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## Impact 2, version 5 (June 2018)

Impact 2 has been updated with the latest demographic and health statistics. In addition, the timeframe has been extended to 2030 and some minor bugs in the model have been fixed.

When using the latest version of the tool, be aware that impact results will not be comparable with results from previous versions of Impact 2, due to changes made to the underlying demographic data.

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### Summary of changes

- **Timeframe extension** – Impact estimates can now be run between 2001 to 2030. Impact 2.4 had a timeframe of 2001 to 2020.
- **Unintended pregnancy rate** – This rate is calculated based by Guttmacher Institute (Adding It Up) which estimates the pregnancy rate of the number of unintended pregnancies among women with unmet need. The rate was previously estimated to be 31% (Impact 2.4). Based on new data incorporated into Adding It Up, the median estimate for this rate (unweighted country-specific distribution) is now 41%. This change has also been harmonized with other models in the wider sector.
- **Unintended pregnancies ending in abortion** - Updated rates were calculated by Guttmacher Institute's recalculation of Bayesian estimates (Bearak, et al. 2018)<sup>1</sup>. The methodology between the papers has remained the same but updates to the inputted data has resulted in changes to regional abortion rates. This change has also been harmonized within the wider sector. Apart from Eastern Africa, Central America and Oceania, the percentage of unintended pregnancies that end in abortion has increased universally (at the sub-regional level).
- **Unsafe abortion estimates** – Unsafe abortion rates have been updated using Guttmacher Institute's latest estimates which draw from the Ganatra, et al, 2017<sup>2</sup> publication for sub-regional classification of abortion safety, with less safe and least safe collectively being considered as “unsafe”. Impact 2.4 abortion estimates were based on estimates from the WHO in 2008. This change has similarly been harmonized within the wider sector. Globally, the proportion of abortions that are unsafe has increased. However, regions such as sub-Saharan Africa, Northern Africa, South-East Asia and Latin America have seen a decrease (of varying levels). Increases are dominant in Eastern Asia, Europe, Central America and Oceania. The highest proportion of unsafe abortions remains in the sub-regions of Africa.
- **Women of reproductive age (WRA), female life expectancy and total fertility rate (TFR) - UN Population Prospects: 2017 revision<sup>3</sup>** offers extended data on these metrics up to 2055. Impact 2.4 used the 2015 revision for years from 1982 to 2045.
- **Disability-adjusted life years (Maternal DALYs)** – Maternal DALY estimates have been updated using estimates from the Global Burden of Disease 2016 report<sup>4</sup>. Impact 2.4 used estimates from Global Burden of Disease 2004.
- **Contraceptive Prevalence Rate (CPR) data** – At the country-level, several Demographic Health Surveys have been released since Impact 2.4, offering the most up-to-date contraceptive prevalence rates, including the method mix.
- **USD to GBP exchange rate data for direct cost averted impact result** – This was updated using

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<sup>1</sup> Bearak J, recalculation of Bayesian estimates for Sedgh G et al., to incorporate data from the Indian National Family Health Survey 2015-2015 and Singh et al., The incidence of abortion and unintended pregnancy in India, 2015, *Lancet Global Health*, 2018, 6(1): e111–e120.

<sup>2</sup> Ganatra B et al., Global, regional, and subregional classification of abortions by safety, 2010–14: estimates from a Bayesian hierarchical model, *The Lancet*, 2017; 390(10110): 2372–81.

<sup>3</sup> <https://esa.un.org/unpd/wpp/>

<sup>4</sup> <http://ghdx.healthdata.org/gbd-results-tool>

the average 2018 exchange rate between USD and GBP, with inflation since 2011 factored in.

- **Inclusion of new methods** – The 3yr and 5yr IUS has been included into the method mix. 5 year IUS has a CYP factor of 3.3 (USAID 2017<sup>5</sup>). The 3yr IUS has been included in anticipation of its release onto the market but does not yet have a CYP factor.
- **Discontinuation rates** – analysis from FP2020/Avenir Health (2018) has updated discontinuation rates for IUDs and implants – slightly increasing the continuation of both methods in the initial years of use. The assumption has been made that the IUS has the same rates as IUDs.
- **Bug fixes** – Certain minor bugs in the tool that caused navigation problems.

## How do these changes affect impact results?

Overall, the above changes will result in the majority of **demographic, health and economic impacts** differing to impacts generated in version 4. These include changes to unintended pregnancies averted, unsafe abortions averted, maternal deaths averted, DALYs averted and direct healthcare costs saved. Please note that the above changes will not affect the number of family planning users or additional users.

### Unintended pregnancies averted:

- The increase in the comparison pregnancy rate from 31% to 41% will result in around 33% more unintended pregnancies averted (UPA) in Impact 2.5 compared to Impact 2.4.

### Live births averted:

- This will be influenced by changes in abortion ratios (per 100 live births) – live births averted may increase due to the change in UPAs or decrease if the abortion ratio has increased.

### Abortions and unsafe abortions averted:

- Abortions averted have increased due to changes in the abortion ratio.
- Unsafe abortions averted will vary between countries given the respective changes increase or decrease in unsafe abortion ratios. In general, there has been an increase.

### Maternal deaths averted:

- This will primarily change in accordance with how many unsafe abortions are averted (as unsafe abortions are a major driver of maternal deaths). For example, countries that have seen an increase in unsafe abortion ratio you will see an increase in the number of maternal deaths averted.

### DALYs averted:

- Up-dated DALY coefficients (country level) will result in changes in DALYs averted. If unsafe abortions averted or maternal deaths averted increase, this will result in an increase in Maternal DALYs averted.

### Direct healthcare costs saved:

- By default, more unintended pregnancies averted will increase the direct healthcare costs saved.

### Discontinuation rate:

- The slight change in discontinuation rates will affect impact estimates, but minimally.

## Tips

- 1) Due to the large size of the file, it is advised to: run the tool 2 or 3 times to make sure results have not been corrupted; have no other excel files open at the same time when running results; if the format of the tool changes unexpectedly then simply close and re-open the tool.
- 2) If a previous version of the tool was used in a log-frame, ensure that the **same version** is used when finalizing the project.

If you have any questions about this update specifically, or Impact 2 in general, please get in touch with [ImpactAnalysis@mariestopes.org.uk](mailto:ImpactAnalysis@mariestopes.org.uk), [Anisa.Berdellima@mariestopes.org](mailto:Anisa.Berdellima@mariestopes.org) or [Rhian.Stephens@mariestopes.org](mailto:Rhian.Stephens@mariestopes.org)

<sup>5</sup> <https://www.usaid.gov/what-we-do/global-health/family-planning/couple-years-protection-cyp>