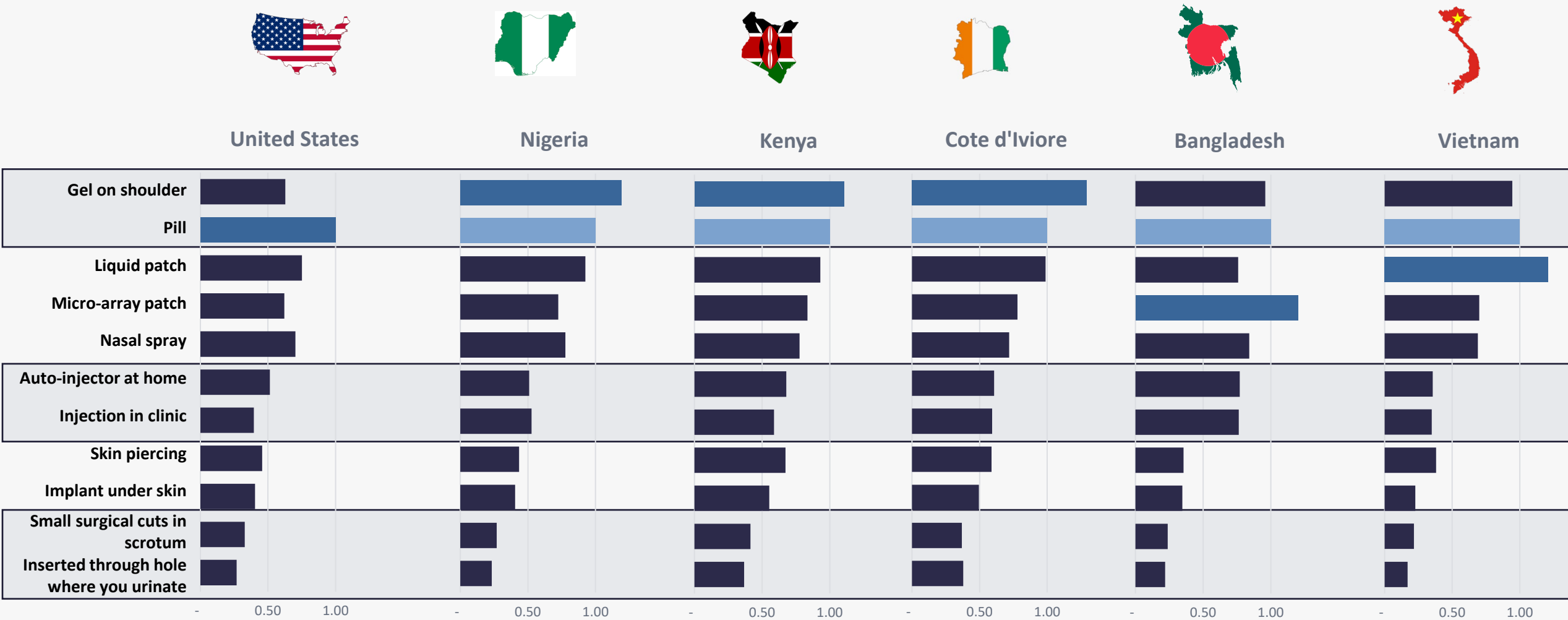
Cote d'Ivoire

Bangladesh

Vietnam



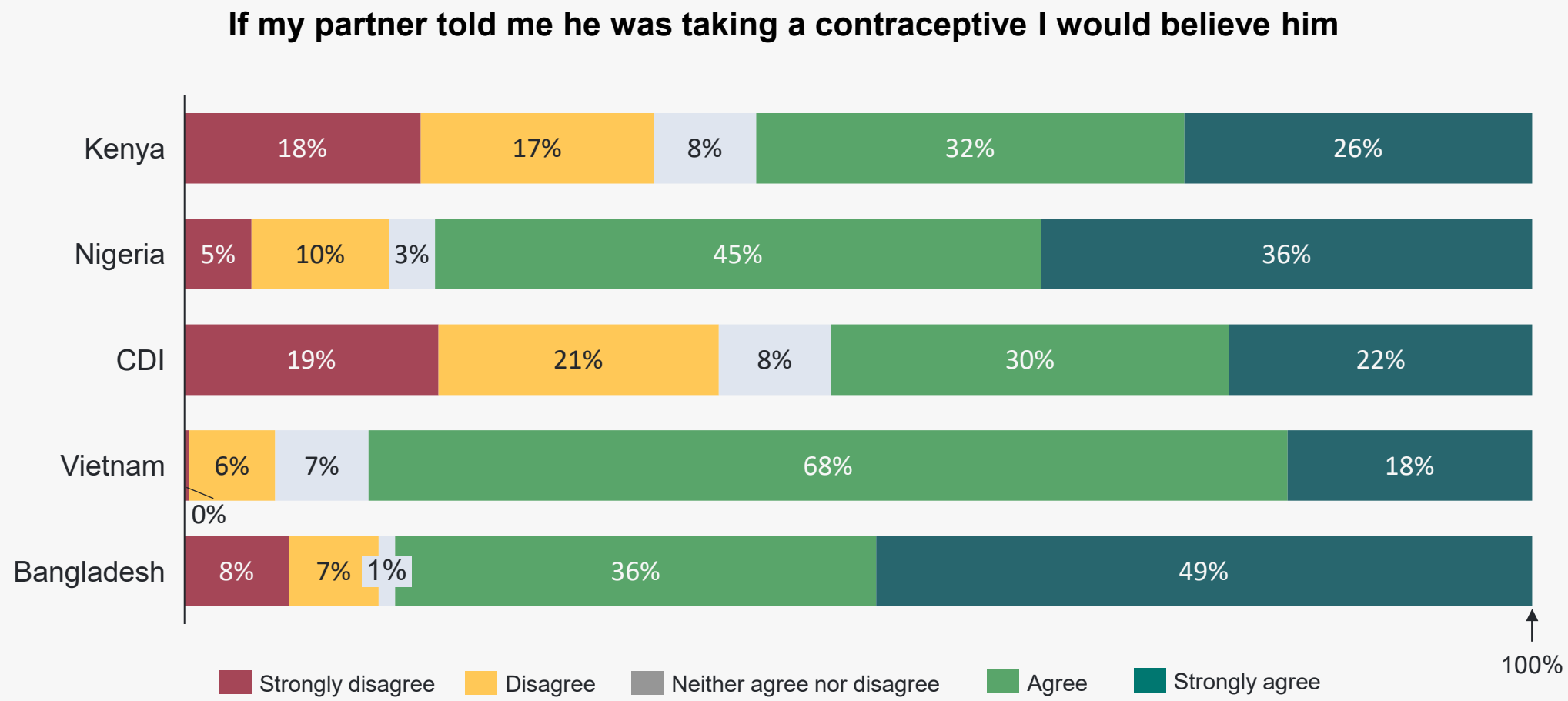
Odds of Uptake by Form (vs. Pill as comparator) – Pill is most commonly preferred; African markets prefer Gel on shoulder; more invasive not desired



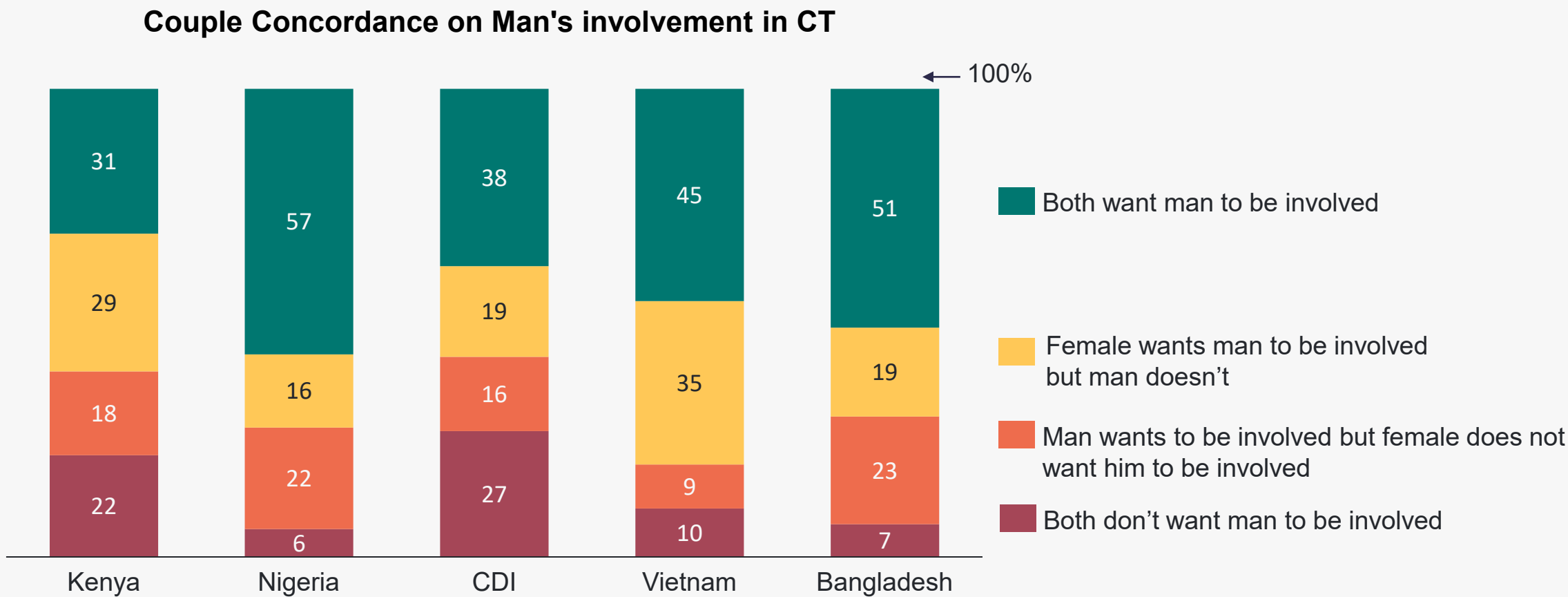
DESIRE *Line*

Would women trust men to use
Male CTs to protect them from pregnancy?

Female trust in partner was hypothesized to be a potential barrier to male CT uptake, data from Vietnam, BD and Nigeria suggests very high trust levels

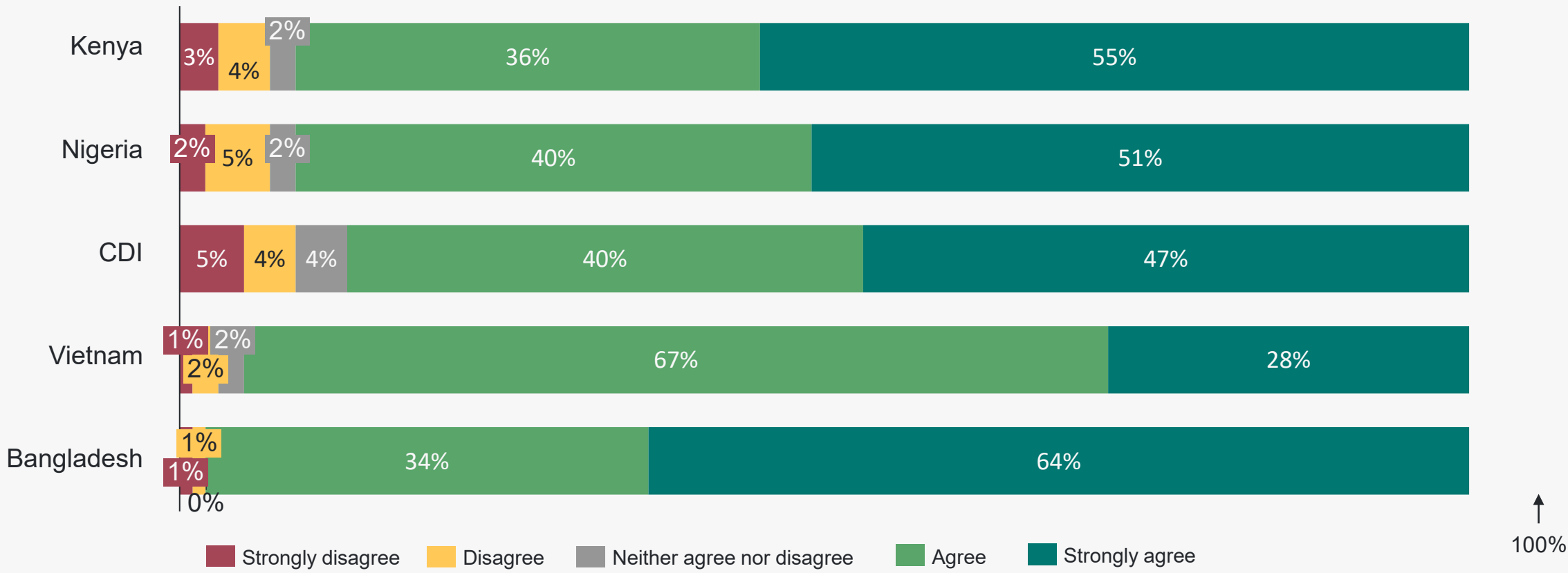


Among pairs, there was high concordance on having men’s involvement in Contraception in Vietnam, Nigeria and Bangladesh

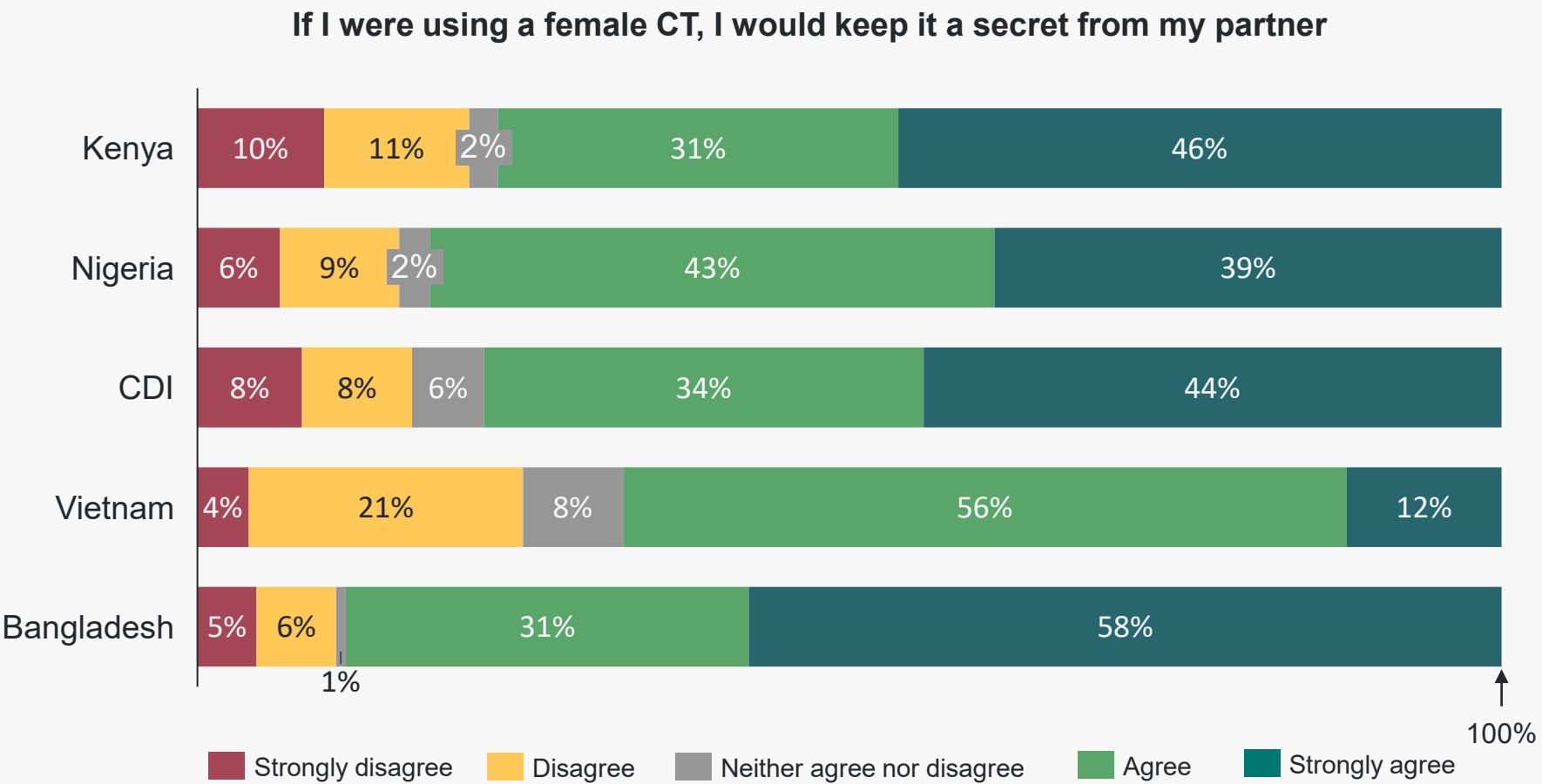


Spousal Communication is high across countries

I can talk openly with my partner about contraception



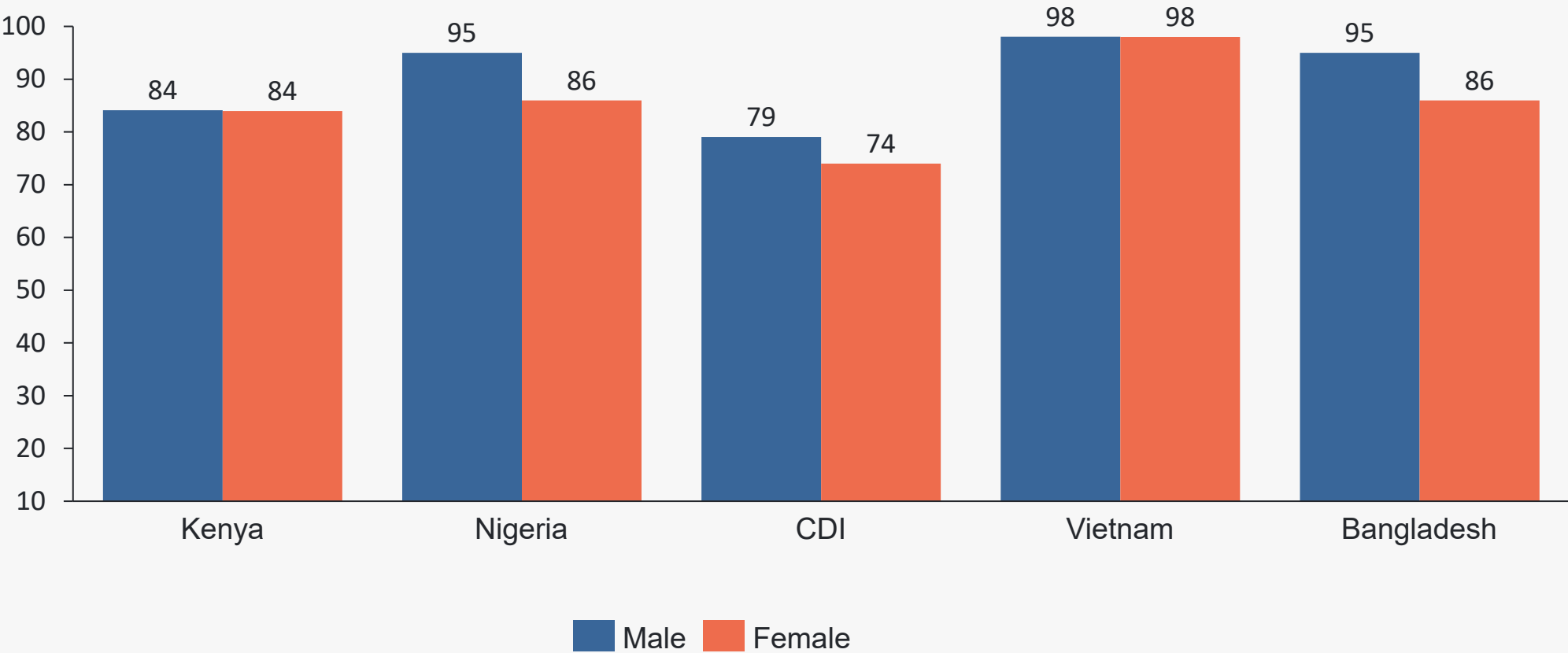
High levels of communication by female partners



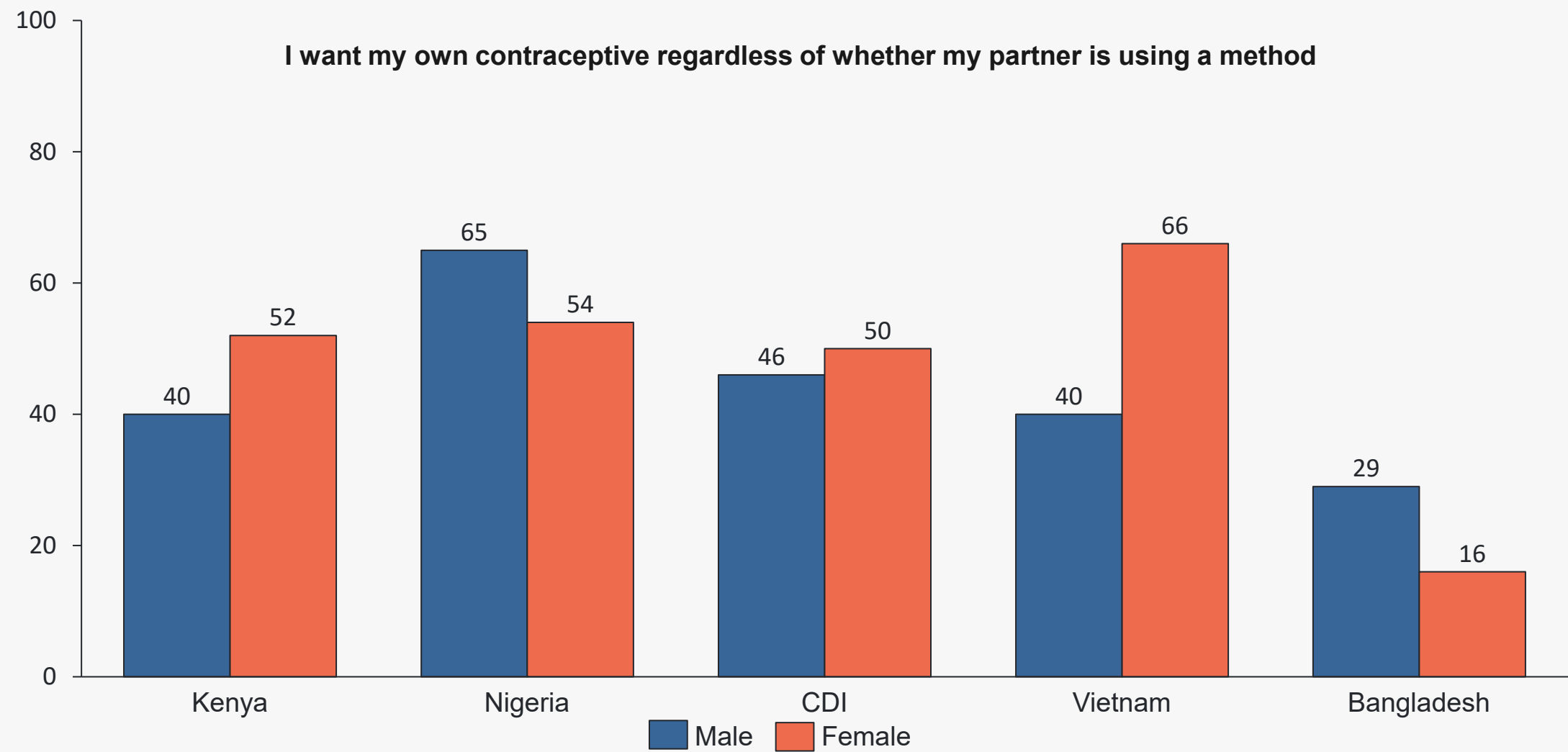
What will women do – continue using
or rely on their partner?

Demand among women for Male CT also high – only marginally lower than among men

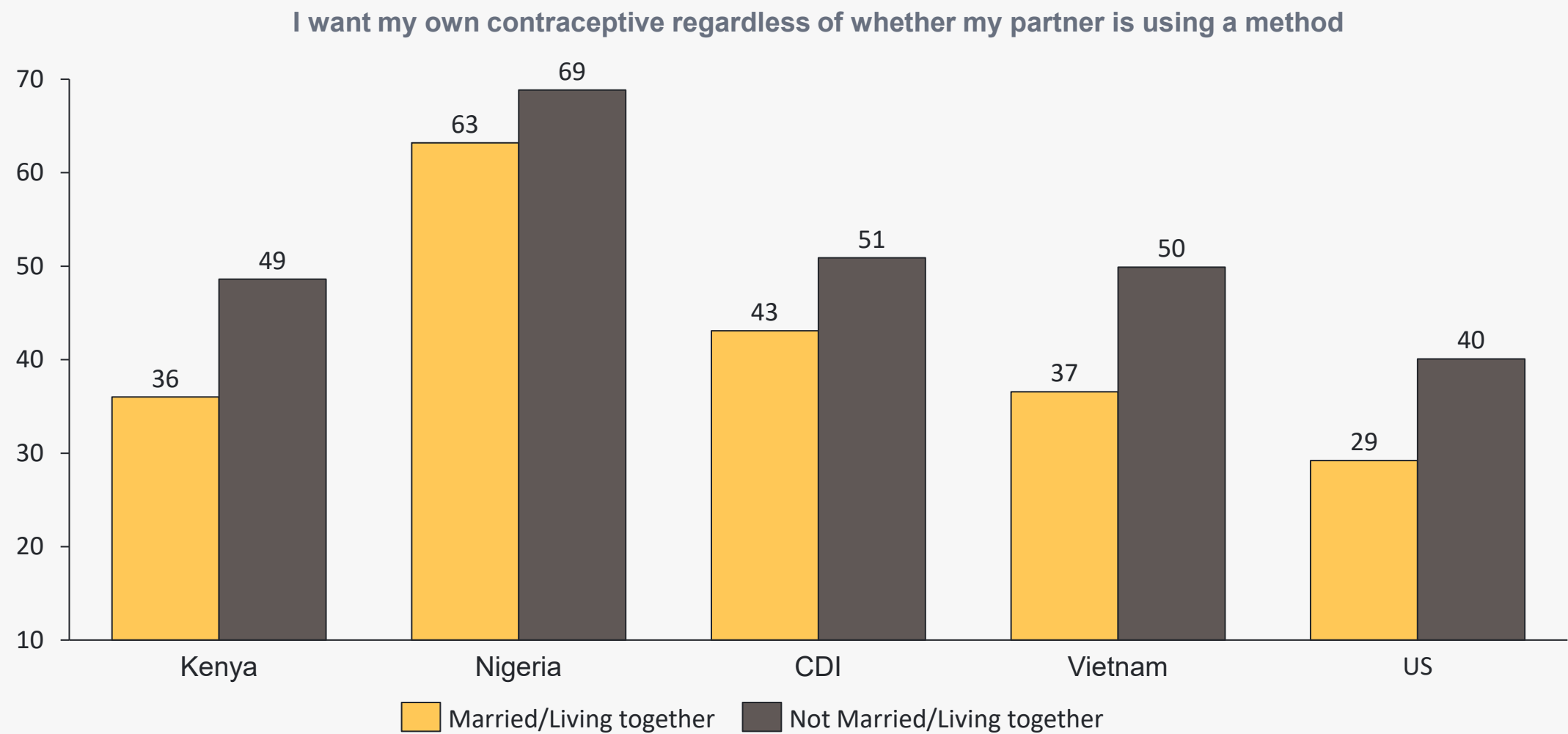
Willingness to use new male CT at some point in the future among male and female partners



Considerable layering – each partner would use own method – expected across all countries except Bangladesh



Men not married/living together want their own method more than those married/living together across countries



Post-Dobbs Decision Re-field in US

Re-field research in US for pre/post Dobbs decision comparisons

- Will replicate original fieldwork in United States for 1:1 comparison of results
- Minor updates to survey to include insurance coverage, etc., not captured in original fieldwork
- Budget \$150 K to complete the work and comparative analyses



**Seeking
a co-funder**

Q&A and Discussion

Discussion Questions

- Having seen this data, how if at all does it affect your thinking in investing in Male vs. Female CT development? Why?
- What are your decision criteria for investing in Male CT?
- What is the opportunity to lobby Congress for more funding for NIH to support Male CT development?

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Male CT Study Sampling Design

This approach will yield a total n size of 200 PSUs x 10 households = 2,000 men per LMIC geography

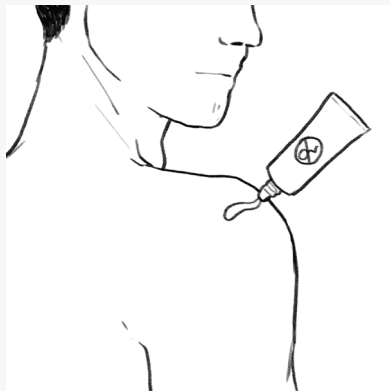
■ DESIGN TO ENSURE GEO-REPRESENTATIVE RESULTS

1. **Listing of micro-areas that provide comprehensive coverage of the country**, e.g., census enumeration micro-areas (e.g., wards, EAs), DHS sample frames, ASHA catchment areas or national lists of primary health facilities catchment areas, or local administrative zones
2. Each micro-area to serve as a **primary sampling unit (PSU)**
3. Among the full sampling frame of PSUs, **200 PSUs will be randomly selected with probability proportional to (population) size (PPS)** within urban/rural strata aligned with ratio of urban vs. rural populations in country
4. Within each PSU, **rapid household listings will be conducted** to identify occupied dwellings with 1+ male resident, ages 18-60
5. Out of the qualifying sample of households within each PSU, **10 households will be randomly selected** for survey
6. **Random household selection** will be performed using a survey tool algorithm (not convenience samples chosen by field teams)
7. If 2+ men (ages 18-60) live in the same household, **1 man will be randomly selected** within that household using the most recent birthday method. If the first man screens out, then the man with the second most recent birthday in that household will be looped into the interview.
8. In rare cases, if all men in the same household screen out, the field team will proceed with the left-hand rule using the first household as start point reference.

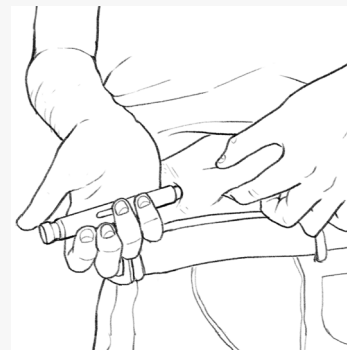
Pill



Gel on shoulder



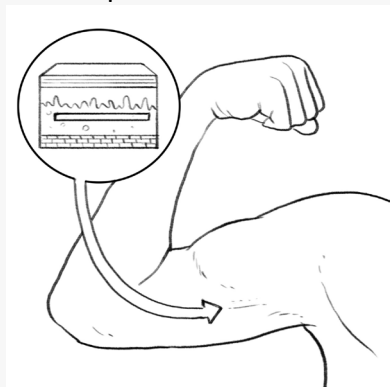
Auto-injector at home



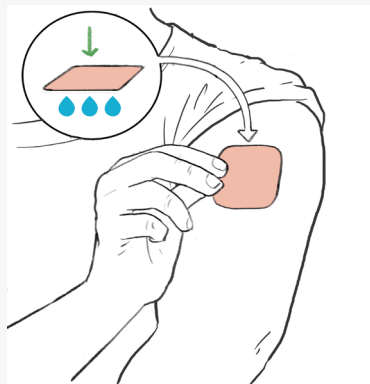
Injection at clinic



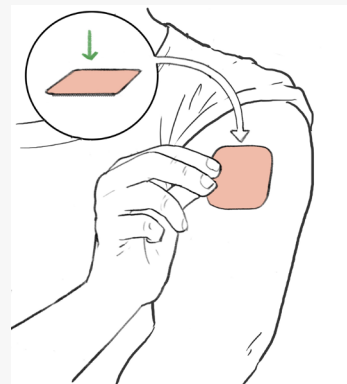
Implant under skin



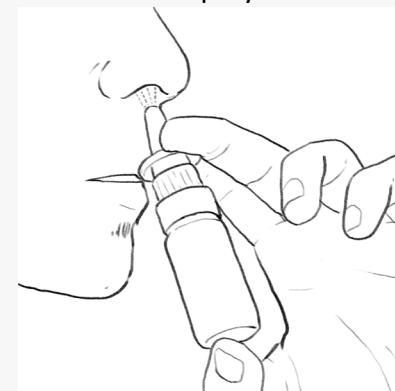
Liquid patch



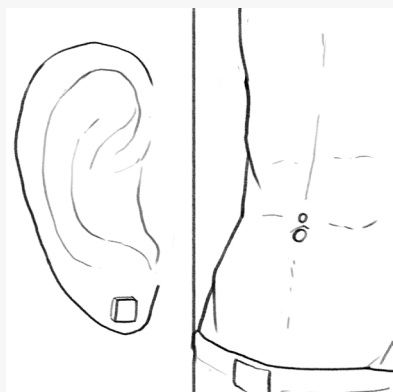
Micro-array patch



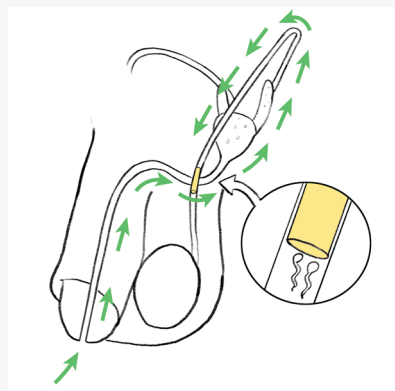
Nasal spray



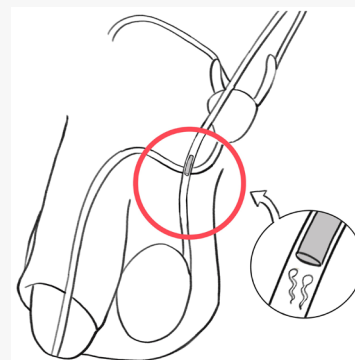
Skin piercing



Inserted through hole where you urinate



Small surgical cuts in scrotum



Graphics shown to
respondents (if
requested)