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Will DMPA-SC Be a Game-Changer?

Modeling the Impact of the New All-in-One Injectable Contraceptive

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Background

The new all-in-one injectable, DMPA-SC, is simpler and safer to inject than DMPA-IM. It can be provided through community workers, drug shops, and self-injection. DMPA-SC—heralded as a "game changer" (Spieler, 2014)—has the potential to improve family planning program efficiencies, engage the private sector, increase women's autonomy, decrease discontinuation, and save money within the health system. To explore the value of introducing DMPA-SC into a country's family planning program, HP+ developed a conceptual framework theorizing the pathways of change (HP+, 2017). We explored how introducing DMPA-SC into the national method mix through facilities, community health workers, or drug shops and pharmacies, may or may not result in additional users or higher continuation, due to increased access and fewer stockouts. HP+ then used modeling to try to quantify how much of a game-changer DMPA-SC might be in a given country context.

Methods

HP+ built an Excel-based model to estimate the impact of DMPA-SC introduction and scale-up within a five-year time frame (Rosen et al., 2018). The model quantified the potential increases attributable to DMPA-SC based on increased access (if it was provided through service delivery channels not already providing DMPA-IM), reduced discontinuation, and simplified logistics. Specific outcomes quantified included shifts in modern contraceptive prevalence rate (mCPR), method mix, cost, savings, and return on investment. Country-specific data from Demographic and Health Surveys or other local sources were used when available. Default data included figures from DMPA-SC research studies, introduction pilots, global averages, or expert opinion.

The model was tested in Nigeria as part of a DMPA-SC scale-up strategy development workshop in June 2017, and further applied as a stand-alone exercise with stakeholders in Cameroon in September 2017. The model was adjusted based on those applications and emerging DMPA-SC research on self-injection. Two additional desk applications were conducted for Malawi and Tanzania, and the Nigeria and Cameroon inputs were reapplied to the updated model to obtain comparable results.

Results

The additive value to mCPR growth over five years is modest; 1 to 4 percentage points higher than if DMPA-SC was not introduced. In most countries, the majority of the boost comes from introducing DMPA-SC through channels where IM availability is not currently widespread, for example drug shops, pharmacies, and community health workers. Allowing self-injection of DMPA-SC increases mCPR because of lower discontinuation associated with self-injection versus provider-administered injection. In countries like Malawi, where DMPA-IM availability and use is widespread, reduced discontinuation is the primary impact of DMPA-SC. In three of the four countries, DMPA-SC introduction generates significant savings, mostly for clients due to reduced walk time, reduced annual service costs, and other factors. However, introduction costs—mainly training on provision of the new method—offset these savings, leading to a negative five-year return on investment in all four countries. Extending the time horizon beyond five years may eventually yield positive return on investment.

Conclusions

The potential for DMPA-SC to be a "game changer" will depend on a country's current family planning context and the policy changes a country embraces when introducing DMPA-SC. Its mCPR impact will likely only be significant if it is expanding into service delivery points where DMPA-IM traditionally has not been available (such as drug shops), and/or instituting advance provision for self-injection. As such, this model can be helpful to country stakeholder discussions on how to introduce DMPA-SC to maximize the method's unique features. However, programs still need to invest in other methods, particularly long-acting and permanent methods, if increasing mCPR is a key goal. While during the initial five years of introduction, investment costs outweigh savings, significant cost savings will accrue for clients, particularly rural, poor women that programs so often seek to reach.

Figure 1. DMPA-SC Introduction in Four Countries: Variations in How mCPR is Affected

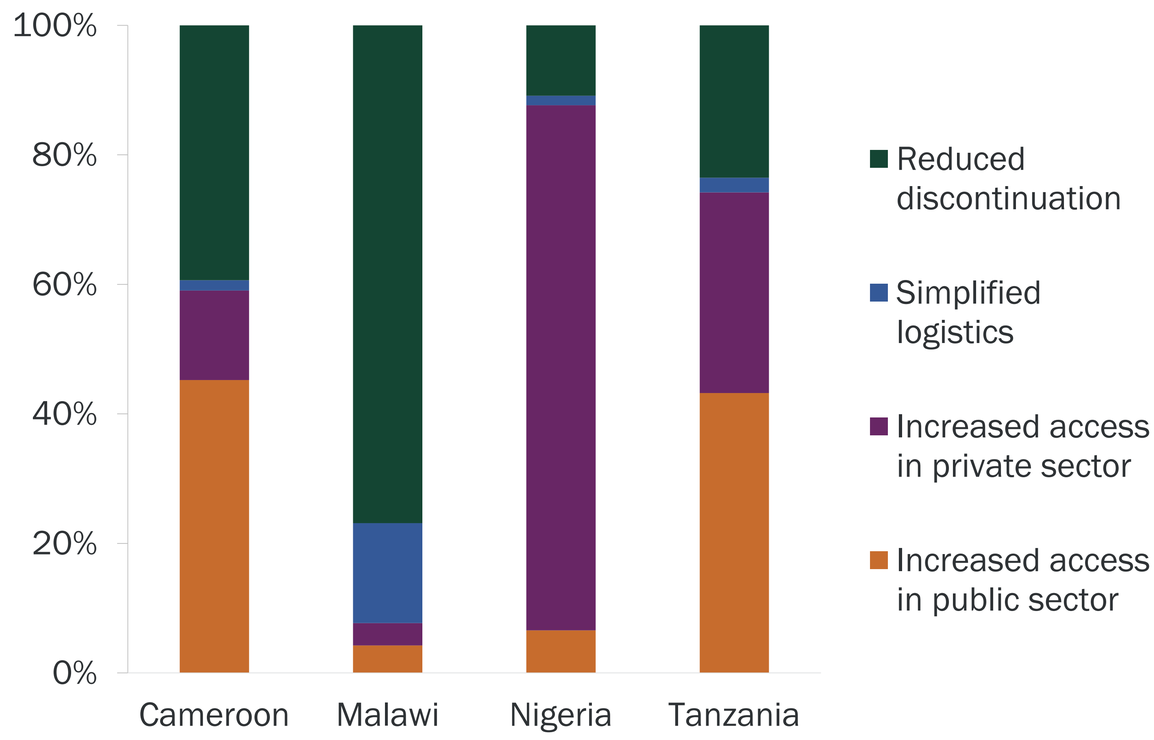

Table 1. Modeling Impact of Adding DMPA-SC to the Family Planning Method Mix: Five-Year Impact Compared to Status Quo Trends

Country	Addition to mCPR	What is driving boost?	Source of DMPA-SC?	Savings (USD)
Cameroon	1.2	↑ public sector access (45%) ↓ discontinuation (39%)	Hospitals and health centers (45%) Pharmacies and drug shops (29%)	8.2 million
Malawi*	1.5	↓ discontinuation (59%) ↑ private sector access (38%)	Public health centers (62%)	-1.6 million
Nigeria	1.1	↑ private sector access (81%)	Drug shops (49%) Public facilities (26%)	58.9 million
Tanzania*	3.8	↑ public sector access (43%) ↑ private sector access (31%) ↓ discontinuation (24%)	Pharmacies, drug shops, and dispensaries (60%) Health centers (11%) Community health workers (9%)	11.7 million

*Desk application only, input data or results not validated in-country due to time and cost considerations.

References

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