SECTION 3

FAMILY PLANNING AND FERTILITY TRENDS IN SUB-SAHARAN AFRICA

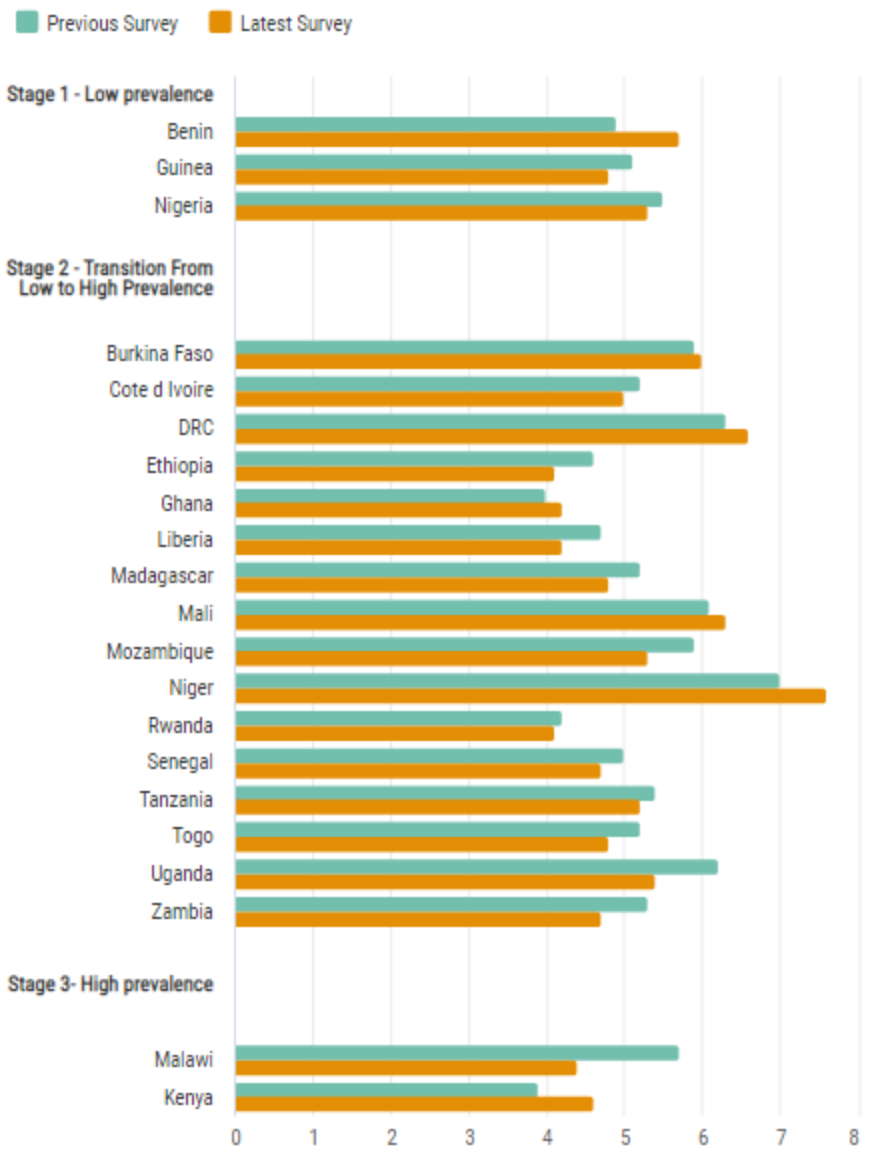
Section 2 of this report explored trends in family planning use in USAID priority countries. Section 3 examines how these trends may shape recent and projected trends in fertility.

Understanding the relationship between contraceptive use and future fertility trends is important. Demographic trends such as fertility influence how countries plan and allocate resources for their population in the short-, medium-, and long-term. It is essential that demographic projections are based on sound assumptions and analysis. Globally, countries' mCPR and total fertility rate (TFR) have changed over time in a consistent pattern: As mCPR increases, TFR decreases. Some evidence suggests that the strength of the relationship between contraceptive prevalence and fertility rates observed historically in other regions may look different in SSA, but findings on this subject are mixed and limited existing research attempts to explain the country-specific factors behind the difference.[7]

Figure 9 shows TFR by S-curve stage for the three most recent survey periods. Six countries where fertility is stagnant or increasing stand out: Benin, Burkina Faso, DRC, Ghana, Mali, and Niger. Even among countries with slow increases in mCPR, stagnation or increases in TFR are surprising. Looking at countries' historical transitions, seven countries (Cameroon, Guinea, Mozambique, Rwanda, Senegal, Tanzania, and Zambia) also showed increases in TFR for at least one survey period while in Stage 1 or early in Stage 2, but to a smaller degree than observed in the six stand-out countries.

We explored several factors that may mediate the relationship between mCPR and TFR, particularly in the six USAID priority countries displaying evidence of current fertility stalls: method mix and average method mix effectiveness, ideal fertility, and infecudability (which refers to the period after women give birth, during which they are at lower risk of pregnancy due to breastfeeding and/or abstinence). Many factors can influence fertility trends, and this analysis is not exhaustive. For example, regional patterns in age at first birth and the number of children women have, on average, before initiating contraception likewise influence fertility rates, and warrant continued analysis.

Figure 9: Total Fertility Rate by S-Curve Stage for Selected Countries in Sub-Saharan Africa



Source: Demographic and Health Surveys.

Method mix effectiveness is higher in countries with higher overall mCPR but is likely not a major driver of fertility stalls.

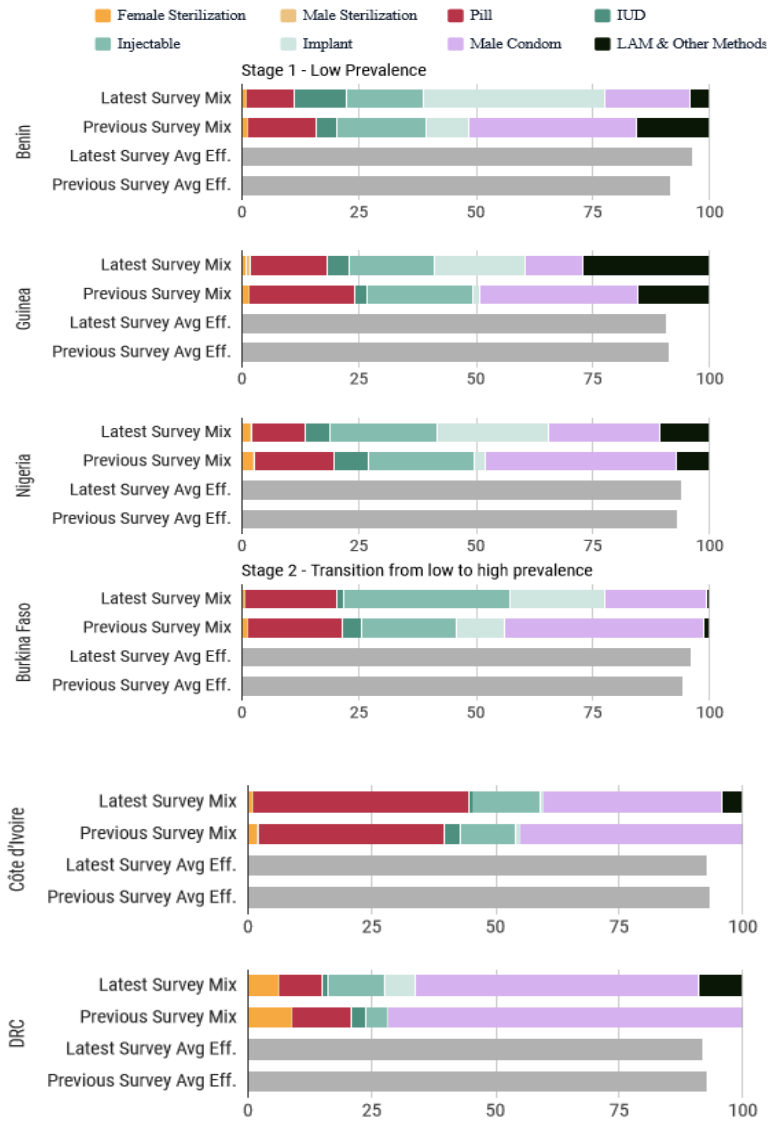
Across SSA countries, the contraceptive method mix is diversifying as countries advance through the S-curve stages. Countries in Stage 2 and Stage 3 have a larger proportion of use of injectables and implants and comparatively lower use of short-acting methods. Countries in Stage 1 tend to have higher use of short-acting methods, particularly condoms and lactational amenorrhea.

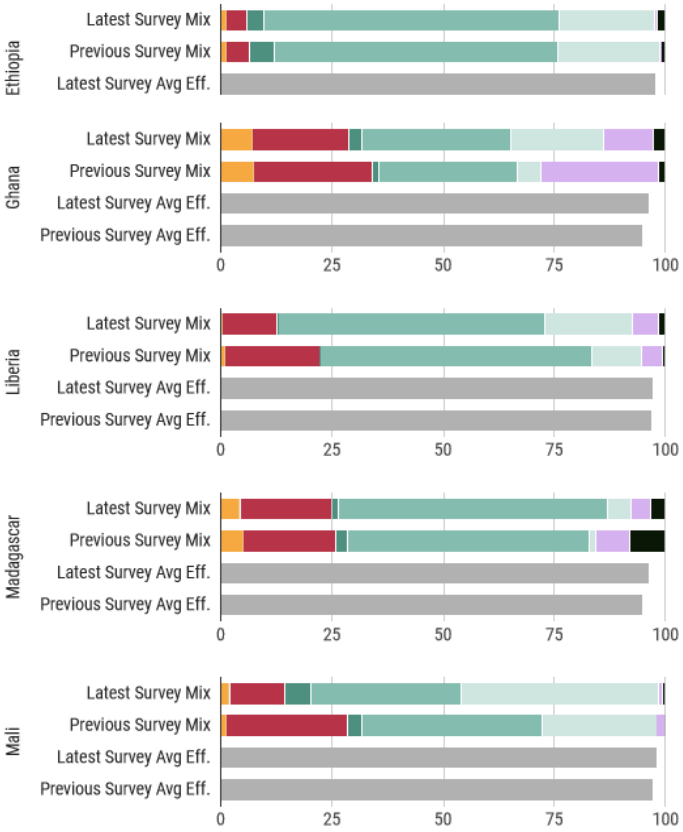
Trends in the method mix, particularly the prevalence of short-acting and long-acting methods, have implications for the health system and fertility trends. While higher demand for and use of long-acting methods may require more specialized training of providers, provision of these methods tends to place less overall strain on the health system compared with short-acting methods that require regular supply and frequent contacts with providers. Country decisionmakers must consider if the health system is responsive to demand for long-acting versus short-acting methods, with the objective of ensuring women and couples can consistently choose and access their preferred contraceptive method.

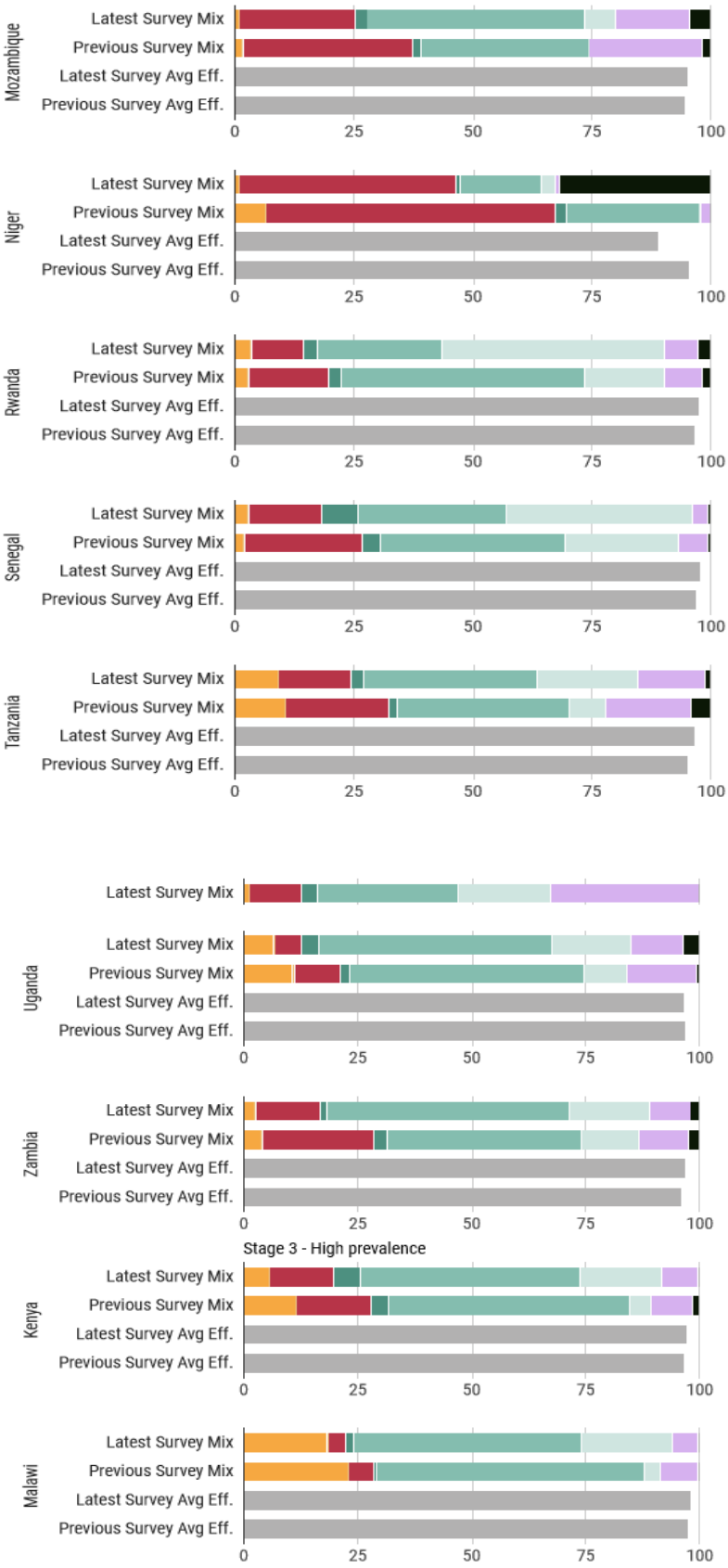
The method mix can also influence fertility trends. Some methods are more effective at preventing pregnancy among the average family planning user than others. A method mix with a higher overall method effectiveness may reduce unintended pregnancy caused by failure of a family planning method. We calculated method mix effectiveness by multiplying the method-specific proportions of a method mix by its effectiveness rate and summing the products. Method effectiveness rates were calculated by subtracting method failure rates from 100. Method failure is the proportion of women who will become pregnant in a year due to failure of the method.

Figure 10 illustrates that average method mix effectiveness has increased in all Stage 3 countries and most Stage 2 countries. Looking specifically at the six countries where fertility is stagnant or increasing (Benin, Burkina Faso, DRC, Ghana, Mali, and Niger), average method effectiveness has only declined in DRC and Niger between the two most recent surveys.

Figure 10: Contraceptive Method Effectiveness by S-Curve Stage for Selected Countries in Sub-Saharan Africa


Female Sterilization
Male Sterilization
Pill
IUD
Injectable
Implant
Male Condom
LAM & Other Methods
Stage 1 - Low Prevalence
Benin
Guinea
Nigeria
Stage 2 - Transition from low to high prevalence
Burkina Faso
Côte d'Ivoire
DRC
Latest Survey Mix
Previous Survey Mix
Latest Survey Avg Eff.
Previous Survey Avg Eff.
0
25
50
75
100


Ethiopia
Latest Survey Mix
Previous Survey Mix
Latest Survey Avg Eff.
Ghana
Latest Survey Mix
Previous Survey Mix
Latest Survey Avg Eff.
Previous Survey Avg Eff.
Liberia
Latest Survey Mix
Previous Survey Mix
Latest Survey Avg Eff.
Previous Survey Avg Eff.
Madagascar
Latest Survey Mix
Previous Survey Mix
Latest Survey Avg Eff.
Previous Survey Avg Eff.
Mali
Latest Survey Mix
Previous Survey Mix
Latest Survey Avg Eff.
Previous Survey Avg Eff.
0
25
50
75
100


Mozambique
Niger
Rwanda
Senegal
Tanzania
Uganda
Zambia
Kenya
Malawi
Latest Survey Mix
Previous Survey Mix
Latest Survey Avg Eff.
Previous Survey Avg Eff.
0
25
50
75
100
Stage 3 - High prevalence

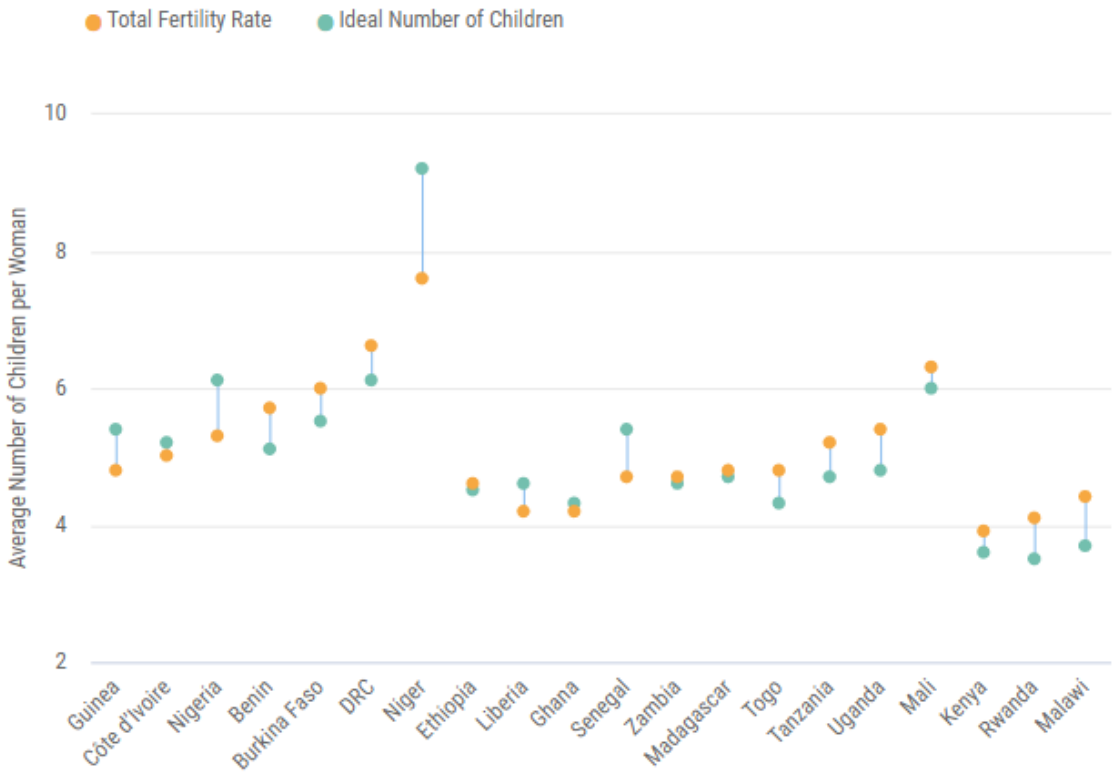
Source: **Avenir Health analysis of Demographic and Health Surveys.**
Note: **Eff. = Effectiveness**

High ideal fertility and use of family planning for spacing rather than limiting births suggests fertility declines may remain slower in SSA relative to other regions.

Our analysis finds that women in SSA are largely using family planning to space, rather than limit, births. Ideal fertility remains higher than TFR in half of the six countries with evidence of fertility stalls.

Figure 11 shows that TFR is higher than the average ideal fertility in most countries, suggesting fertility could continue to decline in these countries even if ideals do not change. However, in three of the countries where fertility is stagnant or increasing (Burkina Faso, Ghana, and Niger), the mean ideal number of children is higher than TFR. In countries where women, on average, want more children than they currently have, total fertility is likely to remain higher. Even if mCPR increases, women may be more likely to use contraception for spacing births rather than limiting births.

Figure 11: Total Fertility Rate and Ideal Fertility by S-Curve Stage for Selected Countries in Sub-Saharan Africa



Source: Demographic and Health Surveys.

Figure 12 shows the extent to which women are using contraception to space versus limit births based on whether they have achieved their fertility ideals. Specifically, we looked at use of family planning for spacing versus limiting births among women who have:

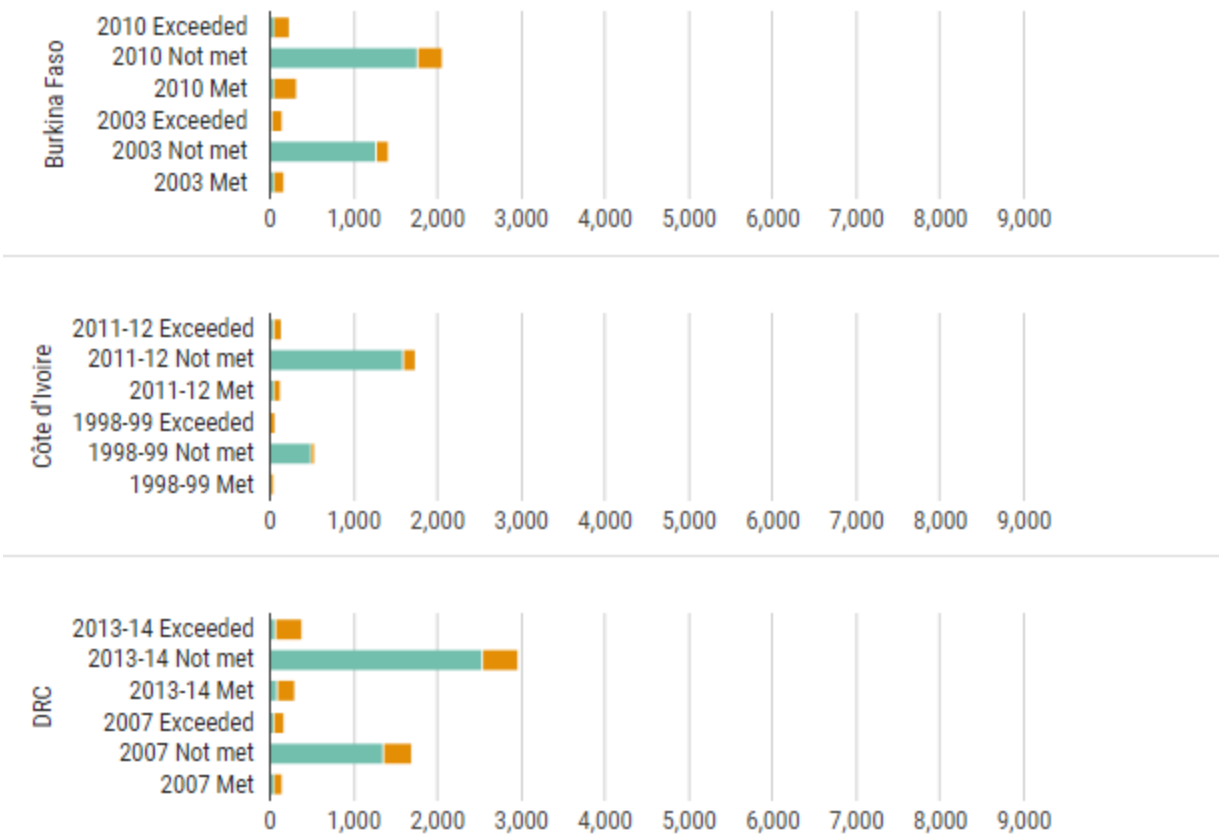
- **Met their ideal fertility: number of living children is equal to ideal number of children.**
- **Not met their ideal fertility: number of living children is less than ideal number of children.**
- **Exceeded their ideal fertility: number of living children is greater than ideal number of children.**

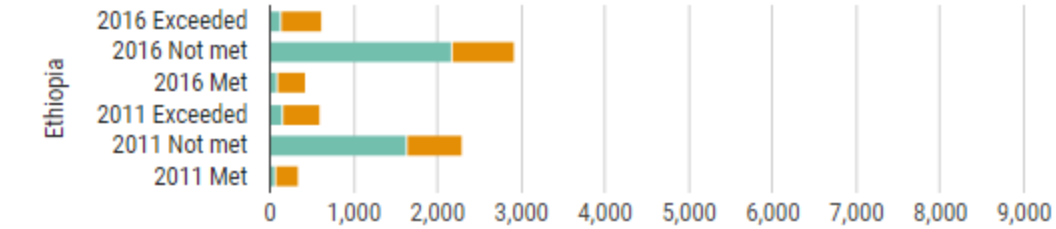
In every country, the largest category of contraceptive users is women who have not yet met their ideal fertility, meaning they want to have more children. Most of these women are using a contraceptive method for spacing rather than limiting births. This use of contraception among women who want more children is an important signal that women are indeed using contraception to meet their fertility ideals through healthy timing and spacing of pregnancy.

Figure 12: Contraceptive Use for Spacing v. Limiting Births by S-Curve Stage for Selected Countries in Sub-Saharan Africa

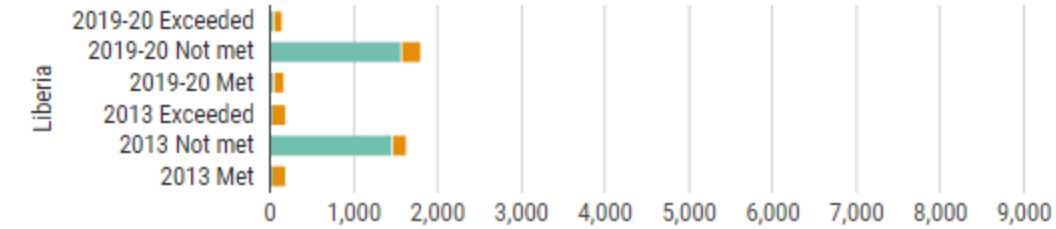
Stage 1 - Low prevalence

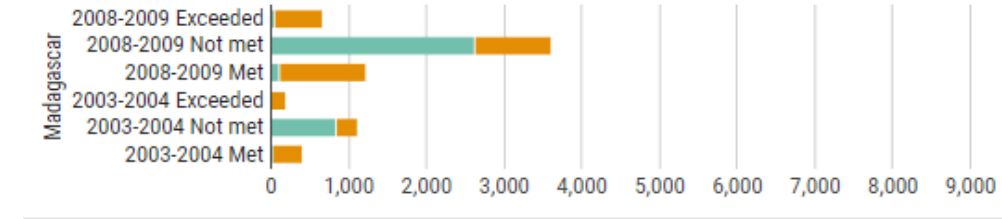
Stage 2 - Transition from low to high prevalence

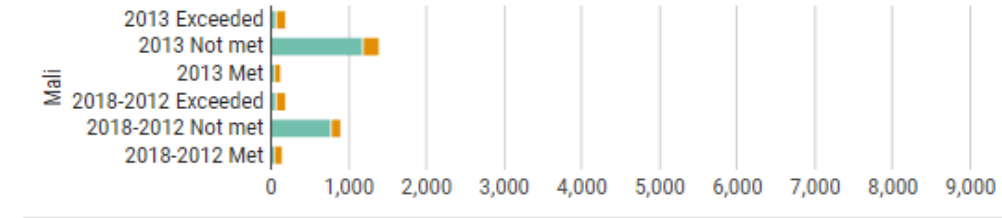


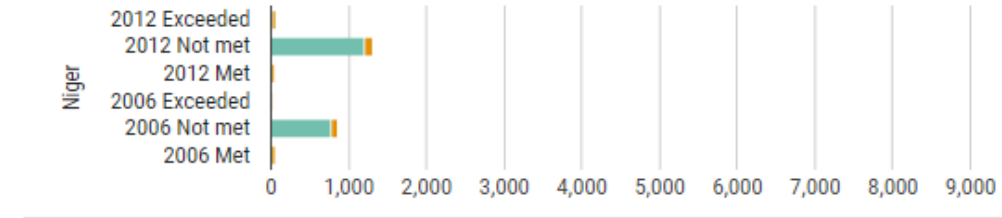

Ethiopia
2016 Exceeded
2016 Not met
2016 Met
2011 Exceeded
2011 Not met
2011 Met
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000

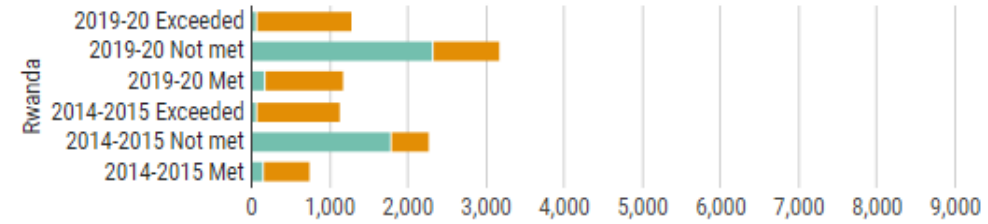

Ghana
2014 Exceeded
2014 Not met
2014 Met
2008 Exceeded
2008 Not met
2008 Met
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000


Liberia
2019-20 Exceeded
2019-20 Not met
2019-20 Met
2013 Exceeded
2013 Not met
2013 Met
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000


Madagascar
2008-2009 Exceeded
2008-2009 Not met
2008-2009 Met
2003-2004 Exceeded
2003-2004 Not met
2003-2004 Met
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000


Mali
2013 Exceeded
2013 Not met
2013 Met
2018-2012 Exceeded
2018-2012 Not met
2018-2012 Met
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000


Niger
2012 Exceeded
2012 Not met
2012 Met
2006 Exceeded
2006 Not met
2006 Met
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000


Rwanda
2019-20 Exceeded
2019-20 Not met
2019-20 Met
2014-2015 Exceeded
2014-2015 Not met
2014-2015 Met
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000


Senegal
2019 Exceeded
2019 Not met
2019 Met
2014 Exceeded
2014 Not met
2014 Met
0
1,000
2,000
3,000
4,000
5,000
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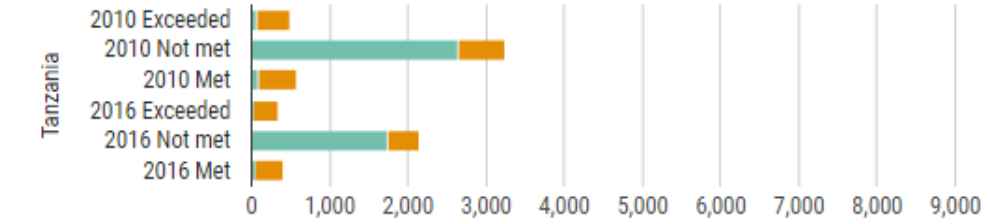
Tanzania
2010 Exceeded
2010 Not met
2010 Met
2016 Exceeded
2016 Not met
2016 Met
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000


Togo
1998 Exceeded
1998 Not met
1998 Met
2015-2016 Exceeded
2015-2016 Not met
2015-2016 Met
0
1,000
2,000
3,000
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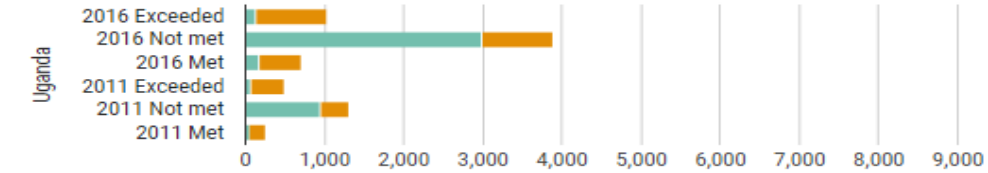
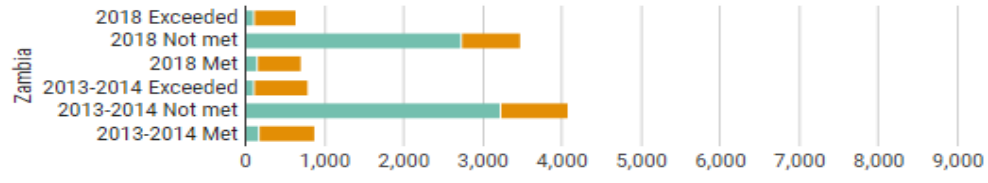
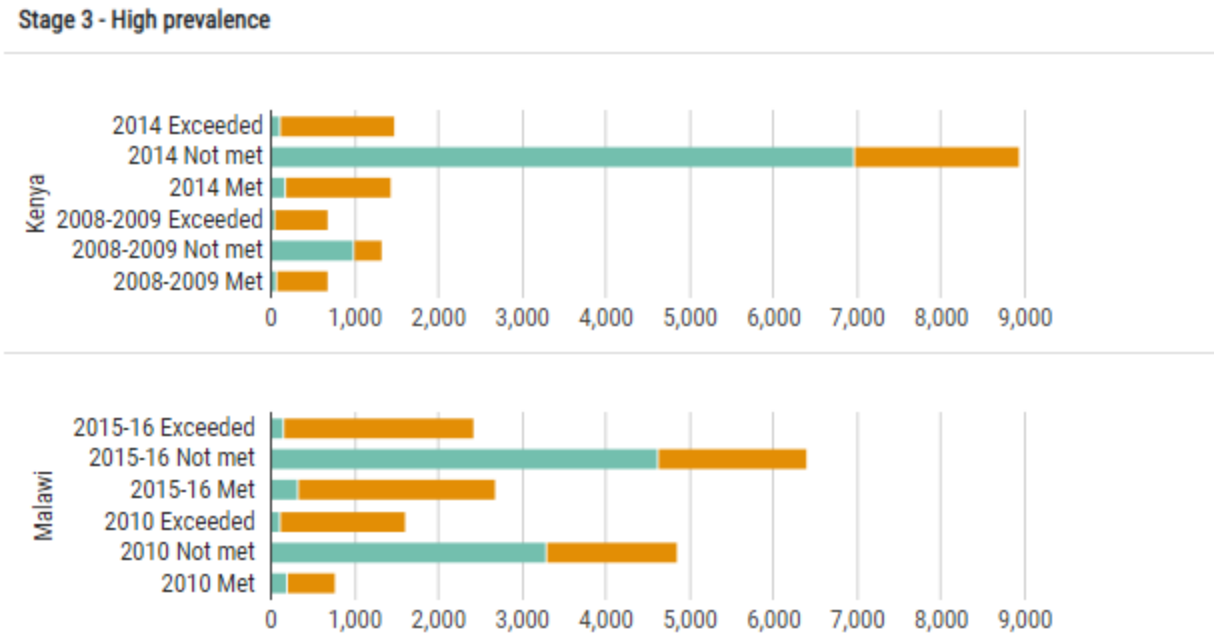
5,000
6,000
7,000
8,000
9,000


Uganda
2016 Exceeded
2016 Not met
2016 Met
2011 Exceeded
2011 Not met
2011 Met
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000


Zambia
2018 Exceeded
2018 Not met
2018 Met
2013-2014 Exceeded
2013-2014 Not met
2013-2014 Met
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000



Source: Demographic and Health Surveys.

In contrast, a larger proportion of women who have met or exceeded their ideal fertility are using a contraceptive method to limit births. However, because most women in SSA have not yet achieved their fertility ideal and largely use contraception to space births, the impact of contraceptive use on TFR will be lower compared with regions where use of contraceptives for limiting births is greater.

Recent research indicates that a shift toward birth limiting may be underway in countries where total fertility has fallen below five children per woman.[8] This pattern is worth watching as it may eventually be observed elsewhere in the region, with implications for future acceleration in fertility decline.

Postpartum behaviors are also influencing fertility trends in most of the six SSA countries with increasing or stagnating fertility.

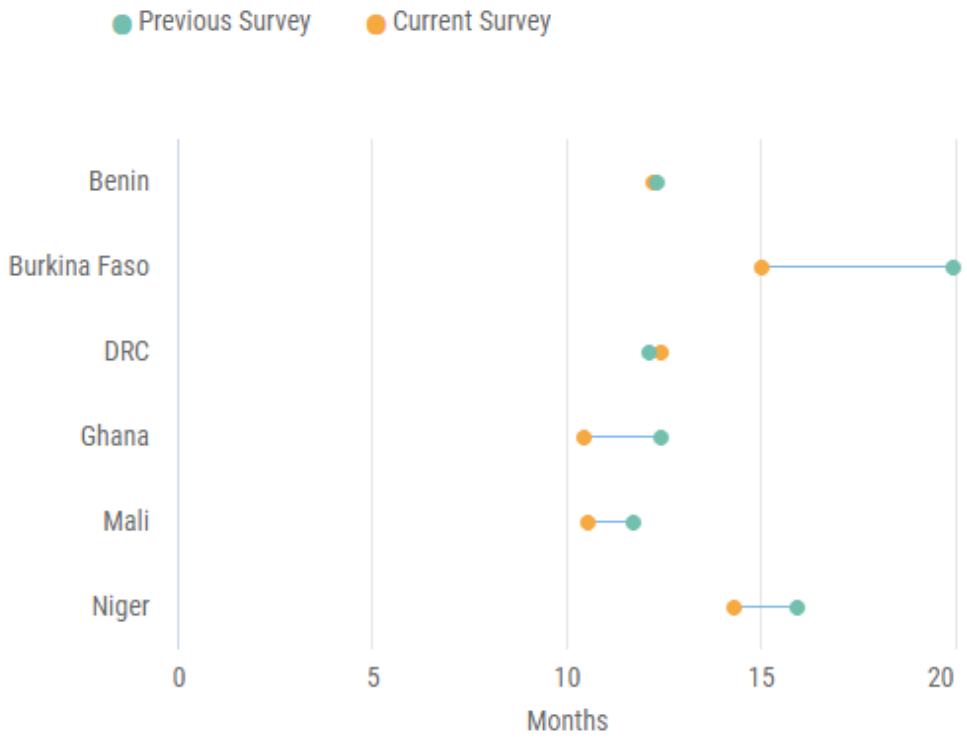
In the six countries with increasing or stagnating fertility (Benin, Burkina Faso, DRC, Ghana, Mali, and Niger), high fertility ideals are a key factor in three countries (Burkina Faso, Ghana, and Niger). Decreases in the effectiveness of the family planning method mix may also contribute to the trend in two countries (DRC and Niger). However, these factors do not account for trends in all six countries and likely do not fully account for trends in Burkina Faso, DRC, Ghana, and Niger.

We therefore explore if trends related to the postpartum period—or the period of time after childbirth when the biological changes women experience associated with pregnancy return to the nonpregnant state—may help further explain fertility stalls in these countries.[9]

During the postpartum period, certain behaviors inhibit women's likelihood of becoming pregnant again, even without contraceptive use. Exclusive breastfeeding during this period leads to amenorrhea (or the absence of menstruation), which makes women biologically less likely to become pregnant for about six months after a birth. Behaviors and social norms around abstinence during the postpartum period can likewise contribute to women's low biological likelihood of pregnancy.

Figure 13 shows the median duration of postpartum insusceptibility (the number of months during which women are either still experiencing amenorrhea or are still abstaining from sex following birth) from the two most recent DHS among the countries in SSA where TFR is increasing or stagnant. The median duration of postpartum insusceptibility has declined between surveys for every country except the DRC.

Figure 13: Median Duration of Postpartum Insusceptibility (PPI) in Six Sub-Saharan African Countries, in Months



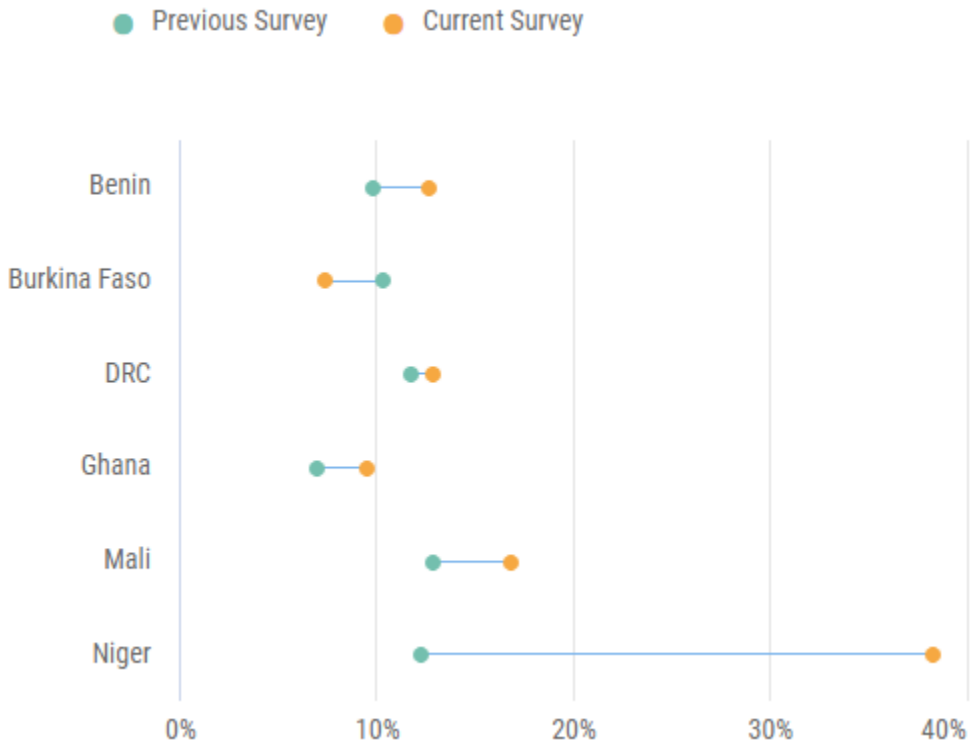
Source: Demographic and Health Surveys.

Trends in contraceptive use during the period of postpartum insusceptibility in countries can further influence the relationship between mCPR and fertility. During the period of postpartum insusceptibility, contraceptive use is redundant because behaviors around breastfeeding and

abstinence are already preventing pregnancy. In countries where a notable proportion of contraceptive users are also experiencing amenorrhea due to breastfeeding or because they are abstinent, the total impact of mCPR on fertility rates will be lower.

Figure 14 shows the proportion of modern contraceptive users who are amenorrheic or postpartum abstinent for the two most recent DHS surveys among the six countries where TFR is either stagnant or increasing. The proportion of modern method users who are not at risk due to amenorrhea or postpartum abstinence has increased between surveys for every country except Burkina Faso. This trend may further help to explain why modern contraceptive use is increasing among most of these countries without being accompanied by declines in total fertility.

Figure 14: Share of Women Using Modern Family Planning Methods Who Are Amenorrheic or Postpartum Abstinent



Source: Demographic and Health Surveys.

Our findings show that fertility ideals, high use of contraception for spacing rather than limiting births, and behaviors influencing the period of postpartum insusceptibility to pregnancy are influencing fertility trends in SSA.

As noted previously in this report, many additional factors may influence fertility trends and demographic estimates, such as sociodemographic trends in girls' education, age at first marriage, and urbanization. However, this analysis reinforces other research that finds some

unique patterns around contraceptive use and fertility decline in SSA. Policymakers should carefully consider the assumptions that underlie their demographic projections.

Disruptions in girls' education caused by the COVID-19 pandemic may influence fertility trends.

As we highlighted in Section 2, country-specific HMIS and longitudinal survey data from sub-Saharan Africa show that most women did not alter their contraceptive use during 2020. In fact, overall contraceptive use was higher than expected based on long-term trends.[10]

In contrast to the pandemic's moderately disruptive impacts on family planning service delivery, formal education of primary and secondary students was halted in many countries for months and, in some cases, for more than a year. Of 46 countries in SSA with data tracked by UNESCO, 16 experienced full closures lasting at least 20 weeks.[11] In Uganda, schools did not reopen until January 2022, nearly two years after closing.

The impact of prolonged school closures on girls, who experience higher economic returns on education than boys, are worrisome and extend across many aspects of their health and development. A 2021 study in Kenya found that the percentage of girls who did not return when schools reopened was double that of boys. [12] Compared with girls who completed secondary school before the pandemic, girls in rural Kenya whose education was disrupted by the pandemic were twice as likely to become pregnant while enrolled in school, three times as likely to drop out of school, and less likely to report their first sex as desired.[13] In South Africa, the Gauteng Department of Health reported a nearly 60% increase in the number of girls under age 18 giving birth in the first year of the pandemic.[14] Girls and women also suffered from a sharp increase in gender-based violence (GBV) during the pandemic; in East Africa, ministries of gender recorded a 48% increase in reported cases.[15] In countries where policies prevent adolescent mothers from returning to school, the risk of rapid, repeat pregnancies (births occurring within two years of a live birth) among out-of-school adolescent girls may be particularly high.

The implications of the pandemic's relatively moderate impacts on family planning and its severe impacts for girls' education and GBV warrant further exploration. To understand and address these trends and effects, which are still emerging, policymakers and partners should:

- Increase investments to collect and analyze comparable data on school closures and changes in girls' educational enrollment and attainment.
- Increase investments in Ministry of Education School Health Policy Frameworks, which generate a win-win for the health and education sectors through provision of key services—especially school feeding and nutrition and comprehensive sexuality education.
- Support efforts to scale up comprehensive sexual health education in schools, including engaging civil society organizations and faith leaders to address political obstacles.

- Invest in advocacy initiatives to revoke policies that prevent pregnant students and adolescent mothers from returning to school.
- Invest in analysis to understand potential demographic implications, including fertility, of changes in girls' educational attainment.
  After years of bifurcation in USAID health and education programs, new efforts to bring the sectors together are promising.

> Collaboration between the health and education sectors to mitigate the pandemic's effects on girls' well-being is more urgent than ever.