

**Estimating the potential impact of the COVID-19 pandemic on key sexual
and reproductive health outcomes in the Philippines**

Technical report

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Background

The coronavirus or COVID-19 pandemic has upended our world and altered our normal routines. While Filipinos are no stranger to natural calamities, the declaration of the World Health Organization (WHO) of COVID-19 as a pandemic on March 11, 2020 caught everyone unprepared. With rising reports of confirmed COVID-19 cases in the National Capital Region (NCR), President Rodrigo Duterte placed the region under “community quarantine” and ordered closure of schools. Two days after, the entire Luzon island was put under “enhanced community quarantine (ECQ),” restricting the movement of the population, closing of non-essential private establishments and imposing strict stay-at-home order. The ECQ was supposed to last until April 16, but it was eventually extended up to May 31, 2020. Other local government units (LGUs) in the Visayas and Mindanao regions also followed the implementation of community quarantine. By June, NCR was placed under “general community quarantine” (GCQ), which allowed work to resume in some establishments and offices.

Without a doubt, COVID-19 affected everyone and its impact is not only limited to our health but spans the whole gamut of social, economic, psychological and physical aspects of our lives. The pandemic also exposes systemic inequality in the social system which only highlights the vulnerability of certain segments of the population, like women and girls. The COVID-19 global outbreak is challenging health systems worldwide including the delivery and access to essential family planning and maternal health services. Studies on the global impact of the pandemic on sexual and reproductive health (SRH) services, particularly in low-income (LICs) and middle-income countries (MICs) whose health systems are rather vulnerable, show that millions of women may be indirectly affected by the virus in terms of unmet need for family planning, unintended pregnancies, maternal deaths, and gender-based violence. For instance, a study by Riley, et al., (2020) show an additional 48.6 million women in LICs and MICs will have an unmet need for modern contraceptives and 15.4 million women will have unintended pregnancies, assuming a ten percent decline in the use of modern contraceptives. A 45% reduction in services for six months in LICs and MICs would result to an additional 56,700 maternal deaths (Robertson, et al., 2020).

An interim report released by the United Nations Population Fund (UNFPA) on April 27, 2020 estimated that measures undertaken by governments to address the spread of the pandemic that may affect access to sexual and reproductive health services of women and adolescent girls. In particular, there could be disruptions in meeting family planning needs because health personnel may be preoccupied with COVID-19 responses, women may refrain from visiting health facilities due to fear of infection as well as being limited due to movement restrictions and supply chain disruptions may lead to stock outs of many contraceptive supplies, particularly if community lockdown is extended for a longer period of time. Based on UNFPA estimates, there will be 7 million additional unintended pregnancies worldwide if community lockdown goes on for six months and there are major disruptions in services because of COVID-19. There will also be an additional 15 million cases of gender-based violence for every three months the lockdown continues. There could also be an increase in the number of deaths from unsafe abortion as well as complicated births because of limited access to emergency care. Similar to the experience from the Ebola crisis in

Africa, the shutdown of routine health services and fear of infection pose the biggest threat to women's and girls' lives, more than the COVID-19 virus itself (Cousins, 2020).

At the programmatic level, the COVID-19 pandemic is expected to have severe impact on the gains of decade-long initiatives to ensure sexual and reproductive health rights of women across the life course. UNFPA, in particular, is committed to the achievement of what it calls the “Transformative Results” of these endeavors by 2030, in line with the deadline for achieving the Sustainable Development Goals.

The UNFPA-Philippines Country Office supports the Philippine government efforts to ensure that during the COVID-19 pandemic, there will be zero maternal deaths, zero unmet need for family planning (FP) and zero gender-based violence. In order to attain these goals and to design more effective response, there is a need to measure possible effect of COVID-19.

The community quarantines implemented in the country since March 2020 and the attendant economic slowdown, travel restrictions, and physical distancing may have also affected the availability of our health work force and supplies, and the demand for and access to essential SRH services. In view of this, this research is conducted to quantify the potential impact of the pandemic on key SRH indicators with the aim of providing evidence base for decision makers towards more focused response strategies to the COVID-19 pandemic. Specifically, the research aims to estimate the potential changes on key family planning, maternal health, and gender-based violence indicators brought about by the COVID-19-related community quarantines implemented nationwide. National-level estimates are presented but regional estimates are also shown when data allows.

Methodology

The study generated two sets of estimates for the year 2020 – one set that does not consider the effect of the COVID-19 pandemic (the baseline), and another set that takes into account the effect of COVID-19 due to community quarantine-induced reduction in SRH services. For simplicity, the latter set of estimates represent the entire year of 2020 assuming a total of 9.5 months quarantine period (15 March to 31 December 2020). Through this, we aim to show what could happen if the community quarantine will continue until the end of 2020. In the estimation of family planning-related indicators, the levels of quarantine implemented in the different regions (whether ECQ or GCQ) were taken into account. For the other indicators, the estimation only considered the duration of the community quarantine. Due to data limitations, only the results for the four largest regions in the country in terms of population (National Capital Region, Region III-Central Luzon, Region IVA-CALABARZON, and Region VII-Central Visayas) are presented.

We made use of the methods employed in previous studies that generated global-level estimates of the effect of the pandemic. Using these methods, we developed our own assumptions regarding SRH service coverage reduction taking into account the local situation. The main sources of data employed in the estimation are the age- and sex-disaggregated 2015 Census-based population projection (PSA, 2019), and the data from the 2013 (PSA & ICF International, 2014) and

2017 NDHS (PSA & ICF, 2018). From the population projection data, we used as the base of our estimates the 28,009,459 projected mid-year population of women age 15-49 in 2020. Unless otherwise indicated, we also assumed that the 2017 levels of the indicators based on the 2017 NDHS results still prevail in 2020.

Estimation of family planning-related indicators

The study adapted the methodology employed by Riley, et al. (2020) in producing the estimates for contraceptive use, unmet need for family planning, and unintended pregnancies. Specifically, we employed Guttmacher Institute's adding-it-up methodology (Darroch, 2018) but modifications were made to suit the Philippine context.

The estimation of FP-related indicators at the national level started with the calculation of regional level estimates because of possible differential effects of the community quarantine implemented in each region of the country. The 2020 CPR was estimated by applying the 2017 age-specific contraceptive method mix to the 2020 projected female population by age group. The same procedure was used to estimate the baseline number of women with unmet need for FP or the women who want to either delay their subsequent pregnancy or stop childbearing altogether but are not using any contraceptive method. For each age group, we multiplied the 2020 female population in those ages with the 2017 age-specific percentage of women with unmet need for FP. Note that these estimates reflect only the effect of the change in the age structure of the population but not of FP program efforts.

From these estimated 2020 levels, the study made a number of assumptions with regards to access to contraceptive supplies and services during the quarantine period. The community quarantine is assumed not to have affected women's access to female and male sterilization, SDM, LAM, withdrawal, rhythm, and other traditional methods. Therefore, it is assumed that these methods will have no reduction in FP services. On the other hand, it is assumed that users of supply methods (injectables, pills, and male condom) and long acting reversible contraceptives or LARC (IUD and implants) will have limited access to the FP methods due to the community quarantine with varying levels of reduction in FP access based on the duration and level of community quarantine (ECQ or GCQ) in the region where the woman resides, the type of FP method, and the source of FP supplies and services. These assumptions were applied to produce the regional CPRs which were then aggregated and weighted to come up with the national-level CPR. The regional weights used is the 2020 female population age 15-49 in the region.

Unintended pregnancies are a result of either method failure among FP users, or unmet need for FP among non-users of contraceptives. To estimate the number of unintended pregnancies due to method failure for each age group, the contraceptive method mix for that age group was multiplied by the age-specific 12-month use contraceptive failure rates based on Darroch's (2018) study. The resulting product per age group was then summed, and the total multiplied by the age-specific projected 2020 female population. The resulting number for each group was added to derive the total number of unintended pregnancies due to method failure for all women age 15-49.

Darroch (2018) assumed that all women with no access to FP supplies and services will have an unmet need for FP. Given the continued preference of Filipino women for traditional FP methods in the country, particularly the withdrawal method (Marquez, Kabamalan & Laguna, 2018), in the present estimates, a certain proportion of users of supply methods and LARC who will have no access to FP supplies and services during the community quarantine period is assumed to switch to withdrawal. The proportion of users of each FP method who we assumed will switch to the withdrawal method during the quarantine period was based on the results of Abejo, et al.'s (2006) study. This study has the most recent available data on switching rates from modern FP methods to traditional methods among Filipino women. The remaining proportion of women who will have no access to supply methods and LARC but will not switch to withdrawal is assumed to become non-users of FP, and will therefore have an unmet need for FP.

To determine the number of unintended pregnancies due to unmet need for FP, a multiplier was applied to the total number of women with unmet need for FP. The study adopted as a multiplier the 40% pregnancy rate among women with unmet need for FP used by Darroch (2018).

Estimation of maternal mortality and induced abortion

To estimate the effect of changes in service coverage on mortality and abortion, the study employed the Lives Saved Tool (LiST), a statistical modeling tool under the Spectrum computer software package that estimates the effects of service coverage change on maternal mortality, abortion and other indicators. Following Robertson, et al.'s (2020) methodology, we calculated the overall service coverage reduction based on the multiplicative effects of the reduction in the workforce, supplies, demand and access to services. We applied Scenario 1 of Robertson, et al. (2020) wherein it is assumed that the COVID-19 pandemic has disrupted the service coverage of the following components of the health systems, as follows: 9.8% reduction in family planning, 18.5% reduction in antenatal care, 14.3% reduction in childbirth care, and 18.5% reduction in postnatal care. The indicators under each component are assumed to decrease by the corresponding percentage coverage reduction.

Estimation of intimate partner violence (IPV)

Intimate partner violence (IPV) in the study refers to any form of physical or sexual violence committed by the woman's husband or live-in partner, following the definition of IPV in the NDHS. We derived the number of currently married women (CMW) in 2020 by multiplying the projected female population 15-49 with 57.4%, the percentage of CMW among women age 15-49 based on the 2015 Census of population. Currently married women includes women who are formally married in church or civil ceremonies, and those who are in living-in or cohabitation arrangement.

To estimate the number of CMW 15-49 experiencing IPV in 2020 without quarantine, we applied the annual rate of change from 2013 to 2017 (based on the incidence of IPV from the 2013 and 2017 NDHS) to the CMW population. The potential impact of the COVID-19-induced community quarantine on the incidence of intimate partner violence among CMW age 15-49 was assumed to follow the 20% scaling-up assumption of UNFPA (2020).

Refer to the annexes for further details about the input data, output data, assumptions, and methodology used in the study.

Results

A. Contraceptive use

Results show that a 9.5 month community quarantine (15 March to 31 December 2020) will lead to a decline of 7.4 percentage point in contraceptive prevalence rate (CPR), from 34.5% to 27.2% at the national level. (Table 1). When it comes to the use of modern contraceptive methods, mCPR will decline from 25.7% without community quarantine to 18.0% with service reduction due to community quarantine. Across the four selected regions that registered significant number of COVID-19 cases and were placed under various levels of community quarantine, Central Visayas indicated the highest percentage point decline in CPR and mCPR.

Table 1. Estimated all-methods and modern methods contraceptive prevalence rates (CPR) for all women age 15-49: Philippines and selected regions, 2020

Region	All methods			Modern methods		
	Without community quarantine	With community quarantine-induced service reduction ¹	Percentage point difference	Without community quarantine	With community quarantine-induced service reduction ¹	Percentage point difference
Philippines	34.5	27.2	7.4	25.7	18.0	7.7
National Capital Region	30.9	24.6	6.3	22.3	15.7	6.6
Region III - Central Luzon	34.3	27.9	6.4	24.8	18.2	6.7
Region IVA - CALABARZON	33.3	26.7	6.6	22.4	15.5	6.9
Region VII - Central Visayas	33.0	25.9	7.0	23.1	15.8	7.3

Note: ¹ Assuming a 9.5-month quarantine period

B. Unmet need for family planning (FP)

The same duration of community quarantine for the whole country would result to an increase in the percentage of women with unmet need for FP. As shown in Table 2, service reduction due to community quarantine will lead to more Filipino women who are unable to meet their demand for FP supplies and services. The 2017 NDHS findings show that 17 percent of women 15-49 have unmet need for FP. This translates to about 3.1 million women of reproductive age in 2020. But with the disruption in services because of community quarantine, the number of women who are unable to meet their demand for FP is projected to increase to 5.2 million, or 67 percent more than without community quarantine. Among younger women aged 15-19, the effect of service reduction due to community quarantine will lead to 53,000 more women, bringing the total to 216,000 Filipino young women with unmet need for FP. More women from CALABARZON compared with the other

three regions will have unmet need for FP because of service reduction brought about by the community quarantine both for all women and those in the younger age group (15-19).

Table 2. Estimated number of women age 15-49 and 15-19 with unmet need for family planning: Philippines and selected regions, 2020

Region	Women 15-49 years old				Women 15-19 years old			
	Without community quarantine	Additional due to community quarantine-induced service reduction ¹	With community quarantine	% increase	Without community quarantine	Additional due to community quarantine-induced service reduction ¹	With community quarantine	% increase
Philippines	3,099,000	2,070,000	5,169,000	66.8	163,000	53,000	216,000	32.5
National Capital Region	277,000	242,000	519,000	87.4	10,000	4,000	14,000	40.0
Region III - Central Luzon	308,000	206,000	514,000	66.9	17,000	3,000	20,000	17.6
Region IVA - CALABARZON	575,000	285,000	860,000	49.6	31,000	11,000	42,000	35.5
Region VII - Central Visayas	264,000	142,000	406,000	53.8	9,000	3,000	12,000	33.3

Note: ¹ Assuming a 9.5-month quarantine period

C. Unintended pregnancies

With the decline in the contraceptive prevalence rate and increase in the number of women with unmet need for FP because of community quarantine-induced service reduction, the number of unintended pregnancies is expected to increase. The projected number of unintended pregnancies among women of reproductive ages (15-49) for the country as a whole is around 1.8 million by 2020 (Table 3). Assuming a community quarantine of 9.5 months, there will be an estimated 2.5 million unintended pregnancies. This means that the assumed reduction in SRH services for the duration of the community quarantine will result to about 751,000 more unintended pregnancies, or a 42 percent increase in the estimated unintended pregnancies for 2020. Across the four selected regions, CALABARZON has the highest number of unintended pregnancies brought about by community quarantine-induced service reduction (103,000), followed by NCR (88,000) and Central Luzon (74,000).

Among women aged 15-19, an estimated 18,200 unintended pregnancies due to community quarantine-induced service reduction will increase the number of projected unintended pregnancies from this age group to 102,200 for 2020 (Table 3).

Table 3. Estimated number of unintended pregnancies among women age 15-49 and 15-19: Philippines and selected regions, 2020

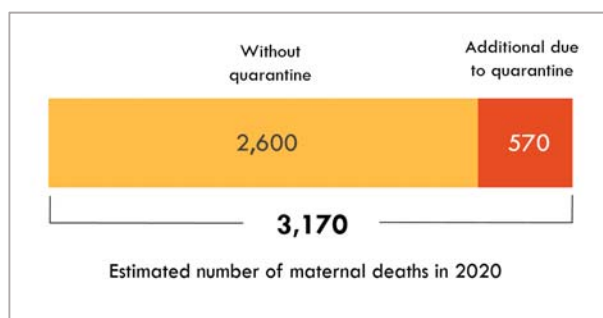
Region	Women 15-49 years old				Women 15-19 years old			
	Without community quarantine	Additional due to community quarantine-induced service reduction ¹	With community quarantine	% increase	Without community quarantine	Additional due to community quarantine-induced service reduction ¹	With community quarantine	% increase
Philippines	1,809,000	751,000	2,560,000	41.5	84,000	18,200	102,200	21.7
National Capital Region	180,000	88,000	268,000	48.9	5,100	1,200	6,300	23.5
Region III - Central Luzon	186,000	74,000	260,000	39.8	8,200	1,000	9,200	12.2
Region IVA - CALABARZON	323,000	103,000	426,000	31.9	14,600	3,800	18,400	26.0
Region VII - Central Visayas	147,000	52,000	199,000	35.4	4,700	1,200	5,900	25.5

Note: ¹ Assuming a 9.5-month quarantine period

D. Maternal mortality

As the health system puts priority on COVID-19 response, there is apprehension that other medical concerns will not be adequately addressed during the pandemic. Expectant mothers may also be hesitant to visit health facilities for antenatal check-ups and delivery because of fear of infection as well as limitations in mobility. Unattended emergency cases during delivery could lead to complications or maternal death. An additional 570 maternal deaths due to community quarantine-induced service reduction could bring the total maternal deaths to 3,170 in 2020 (Figure 1). Every month of extension in community quarantine leads to about 60 more deaths due to pregnancy and childbirth-related causes (Table 4).

Figure 1. Estimated number of maternal deaths: Philippines, 2020



Note: Assuming a 9.5-month quarantine period

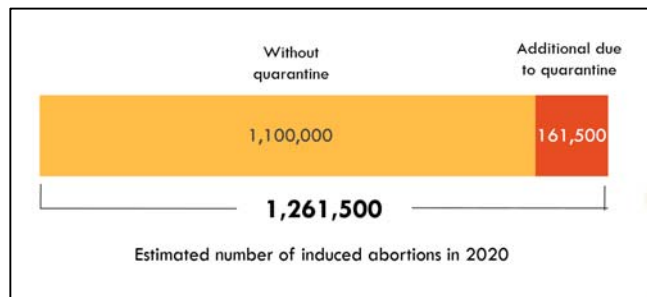
Table 4. Estimated number of additional maternal deaths due to COVID-19-related community quarantine, by duration of community quarantine: Philippines, 2020

Duration of community quarantine	Number of additional maternal deaths
1 month	60
2 months	120
3 months	180
6 months	360
9.5 months	570
12 months	720

E. Induced abortions

The incidence of induced abortions increases in the time of the pandemic. An estimated 1.1 million induced abortions occur every year in the country without community quarantine (Figure 2). With community quarantine, it is estimated that an additional 161,500 induced abortion cases will occur bringing an estimated 1.26 million induced abortions in 2020 (Figure 2). For every month of community quarantine, induced abortion cases will increase by 17,000 (Table 5).

Figure 2. Estimated number of induced abortions: Philippines, 2020



Note: Assuming a 9.5-month quarantine period

Table 5. Estimated number of additional induced abortions due to COVID-19-related community quarantine, by duration of community quarantine: Philippines, 2020

Duration of community quarantine	No. of additional abortions
1 month	17,000
2 months	34,000
3 months	51,000
6 months	102,000
9.5 months	161,500
12 months	204,000

F. Intimate partner violence (IPV)

Community quarantine requires the strict implementation of stay-at-home order. But for some women, the home does not necessarily provide safe protection. On the contrary, being confined in small living space may increase incidence of violence, particularly, intimate partner violence. The restriction on movement further reduce prevention and protection efforts, social services and care. Loss of means of livelihood and economic distress are factors that may also increase women’s exposure to the risk of intimate partner violence during this time of the pandemic.

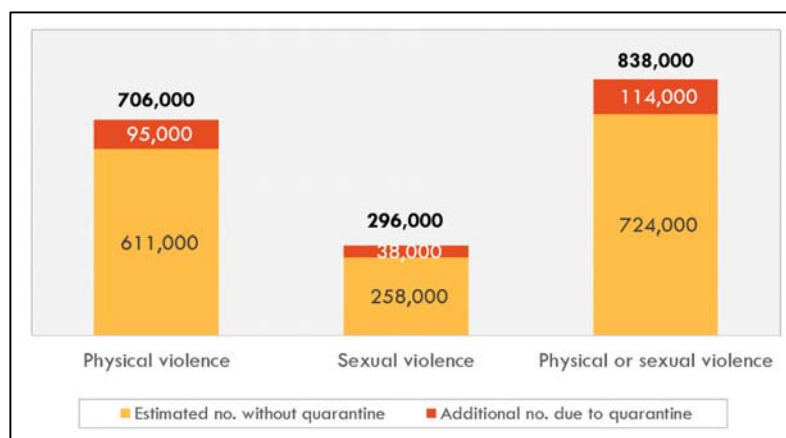
Thus, the pandemic is expected to reverse the improvement observed in the experience of violence among women. The 2017 NDHS for example, has already noted a decline in the incidence of physical violence perpetrated by the women’s husband or live-in partner, from 20 percent in 2008 to 17 percent in 2017. Similarly, incidence of sexual violence committed by an intimate partner also declined from 8 percent in 2008 to 5 percent in 2017. Cases of intimate partner violence reported to the Philippine National police have also been declining.

Following the UNFPA’s (2020) assumption that the pandemic would delay scaling up of prevention efforts to end gender-based violence, the study estimates that the experience of IPV among currently married women will increase in 2020. Physical violence for example will increase by 95,000 more cases if community quarantine lasts until the end of the year (Table 6). There will also be more cases of sexual violence during the same period of community quarantine. For every month of community quarantine, the incidence of physical and sexual violence will increase by 10,000 and 4,000, respectively. In 2020 or after the 9.5 month community quarantine, 706,000 and 296,000 currently married women are projected to experience physical and sexual violence at the hands of their intimate partners, respectively (Figure 3).

Table 6. Estimated number of additional currently married women (CMW) who experience intimate partner violence (IPV) due to COVID-19-related community quarantine, by form of IPV and duration of community quarantine: Philippines, 2020

Duration of community quarantine	Form of IPV		
	Physical violence	Sexual violence	Physical or sexual violence
1 month	10,000	4,000	12,000
2 months	20,000	8,000	24,000
3 months	30,000	12,000	36,000
6 months	60,000	24,000	72,000
9.5 months	95,000	38,000	114,000
12 months	120,000	48,000	144,000

Figure 3. Estimated number of currently married women (CMW) age 15-49 who experience intimate partner violence (IPV): Philippines: 2020



Note: Assuming a 9.5-month quarantine period and scaled up by 20% following the assumption in UNFPA (2020)

Conclusions and recommendations

In conclusion, the community quarantine induced by the pandemic is expected to have adverse impacts on various aspects of the sexual and reproductive health of Filipino women in terms of reduced contraceptive use and increased level of unmet need for FP, unintended pregnancies, maternal mortality, induced abortion, and intimate partner violence.

The magnitude of the potential impact is substantial. If the community quarantine continues until the end of 2020, we can expect that at the national level, the CPR will be reduced by 7.4% and modern CPR by 7.7%. Moreover, every month of community quarantine translates to an expected average increase of

- 218,000 women with unmet need for FP
- 79,000 unintended pregnancies
- 60 maternal deaths
- 17,000 cases of induced abortions, and
- 12,000 women to experience intimate partner violence.

And if the community quarantine will extend beyond 2020, the impact will become greater.

The results of the study show that while the government remains focused in the containment of the transmission of the COVID-19 virus, it should not neglect other equally essential health services including SRH services for women of reproductive ages.

The significant potential impact of the disruption in the delivery of SRH services shown by the study underscores the need for a sustained provision of essential family planning and maternal health services, and social and protective networks during the period of quarantine to mitigate any

further devastating effects. The challenge then is for the government and the private sector to devise innovative ways to ensure continuity in the delivery of these vital services even amidst the COVID-19 crisis.

As a final note, it should be underscored that these estimates were generated based on several assumptions. Nonetheless, in the absence of actual data, the estimates provide a picture of how measures to address the COVID-19 pandemic, specifically, community quarantine could have detrimental effects on women's health.

References

- Abejo, S. D., Go, E. M. Cruz, G. T. & Marquez, M. P. N. (2006). *Contraceptive use, discontinuation and switching behavior in the Philippines: Results from the 2003 National Demographic and Health Survey*. Quezon City: Demographic Research and Development Foundation, University of the Philippines Population Institute, and National Statistics Office.
- Avenir Health. 2019. Spectrum manual: Spectrum system of policy models. Glastonbury, CT: Avenir Health.
- Cousins, Sophie. (2020). "COVID-19 has 'devastating' effect on women and girls". *The Lancet*. Vol. 396. Aug. 1, 2020. DOI: [https://doi.org/10.1016/S0140-6736\(20\)31679-2](https://doi.org/10.1016/S0140-6736(20)31679-2).
- Darroch, J. E. (2018). *Adding It Up: Investing in Contraception and Maternal and Newborn Health, 2017—Estimation Methodology*. New York: Guttmacher Institute.
- Executive Order No. 112, s. 2020. (2020). *Imposing an enhanced community quarantine in high-risk geographic areas of the Philippines and a general community quarantine in the rest of the country from 01 to 15 May 2020, adopting the omnibus guidelines on the implementation thereof, and for other purposes*. <https://www.officialgazette.gov.ph/downloads/2020/04apr/2020030-EO-112-RRD.pdf>
- Marquez, M. P., Kabamalan, M. M. & Laguna, E. 2018. Traditional and Modern Contraceptive Method Use in the Philippines: Trends and Determinants 2003–2013. *Studies in Family Planning*, 49 (2): 95-113.
- Philippine Statistics Authority (PSA) & ICF. 2018. *Philippines National Demographic and Health Survey 2017*. Quezon City, Philippines, and Rockville, Maryland, USA: PSA and ICF.
- Philippine Statistics Authority (PSA) & ICF. 2018. *Philippines National Demographic and Health Survey 2017* [Dataset]. PHIR70FL.SAV. Quezon City, Philippines, and Rockville, Maryland, USA: PSA and ICF [Producers]. ICF [Distributor], 2018.
- Philippine Statistics Authority. (2019). *Updated population projections based on the results of 2015 POPCEN*. <https://psa.gov.ph/content/updated-population-projections-based-results-2015-popcen>
- Philippine Statistics Authority. 2017. *Philippines Census of Population 2015* [Dataset]. Public use file. Quezon City: PSA [Producer and Distributor], 2017.

- Philippine Statistics Authority (PSA) & ICF International. 2014. *Philippines National Demographic and Health Survey 2013* [Dataset]. PHIR70FL.SAV. Manila, Philippines, and Rockville, Maryland, USA: PSA and ICF International [Producers]. ICF [Distributor], 2014.
- Riley, T., Sully, E., Ahmed, Z. & Biddlecom, A. (2020). *Estimates of the potential impact of the COVID-19 pandemic on sexual and reproductive health in low- and middle-income countries*. *International perspectives on sexual and reproductive health*, 46, 73-76.
https://www.guttmacher.org/sites/default/files/article_files/4607320.pdf
- Roberton, T., Carter, E. D., Chou, V. B., Stegmuller, A. R. Jackson, B. D., Tam, Y., Sawadogo-Lewis, T. & Walker, N. 2020. Early estimates of the indirect effects of the COVID-19 pandemic on maternal and child mortality in low-income and middle-income countries: A modelling study. *The Lancet Global Health* 2020, published online May 12. DOI: [https://doi.org/10.1016/S2214-109X\(20\)30229-1](https://doi.org/10.1016/S2214-109X(20)30229-1)
- United Nations Population Fund (UNFPA). (2020). *Impact of the COVID-19 pandemic on family planning and ending gender-based violence, female genital mutilation and child marriage: Interim technical note*. Retrieved from <https://www.unfpa.org/resources/impact-covid-19-pandemic-family-planning-and-ending-gender-based-violence-female-genital>

Annex A

Methodology in estimating family planning-related indicators

A. Input data

1. Required inputs

- 2017 contraceptive method mix for all women by age group by region (Special runs of the 2017 NDHS data)
- 2017 percentage of women with unmet need for family planning (FP) by age group and region (Special runs of the 2017 NDHS data)
- 2017 source of modern FP methods during last use among current users by method and region (PSA & ICF, 2018)
- 2020 projected midyear female population age 15-49 by age group and region (PSA, 2019)
- Contraceptive method failure rates by age group (Table 29 of Darroch, 2018)
- Actual community quarantine level (enhanced community quarantine or general community quarantine), and duration by region and selected provinces (Executive Order No. 112, s. 2020, and various news reports)
- 2003 percentage of women who switched from modern FP method to traditional method (Abejo, et al., 2006)

2. Inputs for scenario building

- Additional number of weeks of community quarantine and level of quarantine by region
- Percent reduction in services due to community quarantine
- Percentage of FP service coverage by source and method

B. Output data

Tables and charts of the national-level estimates of the 2020 values without community quarantine, the additional values due to quarantine-induced service reduction, and the total, of the following:

1. No. of unintended pregnancies among women age 15-49
2. No. of unintended pregnancies among women age 15-19 (unintended teenage pregnancy)
3. No. of women age 15-49 with unmet need for FP
4. No. of teenage women (age 15-19) with unmet need for FP
5. Contraceptive prevalence rates (CPR) for all women age 15-49
6. Modern contraceptive prevalence rates (mCPR) for all women age 15-49

The CPR and mCPR values should be interpreted with caution. The 2020 values were estimated by applying the 2017 contraceptive method mix to the 2020 projected female population by age group and therefore reflects only the effect of the change in age structure but not of FP program efforts.

C. Methodology

- Regional estimates were initially generated to come up with national estimates because of possible differential effect of the community quarantine by region.
- The Guttmacher Adding it up methodology (Riley et al., 2020 and Darroch, 2018) was applied with modifications to suit the Philippine context.

- Percent reduction in FP access for users of female and male sterilization, SDM, LAM, withdrawal, rhythm, and other traditional methods

The community quarantine is assumed not to have affected women's access to FP methods, and therefore, these users will have no reduction in FP services.

- Percent reduction in FP access for users of supply methods (injectables, pills, male condom) and long acting reversible contraceptives or LARC (IUD, implants)

Users of these methods are assumed to have limited access to the FP methods due to the community quarantine with varying levels of reduction in FP access based on the following:

1. Effect of community quarantine

a. Community quarantine level and duration by region

The present estimates considered the actual number of weeks the region was under ECQ and/or GCQ. However, some ECQs and GCQs were issued at the provincial and/or municipal level. We based the values duration on the province with the longest duration of ECQ for regions with varying dates of community quarantine. This is to assume the worst-case scenario for the estimates.

The level and duration of community quarantine can be changed to estimate what the effect of additional weeks of quarantine would be on the outputs ("what-if" scenarios) especially in light of fluid decisions on the extension of community quarantine beyond 15 May 2020. For purposes of the study, it is assumed that GCQ will be implemented in all regions from 15 May 2020 until the end of the year.

b. Percent reduction in FP access due to community quarantine

The present estimates assumed that there will be 100% reduction for the weeks a region is under ECQ where mobility is controlled, and 50% reduction for weeks a region is under GCQ where certain movements are allowed. Thus, the weeks that FP services will be reduced are deducted from the annual rate estimated for the whole year. For instance, if a region is under ECQ for 8 weeks, the percent reduction in FP services is $8 \text{ weeks} / 52 \text{ weeks}$ or 15.4%. If a region is under GCQ for 8 weeks, the percent reduction in FP services is $(8 \text{ weeks})(0.5) / 52 \text{ weeks}$ or 7.7%. If a region is under ECQ for 4 weeks and under GCQ for 4 weeks, the percent reduction in FP services is $[4 \text{ weeks} + 4 \text{ weeks} (0.5)] / 52$ or 4.2%.

In the absence of hard evidence to use as basis for the reduction, we leave the percent reduction open to change.

2. Effect of the variation in the FP service coverage and source of FP

The percent reduction in FP access is assumed to vary for the different methods and the source of supplies and services for these methods. The percentage of service reduction due to community quarantine was further adjusted using a multiplier that takes into account the source of FP supplies and services, and the service coverage for each method.

a. Source of FP supplies and services

It is assumed that the patterns (see Table A1) of the source of the FP method during the last use of women who are currently using a contraceptive method in 2017 still persist in 2020 and that they are the same regardless of age group and region.

Table A1. Percent distribution of women currently using a method by their source of method during last use by type of method: 2017 NDHS

Source of method	IUD	Injectables	Implants	Pill	Male condom
Public sector	89.3	92.7	75.0	34.2	29.5
Private medical sector/Other sources	10.7	7.3	25.0	65.8	70.5
Total	100.0	100.0	100.0	100.0	100.0

Source: PSA and ICF (2018)

b. FP service coverage by source and method

The present estimates assumed the following values of coverage of FP supply and services (see Table A2) based on initial discussion with FP program managers and experts.

Table A2. Percentage of service coverage of the public and private sectors by type of contraceptive method

Source of method	IUD	Injectables	Implants	Pill	Male condom
Public sector	90.0	90.0	90.0	90.0	90.0
Private medical sector/ Other sources	50.0	70.0	60.0	80.0	80.0

Note: Riley, et al. (2020, p. 74) “assumed that the 10% proportional decline would be the same for services for the following modern contraceptive methods: oral contraceptive pills, the injectable, the patch, the ring, emergency contraceptive pills, male and female condoms, the lactational amenorrhea method, fertility awareness–based methods, the IUD, the implant, and other supply methods, such as spermicide foam and diaphragm.”

- Estimation of unintended pregnancies due to method failure

To estimate the number of unintended pregnancies due to method failure, the contraceptive method mix per age group was multiplied by the age-specific 12-month use contraceptive failure rates used by Darroch (2018) shown in Table A3. For each age group, the resulting product per method was then summed, and the total multiplied to the projected 2020 female population age 15-49.

Table A3. Percentage of women experiencing an unintended pregnancy during the first year of typical use of contraception or no method use, before adjusting estimated unintended pregnancies to equal external estimates

Age group	Female sterilization	Male sterilization	IUD	Injectables	Implants	Pills	Male Condom
15-19	0.5	0.2	2.6	2.8	0.3	7.9	12.9
20-24	0.5	0.2	1.8	2.1	0.3	6.8	10.4
25-29	0.5	0.2	0.9	1.7	0.9	5.9	8.0
30-34	0.5	0.2	1.1	2.3	0.3	6.0	6.2
35-39	0.5	0.2	0.5	1.5	0.3	5.8	4.4
40-44	0.5	0.2	0.0	0.8	0.3	2.0	1.2
45-49	0.5	0.2	0.0	0.8	0.3	2.0	1.2

Age group	SDM	LAM	Rhythm	Withdrawal	Other traditional
15-19	12.0	7.5	23.2	25.1	18.2
20-24	12.0	6.2	23.0	21.9	18.2
25-29	12.0	5.0	23.6	17.9	18.2
30-34	12.0	4.1	17.5	12.9	18.2
35-39	12.0	3.2	13.0	11.6	18.2
40-44	12.0	1.6	6.1	4.1	18.2
45-49	12.0	1.6	6.1	4.1	18.2

Source: Darroch (2018)

- Darroch (2018) assumed that all women with no access to FP supplies and services will have an unmet need for FP. In the present estimates, a certain proportion of users of supply methods and LARC who will have no access to FP supplies and services during the community quarantine period is assumed to switch to withdrawal based on the data on switching rates from modern FP methods to traditional methods shown in Table A4. The remaining proportion is assumed to become non-users of FP and will therefore have an unmet need for FP.

Table A4. Twelve-month switching rates from modern contraceptive methods to traditional methods

Contraceptive method discontinued	% of users who switched to traditional methods
IUD	1.4
Injectables	4.4
Implants*	1.4
Pill	4.1
Male condom	14.8

Source: Abejo, et al. (2006)

Note: * The switching rate for implants is assumed to be the same as the switching rate of IUD.

- Estimation of unintended pregnancies due to unmet need for FP

To estimate the number of unintended pregnancies due to unmet need for FP, the number of women with unmet need per age group was multiplied by 0.40, following the 40% pregnancy rate among women wanting to avoid pregnancy but using no contraceptive method (unmet need for FP) employed by Darroch (2018).

- Calculation of the Philippine CPR based on regional CPRs

The CPR and mCPR for the Philippines were computed by getting the sum of the weighted regional CPRs divided by the 2020 projected number of females age 15-49 in the Philippines. The regional weights used is the 2020 projected female population age 15-49 in the region.

- Assumptions:

- The effect of the community quarantine on FP use in a particular region is the same for all female residents regardless of age group
- The contraceptive method mix in 2020 is the same as in 2017
- The percentage of women with unmet need in 2020 is the same as in 2017
- The last source of modern FP methods among current users in 2020 is the same as in 2017, and the same for all age groups and region
- The switching rates from modern FP methods to traditional methods (withdrawal) in 2003 still applies in 2020 and are the same for all ages and regions.

Annex B

Methodology in estimating maternal mortality and induced abortion

A. Input data

- 2020 projected midyear female population age 15-49 (PSA, 2019)
Note: The study used the 2015 Census-based population projections rather than the default data based on UN World Population Prospects.
- 2017 family planning, antenatal care, childbirth care and postnatal care indicators (PSA & ICF, 2018)

B. Output data

- Estimated number of additional maternal deaths due to COVID-19-related community quarantine by duration of community quarantine
- Estimated number of additional abortions due to COVID-19-related community quarantine by duration of community quarantine

C. Methodology

- The methodology used by Robertson et al., 2020 was applied with modifications to suit the Philippine context.
- The Lives Saved Tool (LiST) module of Spectrum was employed. LiST is a mathematical modeling tool that estimates the effects of service coverage change on mortality.
- Scenario 1 in Robertson, et al. (2020) was applied with the overall percentage in coverage reduction in the 4 health systems components shown in Table B1. The overall coverage reduction is based on the multiplicative effects of the reduction in the workforce, supplies, demand and access to services.

Table B1. Percentage of coverage reduction for each health system component

Component	Coverage reduction (%)
Family planning	9.8
Antenatal care	18.5
Childbirth care	14.3
Postnatal care	18.5

The indicators under each component are assumed to decrease by the corresponding percentage coverage reduction. For example, based on the 2017 NDHS, the percentage of women with iron supplementation is 50.6%. Since iron supplementation is an antenatal care intervention, it is assumed that the level will decrease by 18.5% to 41.2%.

• Assumptions:

- The level of family planning, antenatal care, childbirth care and postnatal care indicators in 2020 is the same as in 2017.
- The COVID-19 pandemic has disrupted the service coverage of the four components of the health systems based on Table B1.
- Since abortion is legally restricted in the Philippines, it is assumed that all abortions in the country are unsafe, i.e., no distinction is made between safe and unsafe abortions.

Annex C

Methodology in estimating intimate partner violence

A. Input data

1. Required inputs

- 2020 projected midyear female population age 15-49 (PSA, 2019)
- 2015 percentage of currently married women (CMW) among women age 15-49, i.e., women who are either formally married or living in (common-law) (Special runs from the 2015 census data of PSA, 2017)
- 2017 percentage of CMW age 15-49 who experienced intimate partner violence (IPV), i.e., physical or sexual violence committed by current or most recent husband/partner, in the 12 months prior to the survey, by form of violence (Special runs from the 2013 NDHS data of PSA & ICF International, 2014; and 2017 NDHS data of PSA & ICF, 2018)

2. Input for scenario building

- Percentage of increase of intimate partner violence due to COVID-19-related quarantine (Assumption: 20% based on UNFPA, 2020)

B. Output data

- Estimated numbers of additional CMW with IPV experience due to COVID-19-related quarantine by forms of violence (physical, sexual, physical or sexual) and duration of quarantine

C. Methodology

- The number of CMW 15-49 in 2020 is estimated by multiplying the projected 2020 midyear female population age 15-49 with the 2015 percentage of CMW among women age 15-49.
- The estimated percentage of CMW experiencing IPV in 2020 is computed by applying the annual rate of decline from 2013 to 2017.
- The estimated number of CMW experiencing IPV in 2020 is calculated by multiplying the number of CMW 15-49 by the estimated percentage of women experiencing IPV in 2020.
- The effect of the COVID-19-induced quarantine is estimated by applying the 20% increase assumption of UNFPA (2020).
- **Assumptions:**
 - The percentage of CMW among all women in 2020 is the same as in 2015.
 - The percentage of CMW who experienced IPV from 2017 to 2020 declined at the same rate from 2013 to 2017.
 - The number of CMW who experienced IPV in 2020 given the COVID-19-related quarantine increased by 20%.