

**The impact of contraception and abortion on undesired births:
worldwide trends before and after the Cairo consensus**

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When 179 governments adopted the program of action at the International Conference on Population and Development in Cairo in 1994, this marked a turning point in how global actors—scientists, policymakers, foundations, governments, and civil society organizations—approached sexual and reproductive health and rights. The Programme of Action agreed to in Cairo recognized as a human right a woman's ability to determine freely the number and spacing of her children (United Nations 1995). Subsequent advances in data availability and statistical modeling made assessing progress toward that end possible. The United Nations developed internationally comparable estimates of the proportions of reproductive-age women wanting to avoid pregnancy and the proportion using traditional or modern contraception ([Alkema et al. 2013](#); [Cahill, Weinberger, and Alkema 2020](#); [Kantorová 2013](#); [Kantorová et al. 2017, 2020](#)). A collaboration between the Guttmacher Institute and WHO produced a corresponding set of estimates covering undesired pregnancy and its outcomes ([Bearak et al. 2019, 2020, 2022](#)). Analyses of the estimates produced by these studies suggest substantial gains in women's reproductive agency since the 1990s (Bearak et al. 2023).

In this study, we build on this body of work by looking back before and after the Cairo consensus to assess whether gains accelerated in the decades to follow and to what extent progress in women's ability to prevent undesired births relates to contraception or to abortion. To do this, we analyze new estimates for the five-year periods from 1975-79 to 2020-24 produced by

updating the UN and Guttmacher models with additional data. We then present two sets of counterfactual trends, one holding constant the use of contraception among women at risk of undesired pregnancy and the other, the use of abortion to end an undesired pregnancy. By comparing these counterfactual trends to the observed trends in undesired births, we analyze the impact of contraception and abortion on women's ability to regulate their fertility when they so desire.

To measure women's success in preventing births when they so desire, we introduce a new indicator, the conditional undesired birth rate, which relates the number of undesired births to the number of women cohabiting or sexually active who wish to postpone, space, or stop childbearing; hereafter, women who had wanted to avoid pregnancy (Bearak et al. 2023; Casterline and El-Zeini 2007). This indicator builds on research recently published in a special issue of *Studies in Family Planning* on global health metrics, in which the authors proposed a pregnancy rate with the same denominator (Bearak et al. 2023).

Most literature describes undesired pregnancies as unintended pregnancies and describes the corresponding births as unplanned births. We suggest using the term undesired births, referring to the same reproductive outcome as these studies. Our analysis is possible because hundreds of surveys fielded over the past half-century in dozens of countries included questions about whether births came too soon or were unwanted. Yet, the questions did not assess whether women were trying to become pregnant, and since women can desire to become pregnant without actively planning, equating planning with desire can stigmatize childbearing norms among marginalized population groups (Bearak et al. 2021; Rocca et al. 2019). With the international development community embarking on a new agenda-setting process for the period to follow the United Nations Sustainable Development Goals and stakeholders debating new indicators for development targets, this motivated us to refine the terms used to describe pregnancies and births that came before they were desired. Hence, we employ the adjective *undesired*, and the phrase

wanted to avoid pregnancy, in place of the established terms *unplanned* and *in need of family planning (or contraception)*, respectively, to more accurately reflect the questions posed to women in those surveys.

Our article will begin by discussing global and regional trends in the proportion of women who do not wish to become pregnant and comparing trends in the ratio of contraceptive users to women at risk of undesired birth with the corresponding ratio for undesired births. We will then compare the observed trends in undesired births to counterfactual trends that hold constant contraception and counterfactual trends that hold constant the use of abortion following an undesired pregnancy.

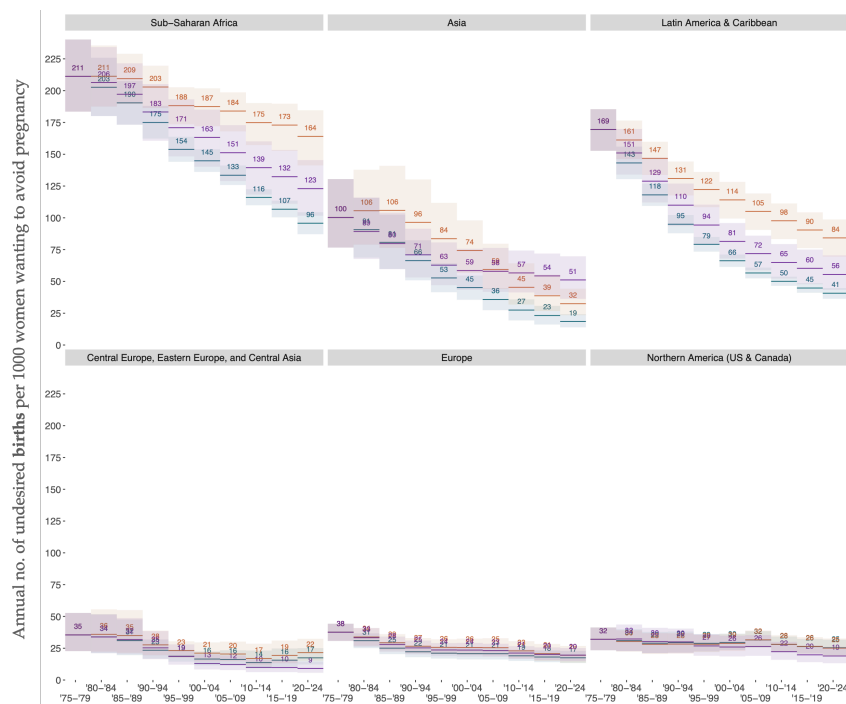
To do this, we will use updated estimates of the numbers of women and births from the World Population Prospects and family planning indicators from the UN, released in July 2024, and we will report estimates produced by updating the model developed by Guttmacher and WHO to estimate the numbers of pregnancies by desire and outcome. In contrast to the published estimates, which use data released between 1990 and 2018, our model incorporates historical data from the 1970s and additional data from the 2010s and 2020s. Limitations of the historical data contribute to increased uncertainty in the estimates for earlier years of the analytic period but allow us to assess the evidence for increases in progress toward an increased alignment between women's reproductive preferences and outcomes; we will also report counterfactuals which begin in the 1990s to estimate the determinants of progress since the International Conference on Population & Development with less uncertainty than we can the more historical trends.

We find, in our preliminary analyses, that increases in the use of contraception to prevent undesired pregnancy, as well as increases in the probability that a woman experiencing undesired pregnancy wants and can obtain an abortion, each contributed to increases in women's success in preventing undesired births both before and after the era of the Programme of Action, with one

or the other contributing more to these gains in reproductive agency depending on the region. Despite these gains, progress toward achieving the goals of the Cairo consensus remains unfinished in all regions of the world, though to different extents, even in the regions with already low fertility rates.

Figure 1. Contraception explains more of women's increased success avoiding undesired births in Sub-Saharan Africa and Latin America, while abortion explains more in Asia

- Estimated trends in conditional undesired birth rates
 - Counterfactual estimates, holding constant contraceptive use
 - Counterfactual estimates, holding constant the proportion of unintended pregnancies ending in abortion
- Shading shows 95% uncertainty intervals.



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