THE CONSUMER’S MARKET FOR FAMILY PLANNING (CM4FP) STUDY

A GUIDE FOR FUTURE ANALYSES

This guide is meant to provide researchers and analysts interested in using CM4FP Study data with an overview of key topics and research questions that might be explored. This document is not an exhaustive list of all possible analyses, but rather focuses on novel analyses that address current gaps in the existing evidence base on family planning (FP) markets and consumers’ perceptions of, and behaviors within, these markets.

Prior to using this guide, we recommend that you first read the CM4FP Summary and familiarize yourself with the study protocols. These and other study materials are available on the CM4FP website.

The CM4FP Study collected data from two key sources:

1. FP service provision and product audit data was collected from all outlets (facilities, pharmacies, drug shops, and community health workers [CHWs]) that stocked at least one modern FP method (aside from male condoms) or offered any FP services during the 3 months prior to the day of data collection, within the outer ring census area
   • Outlet characteristics (type/level, sector, and service availability)
   • Current stock, including brand name, formulations, and price offered to consumers
   • Current and recent stock-outs
   • Client volume, by method type
   • Client fees
   • Sources of FP commodities and local distribution activities

2. Female questionnaire data was obtained through a household-based survey of the inner ring area
   • Household and respondent sociodemographic characteristics
   • Knowledge of contraceptive methods and local FP supply
   • Current and recent contraceptive method use within the past 12 months
   • Preferences and decision-making in FP outlet selection
   • Experience of method stock-outs and unavailability of trained providers and equipment
CM4FP’s outlet and female household questionnaire datasets can be analyzed separately to provide insights into the total FP market and into women’s contraceptive attitudes, knowledge, and behaviors in selected urban / peri-urban geographies (and in one rural site in Uganda). Datasets can also be linked to compare women’s contraceptive attitudes, knowledge, and behaviors with the local FP market.

Potential areas of inquiry include:

1. Understanding the total family planning market: CM4FP’s outlet data is unique in two key aspects: first, a complete census of all outlets currently or recently offering FP services beyond just male condoms (including public and private facilities, pharmacies, drug shops, other vendors, and CHWs) was undertaken, providing a comprehensive “snapshot” of the total FP market; second, outlets were followed up longitudinally, allowing for assessment of changes over time within specific outlets.

2. Linking the observed FP market with women’s contraceptive perceptions and behaviors: CM4FP’s ring-fenced sampling design allows analysts to connect – or link – female respondents to comprehensive data on nearby FP services. Linkages between women and the FP service environment can be performed in multiple ways, depending on the research question. Broadly, women can be directly or indirectly linked to the FP service environment. Direct linkages are between women and the facility that she most recently utilized and are a key feature of the CM4FP data. Indirect linkages are also possible, such as between women and her nearest facility. Indirect linkages could also be made by aggregating characteristics of multiple facilities (such as all those within 1 kilometer of the respondent’s home) and linking this aggregated data to respondents. Distance and time measures are available between each household and all surrounding outlets (except CHWs, who do not have a fixed location, thereby precluding measurement of relative distance). Potential uses of different linkage methods are discussed below.

3. Novel methodologies in FP measurement: CM4FP’s unique study design can be compared to traditional approaches to measuring the FP survey environment.

Analysts should be aware that study sites were purposively selected to explore microlevel FP market data within a range of locations across three countries. Samples are not representative of wider geographies (national or subnational), and results are not intended to be generalizable to wider geographies. Analyses that utilize data pooled across study sites and countries should take care to properly account for this sampling approach and to interpret findings accordingly.

Detailed information on the study protocol and data are available on the CM4FP website, including the following documents:

- CM4FP Summary
- Study protocols for each county and survey round
- Study questionnaires (household survey, outlet survey)
- Data codebooks (household survey, outlet survey)

This document is meant to be used in conjunction with these resources. Additional comments on data use, considerations for specific research questions, and sample analysis code (in Stata format) are also provided below.
DATA AVAILABILITY

Surveys were conducted in Kenya, Uganda, and Nigeria, with four sites per country purposively selected to represent large, mid-size, and small-/peri-urban or rural settings. Study sites were selected as geographic subsets of larger administrative areas and are not inclusion of any complete city or larger area (district, state, or county). In each site a full census of FP outlets was conducted of the outer ring. Using a longitudinal panel design, FP outlets identified in the census were revisited in up to two additional rounds of data. In each round, a contemporaneous cross-sectional sample of female residents were also interviewed from the inner ring. Tables 1 and 2 provide an overview of all data collected.

<table>
<thead>
<tr>
<th>ROUND</th>
<th>SURVEY</th>
<th>KENYA</th>
<th>NIGERIA</th>
<th>UGANDA*</th>
</tr>
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<tr>
<td>1</td>
<td>Outlet</td>
<td>April – May 2019</td>
<td>June – July 2019</td>
<td>October 2019</td>
</tr>
<tr>
<td>1</td>
<td>Household</td>
<td>July – July 2019</td>
<td>September – October 2021</td>
<td>December 2019</td>
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<td>October – November 2019</td>
<td>January – February 2020</td>
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<td>November – December 2019</td>
<td>February – March  2020</td>
</tr>
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<td>3</td>
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<td>November – December 2019</td>
<td>February 2020</td>
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</tr>
<tr>
<td>3</td>
<td>Household</td>
<td>January – February 2020</td>
<td>February – March 2020</td>
<td>N/A</td>
</tr>
</tbody>
</table>

* Round 1 data collected in Soroti District occurred during the Round 2 collection dates.
TABLE 1. DATA AVAILABILITY, BY SURVEY TYPE, ROUND OF DATA COLLECTION, AND STUDY SITE

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>SITE</th>
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<th>ROUND 2</th>
<th>ROUND 3</th>
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<td>X</td>
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<td>Medium-urban (Nakuru County)</td>
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RESEARCH AREA 1.
UNDERSTANDING THE TOTAL FAMILY PLANNING MARKET

CM4FP’s outlet census captured all facilities, outlets, and CHWs that stocked at least one modern FP method (aside from male condoms) or offered any FP services during the past 3 months in Round 1, providing microdata for the “total market” for family planning in select study sites. The longitudinal panel design of the outlet survey enables exploration of outlet-level changes in FP supply over time.

Methodological considerations:

• Longitudinal analysis: Because outlets were sampled repeatedly over time, statistical methods for analysis of longitudinal data with repeated observations should be employed.
• Specific considerations for census data: Because the outlet data represent a census of all available FP outlets, inferential statistics should be used with caution. Site-specific descriptive summaries and comparisons may be most appropriate when analyzing these data.
• Pooling data across sites and countries: countries and study sites were selected purposively, and therefore are not representative at the national or subnational level. Cross-country comparisons should appropriately account for site and country fixed effects and be interpreted with caution.
• User tip: Any variable that references “CYP” is expressed in terms of CYPs as the unit (e.g. price per CYP, volume of CYPs) according to the following conversion factors: https://www.usaid.gov/global-health/health-areas/family-planning/couple-years-protection-cyp
• User tip: Any price variable with USD is converted to USD using a conversion factor at the time of data collection. Any other price variable is in each country’s currency.

• Mean, median, minimum, and maximum prices are calculated at the outlet-level to use in specific analyses (such as of outlet-level price variability over time). These variables do not represent mean or median prices for a given region or country, and these variables cannot be used to calculate regional mean or median prices for each method.

» Product prices generally do not follow a Normal distribution, so use of robust standard errors or log transformations are important considerations when using price variables in inferential statistics

1.1 FP DELIVERY OUTSIDE OF HEALTH FACILITIES

Most large-scale demographic surveys focus on measurement of FP service delivery within formal, bricks-and-mortar health facilities. CM4FP’s outlet data provide insight into service delivery by other suppliers, such as pharmacies, drug shops, and CHWs in both the public and private sector.

Possible research questions:

• Do non-facility outlets differ from facilities in terms of method availability, price, current and recent stock-out? What fixed characteristics of facilities and outlets are associated with 1) any stock-out, and 2) the proportion of audits with a stock-out during the study period?
• In the selected study sites, what is the availability of FP products and services delivered by private outlets and CHWs?
• What is the full range of brands and formulations that are available by method type, sector, and outlet type?
1.2 Dynamic Changes in the Total Market for FP

Longitudinal capture of FP outlets over time may enable insight into fluctuations in detailed product and service availability.

Possible research questions:

- What is the diversity of available formulations and brands, by method type, within specific sites, and is there evidence of substantial variability in brand or formulation stock over time?
- Is there evidence of variability in availability of trained providers over time? What proportion of outlets ever reported having no trained providers on the date of the survey, and did these outlets differ in terms of other outlet-level characteristics from those with consistent availability of trained providers?
- How much variability is seen in price within brands over time, and is price variability related to changes in brand availability in the local area?
- How do fluctuations in product and service availability affect physical accessibility in terms of distance and time?

1.3 FP Supply at the Micro-level

Audit data may enable unique insight into structures and reliability of FP supply chains within a local market.

- To what extent are FP outlets in a localized market reliant on a single or centralized supply chain? What is the most common source of FP commodities (supply) by outlet type and sector?
- Is there evidence of micro-level product exchange between outlets? Are probabilities of stock-out in each round associated with source of supply?
- What proportion of outlets, by type, stock expired products? Please note that product expiration was assessed for each audited product using a sentinel approach, in which the expiration date of the product in hand was assessed rather than assessing the expiration date of every stocked product. What proportion of products in each method type are expired?

User Tip: Working with CM4FP’s Longitudinal Outlet Data

Analysts interested in examining changes in product availability, prices, stockouts, or other supply-side factors over time will likely be interested in combining all available outlet survey rounds into a single data set. Analysts should be aware when combining outlet data to form a long panel data set of the imbalanced nature of the data: observations for specific outlets are only included in the survey rounds in which they were successfully interviewed. Therefore, some outlets may be represented in only one of all survey rounds (while others may be represented in each round). Analysts should be aware of the imbalanced nature of the data when manipulating and analyzing appended datasets.

The sample Stata code below illustrates how each of the rounds of outlet survey data can be appended to create a single "long-format" dataset. The variable outlet_id serves as the unique identifier of outlets in the outlet survey data.

```
local filepath "C:/Users/Name/Documents/Data"
/// Stores subset of variables in a local (update with specific variables as needed)
local vars_of_interest any_method_avail
treplus_method_avail /// fiveplus_method_avail
use "filepath'/Outlet_Filename_R1.dta", clear
keep outlet_id c13 `vars_of_interest'
/// Append 3 rounds of survey data to create a long format dataset
append using ""filepath'/Outlet_Filename_R2.dta"" /// ""filepath'/Outlet_Filename_R3.dta",
keep(outlet_id c13 `vars_of_interest')
```
Analysts may also choose to reshape their long outlet dataset to a wide format, which is characterized by one observation (or row) per outlet. Suffixes to the variable names (_1, _2, and _3) indicate the corresponding survey round (1-3).

```
rename (*) =_
rename (outlet_id_) (outlet_id)
reshape wide `vars_of_interest', i(outlet_id) j(c13)
/// Variable suffixes (_1, _2, and _3) indicate survey rounds 1-3
```

**RESEARCH AREA 2. LINKING THE OBSERVED FP MARKET WITH WOMEN’S PERCEPTIONS AND BEHAVIORS**

CM4FP’s unique ring-fenced sampling design allows researchers to explore individual female respondents’ relationships to their localized FP market across several dimensions:

1. The FP outlets closest to the female respondents’ residence: by capturing a full census of FP outlets, CM4FP data can be used to link women with all the outlets in the surrounding area, with Euclidean (straight line) and modelled least cost distance and travel times provided.

2. The FP outlet that the respondent most recently utilized: CM4FP directly links respondents to the outlets they most recently used to obtain their FP method.

3. A contemporaneous “snapshot” of the total market for FP products and services from the perspective of the consumer: the full FP outlet census allows for insight into women’s choices across the full delivery spectrum available to her.

**Methodological considerations:**

- **Geospatial data availability:** To protect respondent confidentiality, CM4FP does not make outlet coordinates, household coordinates, or study area locations available. However, available datasets include several variables of outlet proximity, including Euclidean (straight-line) distance, route distance, and route travel time to both the utilized facility and all other outlets, which can be used for a variety of linking methodologies (described below). Please see the Disclosure Risk Brief and Data Codebooks located on the CM4FP website for additional details on what geospatial data is available.

- **Pooling data across sites and countries:** as for the outlet census, countries and study sites were selected purposively and therefore are not representative at the national or subnational level. Cross-country comparisons should appropriately account for site and country fixed effects and be interpreted with caution.

  » User tip: Female respondents were interviewed at most once, so it may be useful to create a combined female dataset that includes all female respondents across survey rounds in a specific country or site. Sample code to append data sets across survey rounds (demonstrated on the outlet data, but which can be adapted) is provided in Research Area 1.

- **Multiple linking methods:** Depending on the specific research aim, women can be linked to the outlet data in multiple ways based on both the nature of the linked outlet (or outlets) and the timing of the outlet data (available in multiple waves). For example, women can be “indirectly” or ecologically linked to: 1) all outlet data in her local market (outer ring); or 2) all outlet data from the contemporaneous survey round only. Women can also be linked directly to her utilized facility using all available data on that outlet (combining survey rounds), only the contemporaneous data on that outlet (“time-specific” linking). Other linking examples are also possible, such as ecologically...
linking women to average characteristics of all facilities within a certain radius of her home, for example. Appropriate linking methods will depend on the specific question of interest.

» User tip: The variable link_status, available in the female survey data, provides information on the respondent’s eligibility for matching to an outlet in the outlet survey data and whether the outlet matching attempt was successful. Additional documentation on link_status is provided in the Household Codebook, available on the CM4FP website.

» Please note that merging data on outlet_id (the matched outlet) represents just one way that female respondents can be linked to the local FP market.

- Matching eligibility and defining the analysis sample: Analysts should review the codebook and study tools to ensure understanding of appropriate denominators. Analysts should be aware, for example, that Section 9 of the study tool was conducted only of women who were eligible for direct matching with a utilized outlet (including those who did and did not successfully match to an outlet); Survey Sections 7 and 8, however, were conducted with all women who had used a modern FP method.

- Women were eligible for outlet matching if they met the following criteria:
  » Currently using or used a modern FP method or service in the past 12 months
  » Obtained a new supply or resupply of an FP method (or service such as sterilization, implant insertion, or IUD insertion) in the past 12 months
  » Obtained the supply herself (and not through a partner, family, friend, or someone else)
  » Obtained the supply from an outlet location within the census study area

### 2.1 WOMEN’S PERCEPTIONS OF THE TOTAL FP MARKET

Possible research questions:

- How accurately do consumers and potential consumers know the contraceptive market? Do consumer perceptions (e.g. of commodity availability and pricing, etc.) match or deviate from the “true supply” data collected from the outlet census?
- Do women’s perceptions of access to contraception match the observed supply-side environment? For example, is distance to the nearest outlet associated with a woman’s likelihood of providing access-related reasons for contraceptive non-use? (This analysis could also be conducted for distance to the nearest outlet of each level/type or sector.)
- What proportion of women self-reported ever or recently receiving FP information, products, or services from a CHW? What are women’s reasons for preferring to use CHW services for next supply of current/previous methods, as well as reasons for not desiring to use CHW? (Note that while CHWs were eligible for inclusion in the outlet survey, few female respondents were matched to CHWs as their recent FP source, no CHWs were identified in the outlet surveys in several study sites, and CHWs were not captured in the final survey round. Analysis of the subgroup of women matched to CHWs may therefore be infeasible due to small sample sizes.)

### 2.2 CHARACTERISTICS OF WOMEN AND THEIR SELECTED FP OUTLET

Possible research questions:

- Outlet preferences: How do utilized outlets differ by users’ top preferences in outlet selection? What outlet characteristics are associated with utilization by women whose top priority is quality of care? Ease of access? Privacy?
• Correlates of outlet selection: Adjusting for area fixed effects and preferred method type, what are individual-level correlates associated with utilized outlet type and sector? Potential correlates to consider include contraceptive use history and knowledge and sociodemographic characteristics such as household wealth, marital status, and age.

• Couple dynamics and service utilization: How do utilized outlets differ by self-reported couple communication and decision-making? Do women who report covert contraceptive use attend outlets that are significantly farther from their homes or of a different level or sector than women who are not using FP covertly? Are young women (<25 years old) and unmarried women more likely to attend outlets other than those closest to their residences or more likely to attend non-facility outlets?

RELEVANT VARIABLES
link_status Categorical variable indicating outlet match status or reason for non-match
v701_1, v701_2, v701_3 Top three factors in deciding where to get FP methods
v902_1, v902_2, v902_3 Reason for choosing facility/CHW for current/previous method (among women eligible for matching)
v913a Reason for not obtaining current/recent method from preferred outlet (among women eligible for matching)
v603 Does your husband/partner know you are using/have used current/previous method?
v604 Discussed delaying/preventing pregnancy with partner before starting method

2.3 ASSOCIATIONS BETWEEN THE FP SERVICE ENVIRONMENT AND CONTRACEPTIVE BEHAVIORS

Linking data on observed changes in the total FP market to consumer behavior provides insight into supply-side drivers of contraceptive use.

Possible research questions:

• Are changes in accessibility of FP commodities associated with current modern contraceptive prevalence? Accessibility could be measured through product availability (outlets offering and stocking specific method types) as well as price.

• Are facility-level audited quality indicators (e.g. reported provision of contraceptive counseling, provider readiness, volume) associated with women’s perceptions of outlet quality and satisfaction with care?

• How much further in distance and/or time are women willing to travel to bypass closer outlets and obtain services at outlets for which they gave high quality of services (or products) as the primary reason for going there over other decision factors?

RELEVANT VARIABLES
v709 Received preferred method at most recent visit
v710 Reason for not receiving preferred method at most recent visit
v712 Willingness to recommend facility/CHW to a relative or friend
v913 Is there another facility that you would prefer? (among women eligible for matching)
v913a Reason for not obtaining current/recent method from preferred facility last time

2.4 REASONS FOR CARE BYPASSING AND NON-USE OF NEAREST FACILITIES

Bypassing – or seeking care at a service provider other than the nearest to one’s residence – has not been comprehensively examined in the context of the FP total market. CM4FP captures data on perceived bypassing behaviors from the female respondent’s perspective, as well as observed bypassing using GIS positioning data for each of the outlets in the local market.

Possible research questions:

• Are characteristics of individual FP users associated with bypassing FP services? Possible correlates to consider include method type, FP user type (newly initiating, switching methods, or accessing for
resupply or follow-up care), age, poverty index, and marital status. Do women’s highest stated preferences in outlet selection (such as privacy, proximity, product availability, and product quality) differ between “bypassers” and “non-bypassers”?

• What proportion of women utilized care at the same facility that they self-reported as the closest to their home? Examine “perceived” bypassing behaviors among women utilized an outlet other than the one that they self-reported as their nearest outlet.

• Describe FP care-seeking behaviors in a mixed health system. How many contraceptive users are “active consumers” (sought FP services at more than 1 location in the past 12 months)? Do active FP consumers differ from other contraceptive users on aspects such as method type or sociodemographic characteristics?

METHODOLOGICAL NOTES

• Bypassing behaviors can be explored using self-reported bypassing information collected in the female household questionnaire, or by utilizing linked data to examine women whose linked outlet differed from that identified as the nearest to her residence (either overall, by outlet type, or by outlet offering her preferred method).

• In addition to identifying the ID of the utilized outlet among women who were successfully matched, we have also provided a matrix of distances and modeled travel times from each respondent’s residence to each outlet identified in the outlet census in her study site. This allows for flexible linkages between respondents and her utilized, nearest outlet overall and by outlet type or product availability, and other outlets in her vicinity. This dataset can be requested through the Data Request Form.

• Using linked female-outlet data, multilevel models can be used to explore outlet- and individual-level characteristics associated with bypassing (e.g. marital status, age, knowledge of nearest facility, facility preferences and reasons for facility selection such as privacy).

• Descriptive statistics can be utilized to compare characteristics of “bypassed” versus utilized outlets, by outlet type, within specific study sites. Such characteristics could include availability of specific products, number (or range) of available products, prices, and current or recent stockouts.

RELATED VARIABLES

outlet_id Matched outlet (outlet recently utilized)

outlet_id_near Perceived nearest outlet to respondent’s home (self-reported)

v928 Is the facility that you went to last to obtain your current/previous method the closest to your home?

v937 Do you know which facility closest to your home offers your current/previous method?

v930 Have you ever gone to that closest facility for anything in the past?

v935 Would you want to go to this closest facility the next time you need your current/previous method?

V936 Why would you not want to go to that closest facility the next time you need your current/previous method?

V939 In the last 12 months, how many other facilities did you go to for FP information, methods, or services?

ppi_score Poverty Index Score

USER TIP: MERGING FEMALE AND FP OUTLET DATA

Here, we illustrate one approach to merging information on a respondent (household survey) to that of her matched outlet (outlet survey) using the variable outlet_id: in the household survey data, outlet_id indicates the matched outlet where the woman’s current or most recent method was obtained. In the outlet data, outlet_id is the unique outlet identifier.

Please note that it is possible to merge female data with outlet data in a variety of other ways, including to the nearest outlet (outlet_id_near), rather than the matched outlet. Analysts may also use data available
on calculated distances between each respondent’s residence and each surveyed outlet to match women to other outlets of interest, such as those within a certain distance of her home or the nearest outlet that provides a specific method. Careful preparation should be made prior to merging household and outlet data files: for example, if an analyst wished to merge female data with the nearest outlet, outlet_id_near would need to be renamed to outlet_id in order to merge appropriate with the outlet_id variable specified in the outlet data.

Household data can be merged to data within the same survey round (for example, merging round 1 household data with round 1 outlet data). Please note, however, that not all outlets were reached in each round of the survey, including the first round. To capture outlet-level characteristics that don’t change over time (such as outlet type, managing authority, etc.) for the full sample of women who were successfully matched to an outlet, it may be desirable for analysts to 1) create an appended dataset that combines all household data; 2) create a dataset that combines all outlet data across rounds and collapses outlet-level variables that are time-invariant to create a dataset with one-observation-per-outlet; and 3) merge these data sets.

RESEARCH AREA 3.
NOVEL METHODOLOGIES FOR FP INDICATOR MEASUREMENT

CM4FP’s outlet census and longitudinal follow-up of outlets over time allow for testing of novel methodologies in assessment of overall FP service delivery and allow for methodological comparisons with existing facility survey approaches. Direct comparisons can be made between indirect and direct linking approaches between female respondents and their FP service environment.

3.1 FEASIBILITY AND VALIDITY OF NOVEL APPROACHES TO CAPTURING DATA ON FP SUPPLY-SIDE QUALITY

Possible research questions:

- Lot quality assurance sampling (LQAS) is an approach used in rapid assessments of whether areas have surpassed a particular threshold for a certain health indicator, but that has not been widely applied to FP service delivery. CM4FP outlet census data could be used to simulate LQAS samples within study sites to test the feasibility and efficiency of using LQAS-type sampling for FP product stockouts/availability. Note: Because GIS coordinates are not disclosed in the public datasets, LQAS simulations would need to be based on a random sample of outlets within study sites.

- To what extent is the closest facility a valid measure of the actual quality of care received using the direct linking approach? Do biases in estimates of quality using nearest facility (relative to a “gold standard” of directly linking to the utilized facility) differ by contextual factors, such as urban/rural setting and complexity of the overall FP supply environment (e.g. number of proximate outlets, private sector availability)? Do biases differ by female-level factors, such as marital status, household poverty score, or age?
Is capture of brand-level FP product information useful for understanding local FP markets? What is the median number of brands and formulations available per method type offered at surveyed outlets? Is there evidence that specific brands are most “in demand” in outlets stocking multiple brands per formulation and product type?

Is the sample of female respondents who successfully matched systematically different from the sample who were eligible but not successfully matched? What are implications for external generalizability? Among female respondents who met the eligibility criteria for direct matching to a recently utilized outlet, what are correlates of successfully (versus unsuccessfully) matching? Potential correlates to assess may include sociodemographic characteristics or aspects of contraceptive use (method type, type of outlet utilized, etc.).

3.2 COMPARISON OF SELF-REPORTED AND OBSERVED ASPECTS OF THE FP MARKET

Multiple aspects of care, such as method availability and price, were captured through both self-reported measures in the female questionnaire as well as in the outlet survey. This allows for comparison of self-reported versus observed (or, in some cases, provider-reported) measures, with may provide insight into potential sources of bias (e.g. recall bias).

Possible research questions:

To what extent are self-reported FP fees paid at most recent visit in concordance with observed outlet prices? Do differences between self-reported and empirical price measures differ systematically by method type or characteristics of the outlet (e.g. sector, level) or user (age, poverty level)? What proportion of women who reported paying anything for FP services visited outlets that reported having no associated fees?

Does concordance between self-reported and observed price differ by the length of time elapsed since the most recent FP visit? Findings should be interpreted cautiously, as discordance between self-reported and observed prices may be driven by multiple factors which may be difficult to disentangle, such as recall bias, discrepancies between posted prices and prices charged to clients, or true differences (i.e. short-term fluctuations in product pricing).

To what extent do women’s self-reports of the nearest outlet correspond to observed nearest outlets, overall and by outlet type?