Family Planning Market Capacity Tool:
Estimating Provider Time Available and Needed for Family Planning Services

Background

The Family Planning (FP) Market Analyzer (fpmarketanalyzer.org) combines data from Demographic and Health Surveys (DHS) and FP2020's projections of modern contraceptive prevalence (mCPR) to allow users to explore potential scenarios, including shifts in market share between the public and private health sector.

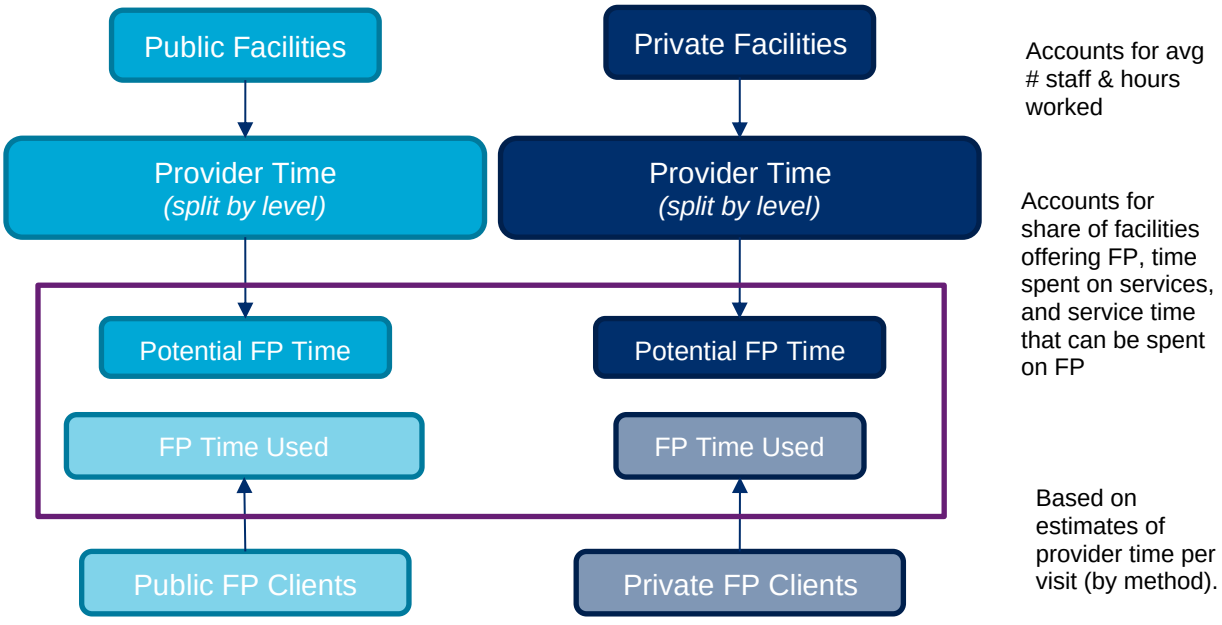
Users of the FP Market Analyzer can explore policy scenarios that include changes in method mix, source mix or both. Based on population growth, mCPR growth and the chosen scenario, results show changes in FP visits by sector and method. However, these scenarios do not take into consideration available provider time and whether there is sufficient capacity.

The FP Market Capacity Tool, a supplemental tool to the FP Market Analyzer, was developed to estimate current and future provider time (measured through level of effort (LOE) in hours) available and needed for provision of FP services to provide context for the feasibility of different policy scenarios generated using the FP Market Analyzer.

Methods

General Approach

The diagram below shows a simplified version of how the FP Market Capacity Tool works.



The model estimates the potential time available to provide FP services in both the public and private sectors based on the number of facilities (by type), average number of providers at each facility, the share of facilities that offer FP, and assumptions about how provider time is spent. Separately, drawing on results from the FP Market Analyzer, the tool estimates how much provider time is used for FP under different scenarios applying assumptions about how much time is needed for different FP services. These results are then compared to look at current and future utilization under different scenarios.

Assumptions and Inputs

Model requirements include both global assumptions and country-specific data inputs. The current tool is pre-loaded with inputs for seven countries for which sufficient data on health care infrastructure in both the public and private sector could be found: Bangladesh, Democratic Republic of the Congo (DRC), Haiti, Kenya, Malawi, Nepal, and Senegal. In addition, a "custom" option is available to allow the user to enter their own assumptions for a select country.

Global assumptions for time spent on method administration by provider type taken from *Adding It Up: Investing in Sexual and Reproductive Health 2019 Methodology Report* from the Guttmacher Institute.

Country-specific estimates of the number of FP visits by sector and method for the current landscape and under different scenarios were drawn from the FP Market Analyzer.

A comprehensive search of a range of sources, including national surveys, program reports and national strategies was performed for each country to identify the most accurate and reliable inputs for the following indicators:

- Number of facilities, by facility type (i.e., hospital, pharmacy, etc.)
- Number of providers, by provider type per facility type
- Average hours worked per year, by provider type per facility
- Percent of facilities offering FP services, by facility type
- Percent of time spent on services (direct & indirect), by facility type
- Percent of service time spent on FP, by facility type

The average hours worked per year, the percent of time spent on services (direct and indirect), as well as the percent of service time spent on FP was estimated using expert opinion and a review of OneHealth model (Avenir Health 2021) applications in select countries. Estimates for CHW time were taken from the example Community Health Worker Coverage and Capacity (C3) Tool (MCSP 2019). Additional country specific data sources can be found in Annex 1.

It was assumed that a portion of provider time would be spent on non-service activities, including attending meetings, filling out paperwork, etc. It was also assumed that only a small portion of service time would be spent on FP versus other health areas, and that this portion of time would vary by facility type. For example, it was assumed that a smaller portion of service time would be spent on FP in a hospital compared to a health post.

Estimating Potential LOE Available

Based on the assumptions and country-specific inputs described above, the FP Market Capacity Tool estimates total potential LOE available for higher-level medical providers who can provide any method (i.e., doctors, nurses, and midwives) and total potential LOE for lower-level providers who are only able to provide a more limited range of methods and/or assist in the provision of clinical methods (i.e., community health workers, pharmacists, nursing assistants).

Doctors, nurses, and midwives are all grouped together for simplicity. For sterilization services, WHO task sharing guidelines (WHO 2017) recommend these only be provided by nurses and midwives in the context of rigorous research, so potential LOE for these services may be overestimated in some contexts, though this should have a minimal impact on overall results.

For each level, total potential LOE available for each level is estimated by multiplying the number of facilities by the number of providers of each level per facility by the number of hours worked per year.

An estimate is then made of potential hours available for FP services by multiplying the above by the share of facilities that offer FP, the share of time spent on services, and the share of service time that can be spent on FP. All calculations are done by facility type, then summed together within the public and private sectors.

Estimating Utilized LOE

LOE utilized is calculated based on visits by method and sector data imported from the FP Market Analyzer. For short-term methods, visits are annualized into clients, accounting for the number of return visits needed for resupply during a year. These figures are then multiplied by estimates of time needed per service of higher-level provider time (doctor, nurse, midwife) and time that can be done by any provider. For methods requiring a clinical service, estimates are inflated to account for indirect time spent preparing for a client and cleaning up after a service is provided. Calculations are done by method, separately for the public and private sectors. Note that condoms are excluded from these calculations as many condoms are likely purchased from shops and other informal sources that are not the focus of this tool.

Comparing Utilized and Available LOE

Available and utilized LOE are summed to get totals for each sector (public, private). This is done for the current situation (as a baseline), and for the future projection to 2023 under the selected scenario. The two figures are then compared by dividing time utilized by time potentially available.

Results can be calculated with or without community health workers. In some countries, large community health worker programs suggest large availability of potential LOE among this cadre, however, few FP users get their methods from this source. Excluding them allows for a focus on facility based LOE availability and is recommended in countries where only a small share of users get their method from CHWs.

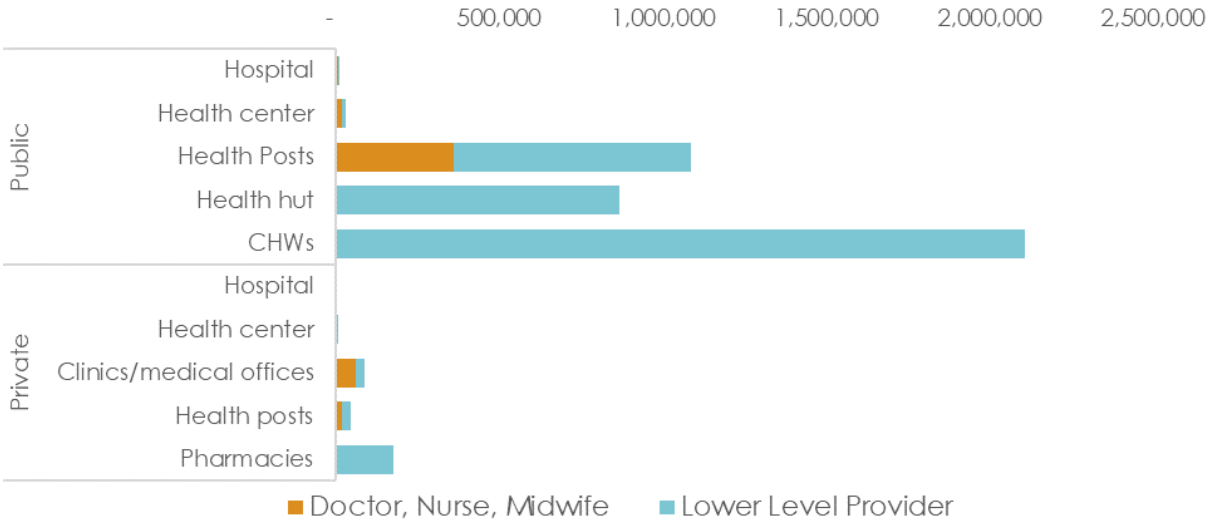
Results show to what degree potential LOE would be utilized under the selected scenario, including a result for utilization if higher-skilled providers are utilized for a wider range of services in contexts where lower-level provide LOE is fully exhausted.

Results

Potential LOE

Figure 1 shows results for potential LOE that is available to provide services in a Senegal based on the data inputs and assumptions used in the model. In this context, availability is concentrated within the public sector, and largely among lower-level providers lower-level facilities and CHWs. This largely mirrors patterns of contraceptive use by source in the country, with most users going to lower-level public facilities for their method.

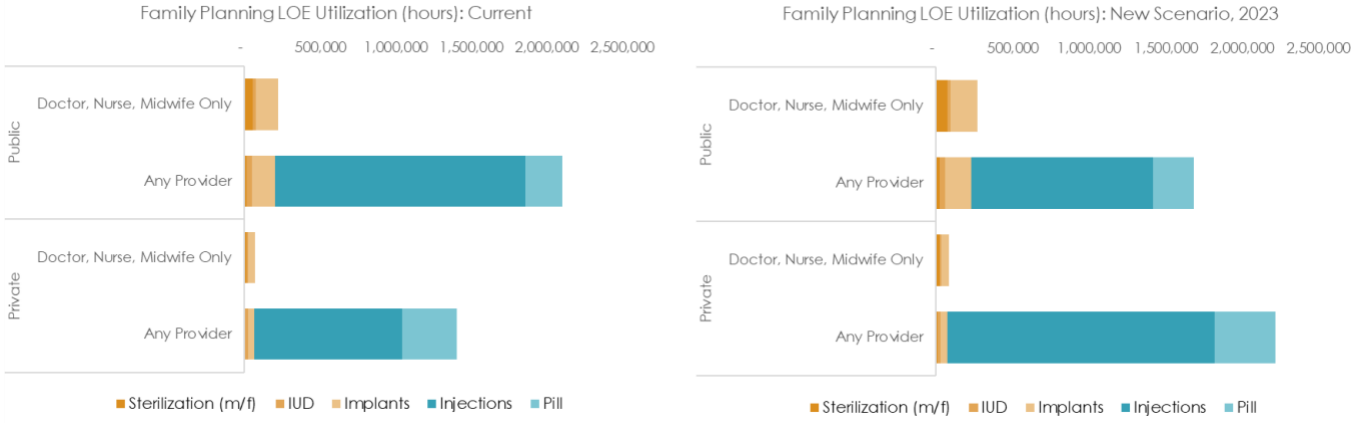
Figure 1 Annual Hours of Potential LOE Available for FP Services in Senegal



Utilized LOE

Figure 2 shows results for LOE utilized in Kenya under the current scenario, and under future Scenario 2: *What if task sharing allowed the private sector (e.g., pharmacies) to increase its share of injectables?* Under this scenario an increase in time needed among private providers can be seen, this additional time is from more provision of injectables within the private sector.

Figure 2 Annual Hours Utilized for FP Services in Kenya



Comparing Availability and Utilization

Figure 3 shows results comparing available to utilized LOE in Haiti in 2023 under Scenario 4: *What if barriers were removed to allow the private sector to play a greater role in LARC provision as implants increase in popularity?* This shows that this scenario would over-utilize lower-level providers in the private sector, but that based on country inputs and assumptions, there is sufficient doctor, nurse, and midwife time available to provide the additional services modelled under scenario 4. This implies this scenario could be realized, but would require additional time from doctors, nurses, and midwives. This graph can also be viewed in absolute terms (Figure 4), which is helpful given often large differences in the among of LOE available for doctors, nurses, and midwives vs other lower-level providers.

Figure 3 Share of Family Planning LOE Used & Available: New Scenario, 2023 in Haiti

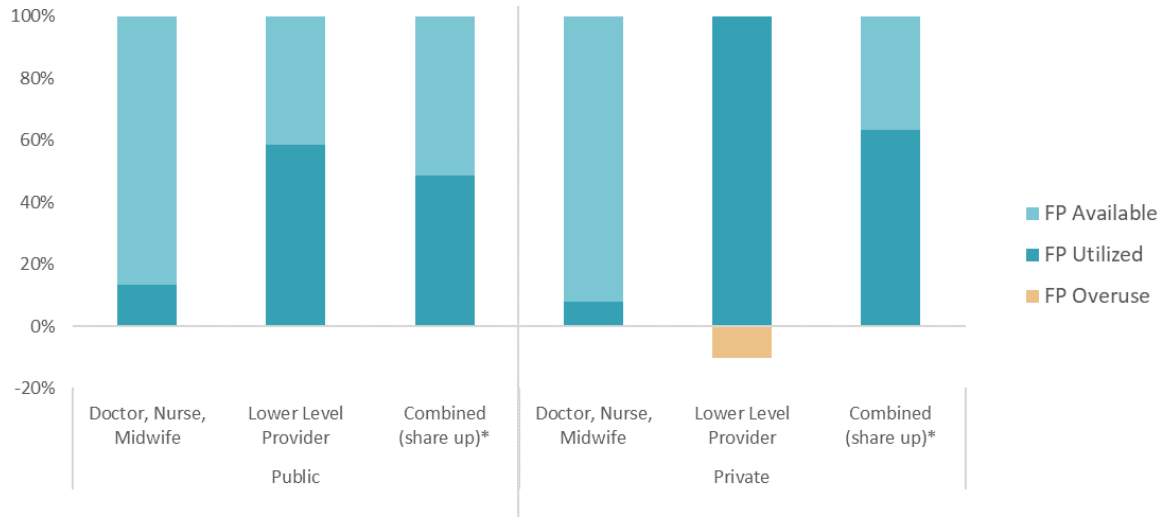
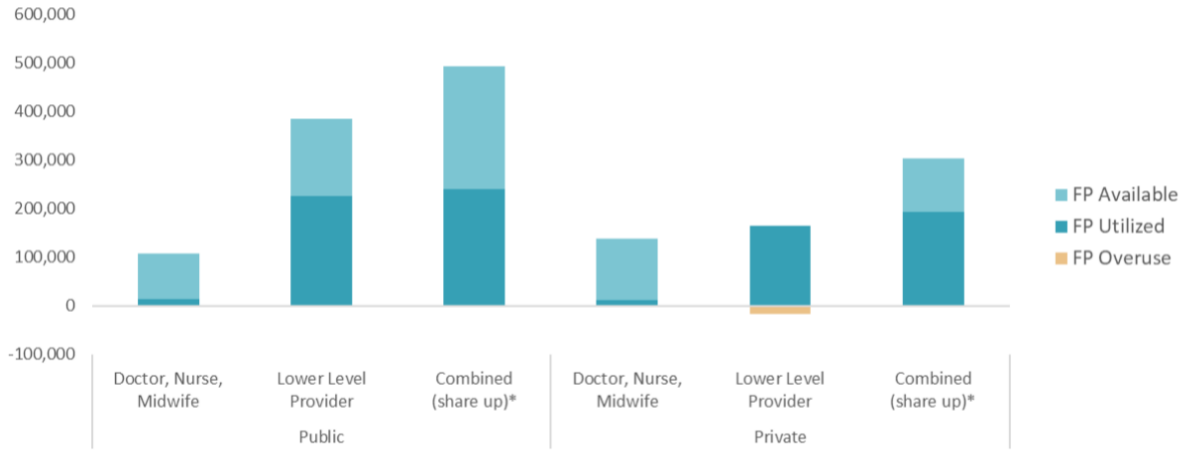


Figure 4 Hours of Family Planning LOE Used & Available: New Scenario, 2023 in Haiti



Utilizing Results to Inform FP programs

Consider a situation where a program is interested in scaling-up a specific method or increasing the role of the private sector in providing that method. The FP Market Analyzer allows a program manager to estimate the number of FP users and visits that should be expected given different shifts in method mix and sector, but it does not provide information on the capacity of providers to absorb these types of shifts. The FP Market Capacity Tool allows program managers to understand the feasibility of different scenarios relative to the existing health infrastructure in a country. Results of the tool provide perspective of what might be possible in the current provider landscape and will indicate if provider LOE may have reached full capacity.

Limitations

Estimating provider LOE involves consideration of many aspects of the health care system. Beyond the total LOE for providers, one must also consider proportion of provider time spent on services and the proportion of service time spent specifically on FP. This information was not readily available, so OneHealth applications for several countries were reviewed to estimate the possible range for percent of time spent on FP. Based on this range, expert opinion was used to estimate percent of service time spent on FP for the model. It is therefore possible that these inputs do not reflect the exact amount of provider time available in each country. In addition, utilization is based on global visit norms, but providers may spend more or less time with clients providing these services.

The FP Market Capacity Tool compares availability to utilization across the whole of the public and private sectors combined. This is to align with output data from the FP Market Analyzer. It is important to view results in the context of what specific sources exist within the public and private sectors, and how well these sources match to where users may wish to or be able to access services. For example, if higher-level private providers are mostly concentrated in a small number of hospitals, this LOE might not be ‘available’ to a lot of the population.

The FP Market Capacity Tool should be seen as a starting place for conversations about what the current health infrastructure looks like within a country, and how that relates to the potential feasibility of different future scale up plans.

Conclusions

It is important for policymakers and researchers to understand not only the projected increase in FP users under different policy scenarios, but also the provider capacity to absorb these increases. The FP Market Capacity Tool was developed as a supplement to the FP Market Analyzer to estimate current and future LOE to provide context for the feasibility of different shifts in method mix and market share between the public and private health sector. Still, there remains a need for further exploration of the true level of FP LOE available, including better accounting for the role of the informal sector. In addition, other considerations need to be taken into account beyond simply the availability of provider time, including training and quality assurance, client and provider preferences, and the affordability of services, especially within the private sector.

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Annex 1. Data Sources for Country-specific Inputs

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LEARN MORE

Go to fpmarketanalyzer.org to download the Excel-based FP Market Capacity Tool.

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