

ADDING IT UP: Costs and Benefits of Meeting the Contraceptive Needs of Adolescents



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Key Points

This is an archived report. The most recent estimates can be found at: <https://www.guttmacher.org/adding-it-up>

- Preventing unintended pregnancy is essential to improving adolescents' sexual and reproductive health and their social and economic well-being.
- About half of pregnancies among adolescent women aged 15–19 living in developing regions are unintended, and more than half of these end in abortion, often under unsafe conditions.
- Of the 252 million adolescent women aged 15–19 living in developing regions in 2016, an estimated 38 million are sexually active and do not want a child in the next two years.
- About 15 million of these adolescents use a modern contraceptive method, while 23 million have an unmet need for modern contraception and are thus at elevated risk of unintended pregnancy.
- Improving services for current contraceptive users and expanding them to serve those with unmet need will cost an estimated \$770 million annually, or \$548 million more than current costs.
- For an average cost of \$21 per user annually, these improvements go well beyond providing contraceptive information and supplies. They include increased training and supervision of health care workers, investments in upgraded facilities and supply systems, and information and communication efforts to ensure that adolescents have access to a range of methods and support in choosing a method and using it effectively.
- Meeting the unmet need for modern contraception of women aged 15–19 would reduce unintended pregnancies among this age-group by 6.0 million annually. That would mean averting 2.1 million unplanned births, 3.2 million abortions and 5,600 maternal deaths.
- The dramatic reduction in unintended pregnancies would spare women and their families the adverse consequences of early childbearing, reap savings in maternal and child health care, and boost young women's education and economic prospects.

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Adolescence, the phase of life between the ages of 10 and 19 during which young people transition from childhood to adulthood, is a time of opportunities and risks. A good education and development of livelihood skills during adolescence can open up promising possibilities for young people. Yet many young women become sexually active, marry and give birth in just a few short years between ages 15 and 19, often without having the information and services they need to protect their health and delay childbearing if they desire. In addition, many of them lack the autonomy or ability to postpone marriage and childbearing.

Becoming pregnant during adolescence can greatly alter young women's life prospects and those of their children. Complications of pregnancy and childbirth are the second leading cause of death among 15–19-year-old women,¹ and babies born to adolescent mothers face greater health risks than those born to older women.^{2,3} Moreover, adolescent childbearing is associated with lower educational attainment, and it can perpetuate a cycle of poverty from one generation to the next.^{4,5} Thus, helping young women avoid unintended pregnancies can have far-reaching benefits for them, their children and societies as a whole.

A number of global health and development initiatives are focusing attention on adolescence because of its importance in determining the course of young people's lives. Two major initiatives, Family Planning 2020 and the UN's Global Strategy for Women's, Children's and Adolescents' Health, call for meeting all women's needs for modern contraception to prevent unintended pregnancies and reducing the high adolescent birthrates in the world's poorest countries.^{6,7} These efforts also help advance the UN-led Sustainable Development Goals, a global agenda to end poverty and improve quality of life by 2030.⁸ Three of the 17 Sustainable Development Goals—Goals 3, 4 and 5, which call for improved health and education and for gender equality—depend to a large extent on improvements in the lives and health of adolescent women.⁹

Meeting the needs of all sexually active adolescents who want to avoid a pregnancy requires overcoming a range of cultural, social and health-service challenges. Delaying childbearing requires focusing on its major underlying factors: timing of first sex and marriage and effective contraceptive use—along with the social, cultural and economic environment surrounding these behaviors, notably girls' education and gender inequality.

This report presents data for young women aged 15–19 in developing regions, who are referred to as

“adolescent women.” Although ages 10–14 are also critical formative years, far less information is available for this age-group; young men's health and needs—also critical in their own right—are beyond the scope of this report. Using data from national surveys on fertility and health and other sources of information (Box 1, page 4), this report reviews contraceptive needs and use among 15–19-year-old women, and the costs and benefits of investing in modern contraceptive services that would fully meet their needs. In addition, the report reviews obstacles to providing all adolescent women with these services and recommends promising approaches to be pursued.

Adolescents Today

An estimated 252 million women aged 15–19 live in developing regions* as of 2016.¹⁰ These adolescent women account for about one-sixth of all women of reproductive age (15–49) in developing regions overall; they make up one-fifth of reproductive-age women in Africa, because Africa's population is younger than that of other regions.

Sixty-five percent of these adolescent women live in Asia (including 15% in China and 23% in India), 24% live in Africa and 11% in Latin America and the Caribbean.¹⁰ Nearly two-thirds of adolescents in Africa and Asia live in rural areas, but only one-fourth do in Latin America and the Caribbean. Whether adolescents live in rural or urban areas is a strong indicator of their levels of education and household wealth: Rural adolescents are poorer and, nearly everywhere, they are less educated than urban adolescents.

Encouragingly, adolescent birthrates declined in nearly every country worldwide from 1990 to 2010.⁵ The decline occurred amidst rising school enrollments among girls, increases in the average age at first marriage, and increased demand for and use of contraceptives. Still, adolescent birthrates remain high in most of the developing world, especially in the poorest countries and in the poorest communities within countries. In some places, adolescent birthrates are declining more slowly than those of all women.

Thanks to efforts worldwide to boost girls' education, the gender gap between boys' and girls' enrollments has narrowed at all levels of education since 1990.¹¹ The greatest improvements have been made in primary education, notably in Southern Asia, where gender parity was achieved in 2015. As of 2016, an estimated 68% of adolescent women aged 15–19 in the developing world have completed seven or more years of education.¹⁰ This proportion is higher in Latin America and the Caribbean (82%) and Asia (72%) than in Africa (51%).

*Per UN Population Division classifications, developing regions comprise all of Latin America and the Caribbean, Africa and Asia, excluding Australia, Japan and New Zealand.

BOX 1

How the Estimates Are Derived

Estimates in this report are based on data from more than 130 nationally representative surveys, which are the principal source of information on women's need for and use of contraceptives in developing countries. They include the Demographic and Health Surveys (DHS), Multiple Indicator Cluster Surveys (MICS), Reproductive Health Surveys (RHS) and other independent surveys. Where data are missing for a particular country, this analysis uses averages from other countries in the same subregion or region, or data from a demographically or socioeconomically comparable country, so that percentages and absolute numbers represent all regions of the developing world.

The methodology used to develop the estimates for 2016 is similar to that used for other Adding It Up reports, which generated data for 2003, 2008, 2012 and 2014 on the need for and use of contraceptives among women aged 15–49.^{1,2} This

report draws from the most recent survey data for the subset of women aged 15–19, along with population, birth and marital status estimates from the United Nations Population Division. Estimates of marriages and births among women aged 10–14 are based on the most recent surveys of the cohort of women who have already passed through the age-group, i.e., those aged 15–24.

In Sub-Saharan Africa and Latin America and the Caribbean, estimates of contraceptive needs and use are usually available for married, never-married and formerly married women. In Asia and Northern Africa, never-married women are often excluded from fertility and health surveys or are not asked questions about contraceptive need or use. Thus, estimates for these women are based on national surveys from countries in these regions that have the relevant data and on a review of subnational surveys of never-married women.

All cost estimates are expressed in 2016 U.S. dollars. The direct costs are the sum of the average annual costs incurred by donors for contraceptive commodities provided to each country in 2013–2015,³ plus service-delivery personnel time,² salaries⁴ and other supplies.^{5–8} The costs of permanent and long-acting contraceptive methods are converted to annual costs by dividing total costs by the expected average number of years of use.² Indirect costs, also called program and systems costs, are derived from research conducted by the United Nations Population Fund.⁹ These costs vary by region and are applied proportionally to the direct service costs.

Supplemental tables containing detailed estimates are available at <https://www.guttmacher.org/report/adding-it-meeting-contraceptive-needs-of-adolescents>.

BOX 2

Defining the Need for Modern Contraception

In this report, women are defined as **wanting to avoid pregnancy** if they:

- are currently using a contraceptive method or
- are not using a method and
 - are currently married or are unmarried and sexually active (defined as having had intercourse in the past three months); and
 - are able to become pregnant (fecund) but do not want a child in the next two years or at all.

Women who identify their current pregnancies as unintended, or who are not using a contraceptive method and have not resumed menstruation after unintended pregnancy, are also considered to be in need of contraception.¹

Women with an **unmet need for modern contraception** are those who want to avoid a pregnancy but currently use no method or use a traditional contraceptive method. Traditional method users are

grouped with nonusers because these methods are far less effective than modern methods at preventing pregnancy.²

Modern contraceptive methods include the pill, injectables, IUDs, implants, female and male sterilization, female and male condoms, other barrier methods, and modern fertility-awareness methods. **Traditional methods** include mainly periodic abstinence and withdrawal.

Marriage and Sexual Behavior

Despite worldwide efforts to end child marriage, 28% of young women in developing regions marry before age 18,¹⁰ the internationally recognized age of adulthood,¹² and 7% of girls marry before age 15.¹⁰ Parents may arrange marriages for their young daughters for financial reasons or to try to protect the girls' safety or honor, but child marriage violates girls' human rights and can isolate them, curtail their schooling and prevent them from escaping poverty.^{13,14} Higher proportions of women marry during adolescence in Africa, especially Sub-Saharan Africa, than in Asia and Latin America and the Caribbean (Table 1).¹⁰ In all three regions, adolescent women who are poor, and those living in rural areas, marry younger than those who are better-off and living in urban areas.

In every developing country with available data, some adolescent women are sexually active before marriage.^{5,10} In both Africa and Latin America and the Caribbean, about two-thirds of 19-year-olds report having had sexual intercourse, while 43% and 37%,

respectively, are married. In Asia, very low proportions of unmarried adolescent women report having ever had sex, and roughly three-quarters of those who are sexually experienced are married.¹⁰

However, levels of sexual activity among unmarried women, and particularly those in Asia, could be underestimated. In Asia and Northern Africa, never-married women are often excluded from fertility and health surveys, or where they are included, they are not asked questions related to sexual activity and contraceptive use. Among young women who are asked about sexual activity, under-reporting of these behaviors is likely very high.^{15,16}

Some sexual activity occurs in the context of human rights violations such as child marriage, coerced sex or sexual abuse.¹⁷ For example, one study of 12–19-year-old girls and young women in four countries found that, in Malawi, 38% said that they were “not willing at all” at their first sexual experience; this was reported by lower, but still substantial, proportions of 12–19-year-olds in Ghana (30%), Uganda (23%) and Burkina Faso (15%).¹⁸

TABLE 1

ADOLESCENT SEXUAL AND REPRODUCTIVE HEALTH

Selected statistics on the sexual and reproductive health of young women in developing regions, 2016

	Africa	Asia	Latin America and the Caribbean	All
No. of women aged 15–19 (in 000s)	61,600	163,300	27,500	252,300
% ever had sex, age 16	27	11	28	17
% married, age 16	14	8	13	10
% ever had sex, age 19	66	41	67	50
% married, age 19	43	33	37	36
No. of pregnancies and outcomes among women aged 15–19 (in 000s)				
Pregnancies	8,900	8,300	3,600	20,700
Births	5,700	4,700	1,700	12,100
Abortions	1,900	2,400	1,400	5,600
Miscarriages	1,300	1,200	500	3,000
Percentage distribution of pregnancies, by intention status and outcome				
Intended	55	57	26	51
Births	46	48	22	42
Miscarriages	9	10	4	9
Unintended	45	43	74	49
Births	18	9	27	16
Abortions	21	28	38	27
Miscarriages	6	5	9	6
Total	100	100	100	100

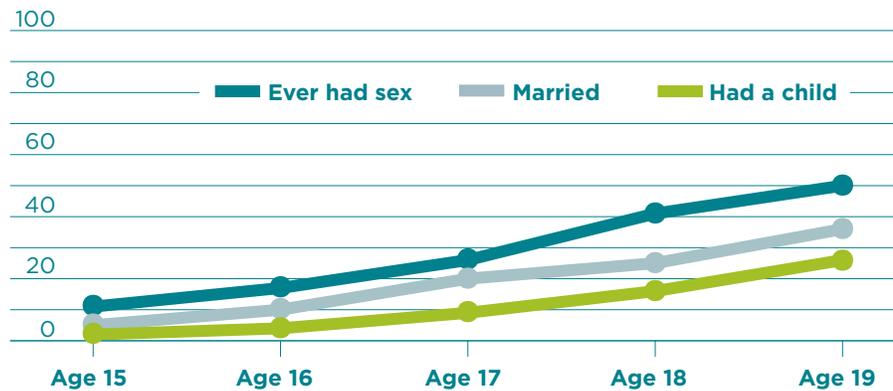
NOTE: Numbers may not add up to totals because of rounding. SOURCE: reference 10.

FIGURE 1

SEXUAL AND REPRODUCTIVE TRANSITIONS

In developing countries, many women become sexually active, marry and have children during adolescence.

% of adolescent women at each age who have:



NOTE: Estimates are for all developing regions in 2016. SOURCE: reference 10.

In an analysis of studies worldwide, the World Health Organization estimated that 29% of ever-married women aged 15–19 had experienced physical or sexual intimate partner violence.¹⁹ Studies have also found that adolescents and young women face a higher risk of violence than older adult women.^{20,21}

Pregnancy and Childbearing

Among adolescents in developing countries, first sex, marriage and the initiation of childbearing tend to happen within a relatively short timeframe (Figure 1). The vast majority of adolescent births in developing countries occur within the context of marriage; thus, adolescent births, like early marriages, are highest in Africa.¹⁰ Some of the first births (from a few percent in some countries up to 30% in others) occur as a result of premarital conception, suggesting that some adolescent women marry earlier than they might have planned because of a pregnancy.⁵

In 2016, adolescent women aged 15–19 in developing regions will have an estimated 21 million pregnancies, of which about 12 million will result in a birth (Table 1).¹⁰ About half (49%) of pregnancies to women in this age-group are unintended, and more than half of these end in induced abortion. An estimated 17,000 young women will die from complications of pregnancy or childbirth.

More than two-thirds of abortions among adolescents occur in countries where abortion is prohibited or highly restricted.²² In these cases, women typically obtain clandestine procedures, which are often unsafe—that is,

performed by persons lacking the necessary skills or in an environment lacking minimal medical standards, or both. Unsafe abortion is a major preventable cause of maternal death worldwide.²³ Research shows that compared with older women, adolescents are less likely to obtain safe abortions; more likely to terminate their pregnancies after the first trimester, when the procedure is more dangerous; and more likely to delay seeking medical care for complications following unsafe abortions.^{24,25} They are also more likely to seek abortions from traditional providers, go to untrained providers or to attempt to induce abortion themselves.

Childbirth can also be hazardous to an adolescent if she is not fully matured physically. In general,

the risks of maternal death are lowest for mothers in their late teens and early twenties.²⁶ But those who give birth before age 15 are at much higher risk.²⁷ The babies of adolescent mothers also face greater health risks than those born to older mothers, in part because young mothers may be undernourished or may not have completed physical development, and in part because younger mothers are more likely to live in disadvantaged circumstances. For example, the firstborn children of mothers younger than 18 have the highest risk of preterm delivery and death.² Babies of adolescents also face the highest risk of infant and child mortality, as well as other health problems such as stunting, diarrhea and anemia.³ Thus, delaying childbearing is a crucial starting point for improving maternal and child health, as well as improving women’s lives more broadly.

Contraceptive Use and Unmet Need

The most effective way for sexually active women to prevent pregnancy is to use a modern contraceptive method. Among adolescent women in developing regions who use modern contraceptives, the most common methods are male condoms (38%) and the pill (27%), followed by injectables (19%), implants (8%) and IUDs (5%).¹⁰ In Africa, condoms account for half of modern contraceptive use reported by adolescent women, likely because of widespread awareness of HIV and other STIs.

Eighty-five percent of the 252 million adolescent women aged 15–19 in developing regions are not at risk of unintended pregnancy and do not need contraceptives,

mainly because they are unmarried and have not had intercourse in the past three months (Figure 2). Some are not in need because they want a child in the next two years, are pregnant or postpartum with an intended pregnancy, or are not able to become pregnant.

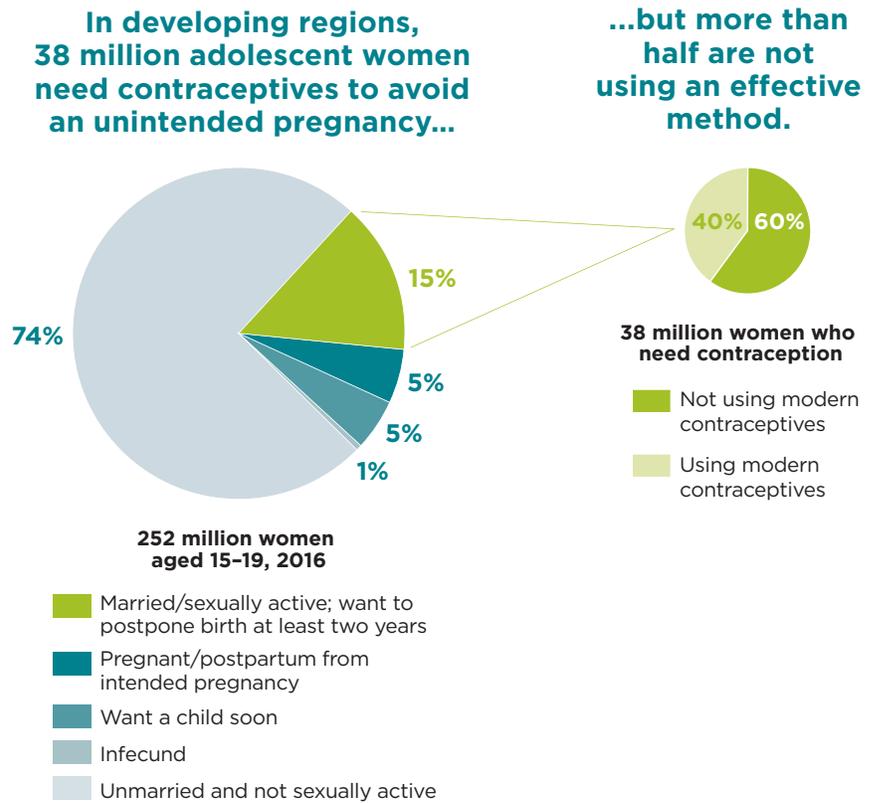
Fifteen percent of women aged 15–19, or 38 million young women, need contraceptives because they are married, or are unmarried and sexually active, and do not want a child for at least two years. Of the adolescent women in need, 40% (15 million) are using a modern method, but the majority—60%, or 23 million women—are not. The latter group is defined as having unmet need for modern contraception (Box 2, page 4); most of these women (84%) are using no method at all, while the remainder are using a traditional method. Unmet need is much higher for adolescents than for women overall: In a 2014 study, unmet need among women aged 15–49 wanting to avoid pregnancy in developing regions was estimated at 26%.²⁸

The proportion of adolescent women in need who are not using modern contraceptive methods is higher in Asia (69%) and Africa (68%) than in Latin America and the Caribbean (36%).¹⁰ In all regions, unmet need is higher among adolescent women wanting to avoid pregnancy who live in rural areas and who live in poorer households. In Africa and Asia, younger adolescents aged 15–17 have higher unmet need for modern contraception than do older adolescents aged 18–19, suggesting greater barriers to use among younger women; in Latin America and the Caribbean, these proportions are about the same. Differences can also be seen according to marital status:

- In Africa, married adolescents who want to avoid pregnancy have greater unmet need than do unmarried women. This is because unmarried, sexually active adolescent women in Africa are more likely to use modern contraceptives than their married peers.
- In Asia, unmet need is higher among unmarried women than among those who are married. This likely reflects social stigma against unmarried sexual activity, which creates barriers to their obtaining contraceptive services.
- In Latin America and the Caribbean, unmet need is similar among married and unmarried women wanting to avoid pregnancy.

FIGURE 2

CONTRACEPTIVE NEED AND USE



SOURCE: reference 10.

Reasons for Unmet Need

Numerous studies have detailed social, cultural and economic barriers to using contraceptives that young women face, whether or not they are married.^{29,30} For example, young married women—particularly those in communities that expect girls to conform to traditional gender roles—may feel social pressure to have a birth soon after getting married as a way to prove their fertility, begin adulthood, secure their marriage and gain respect.^{31,32} Young married men may face similar social pressure to prove their virility and transition to parenthood. Unmarried young people, on the other hand, may lack support and services because their sexual activity is not socially approved.

A Guttmacher analysis of Demographic and Health Survey data from 52 countries found that 15–24-year-old women around the world cite similar reasons for not using contraceptives despite not wanting a pregnancy.³³ Four groups of reasons are most common: Women say they have infrequent sex or are not married; they are concerned about the side effects or health risks of contraceptive methods; they haven't resumed menstruation after a birth, are breast-feeding, or both; and they or their partners are

opposed to contraception. Few young women with unmet need for contraception report that they are unaware of contraceptive methods or lack access to a source.

The responses “infrequent sex” and “not married” may reflect that young women, particularly unmarried women, have only sporadic relationships. Alternatively, unmarried women may not wish to expose the fact that they are sexually active. They may be concerned that using a method would call attention to their socially stigmatized behavior.³²

In some situations, young women may underestimate their likelihood of becoming pregnant—if they only occasionally have sex or if they recently gave birth. Opposition to contraception may reflect religious or personal beliefs or concerns about the methods themselves. Concerns about side effects and health risks may reflect women’s experience with methods,³⁴ the experiences of women they know or misinformation.³⁵ Any of these cases suggest that women need better information about modern contraceptive methods, a range of methods from which to choose and opportunities to switch methods when needed.

Numerous program reviews have documented service obstacles that adolescents face, such as judgmental attitudes of providers, a lack of confidentiality, limited contraceptive options, and the lack of policies and guidelines for protecting adolescents’ rights to information and services.³⁶ Only 49 of the 93 countries providing information to the World Health Organization have laws and regulations that allow minor adolescents to seek contraceptive services without parental or spousal consent.³⁷

Costs of Meeting Contraceptive Needs

Current costs of contraceptive services

Information about actual spending on contraceptive services is not available for most developing countries, but the costs can be estimated from various sources of information about the prices of contraceptive commodities and other components of service provision. The estimated annual cost of providing contraceptive services to the 15 million sexually active women aged 15–19 who currently use modern contraceptives in developing countries is \$222 million: \$41 million in Africa, \$61 million in Asia and \$119 million in Latin America and the Caribbean

TABLE 2

REGIONAL VARIATIONS IN COSTS

Total and average costs of contraceptive services for current adolescent users and for all adolescent women needing contraception, in 2016 U.S. dollars

	Current users	All in need
Total cost (in millions)		
All developing regions	\$222	\$770
Africa	41	351
Asia	61	222
Latin America and the Caribbean	119	196
Average total cost per user		
All developing regions	\$14.88	\$20.51
Africa	10.72	29.37
Asia	12.12	13.73
Latin America and the Caribbean	19.90	20.91

NOTE: Numbers may not add up to totals because of rounding. SOURCE: reference 10.

(Table 2).¹⁰ These estimates include both the direct and indirect costs of services. Direct costs include contraceptives, related supplies and health worker salaries, while indirect costs—also called program and systems costs—make up the rest. Indirect costs include many types of program support, such as staff supervision and training, information and education activities, monitoring and evaluation, advocacy and public education, construction and maintenance of facilities, development and maintenance of commodity supply systems, and other management functions.

The yearly cost of contraceptives and related supplies varies by method: Annual direct costs for IUDs are lowest, at \$2.45 per user. Condoms and implants fall in the middle, at \$4.69 and \$4.81 per user, respectively. Pills and injectables are most expensive, at \$11.05 and \$9.31 per user, respectively.

The average annual cost per current adolescent user of modern contraception in the developing world is \$7 in direct costs and \$15 when indirect costs are factored in. Total costs vary widely by region due to variations in method costs, the mix of methods used and indirect costs. Direct costs are generally higher in Latin America and the Caribbean than in other regions because the costs of commodities and personnel are higher.

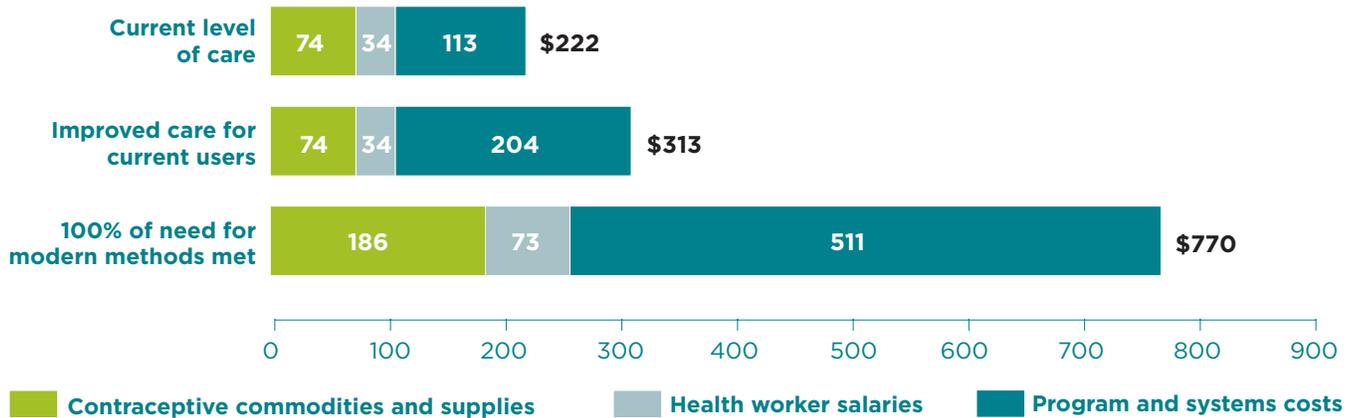
In this analysis, service costs for each method are assumed to be the same for adolescents as for older women in the same country. But the contraceptive method mix, and therefore the average cost per user, differs.²⁸ This is because adolescents rely to a greater extent on short-term methods,

FIGURE 3

COSTS OF ADOLESCENT CONTRACEPTIVE SERVICES

Meeting all adolescent women’s needs for modern contraceptives will cost \$548 million more per year than the current level of services.

Costs in 2016 U.S. dollars (in millions)



NOTES: Estimates are for 2016 for all developing regions. Program and systems costs include service-related program management, supervision and training of personnel, monitoring and evaluation, advocacy and public education, information and commodity supply systems, and the cost of maintaining and expanding the physical capacity of health facilities. Numbers may not add up to totals because of rounding. SOURCE: reference 10.

such as condoms and pills, which are more expensive for health systems to provide on an annual basis than the IUD and sterilization, which older women are more likely to use.

The costs presented here are best estimates of service provision in the public medical sector. While most modern methods are obtained from health facilities, some users of pills and condoms obtain their supplies from a drugstore or from a shop, friend or other nonmedical source. Adolescents using pills are as likely as all women to obtain them from a drugstore or nonmedical source, and are somewhat more likely to receive condoms from a nonmedical source.¹⁰ The cost estimates in this analysis do not adjust for differences in sources of supply, however, because they reflect costs to the country’s entire health system rather than actual expenditures. Users usually must pay out of pocket for contraceptives from commercial sellers, who usually pay more for commodities than the public sector does. These sellers typically do not offer counseling and other health care as do contraceptive service providers in medical settings.

Providing improved services to all women who need contraception

If services were improved for the 15 million adolescent women currently using modern contraceptives, costs would increase from \$222 million to \$313 million (Figure 3).¹⁰ The improvements would include changes to increase young people’s access to accurate information and education, strengthen contraceptive counseling and follow-up, ensure

a mix of modern methods is consistently available, ensure health workers are trained to work with young people, and expand clinic- and community-based service delivery.

If, in addition, the 23 million adolescent women with unmet need were to use the same mix of modern methods as current adolescent users and receive improved services, total costs would increase to \$770 million annually (\$259 million in direct costs and \$511 million in indirect costs). Indirect costs account for a large share of the additional spending because the programs and systems that support the services need significant improvement, especially in the poorest countries. Improvements are essential for overcoming the barriers that all women, and particularly young women, face in obtaining and using contraceptives effectively. Programs must ensure that young women—many of whom may be first-time users—receive services from a trained professional, whether in clinics or in other settings, and can choose methods that best meet their personal circumstances and needs.

Improving services would increase the likelihood that adolescents will use contraceptives and help ensure that their rights will be protected. In the area of family planning, protecting and fulfilling human rights involves ensuring that contraceptive service providers respect and protect their clients’ privacy and dignity, and ensure fully informed choice and freedom from harm.^{38,39} For adolescents, this includes providing services confidentially and respectfully, to encourage those who would otherwise not seek services to do so.

TABLE 3

BENEFITS OF MEETING ALL CONTRACEPTIVE NEEDS**Annual benefits resulting from adolescents' use of modern contraceptive use in developing regions, according to contraceptive use scenario**

Measure	Current use of modern methods	Fulfillment of all unmet need for modern methods	Total (100% of need met)
No. of modern contraceptive users (in 000s)	15,000	23,000	38,000
No. of unintended pregnancies averted (in 000s)	5,400	6,000	11,400
Unplanned births	1,900	2,000	3,900
Safe abortions	600	800	1,400
Unsafe abortions	2,200	2,400	4,600
Miscarriages*	700	700	1,400
No. of deaths averted	3,000	5,600	8,600

*Includes stillbirths. NOTES: Estimates are for women aged 15–19 in 2016. All measures except maternal deaths averted are in 1,000s. Numbers may not add up to totals because of rounding. SOURCE: reference 10.

The \$548 million difference between the cost of serving current users and the cost of meeting all need for modern contraception reflects the urgency and magnitude of the improvements required to expand capacity and improve the quality of contraceptive services. That a large portion of this total cost increase needs to be directed to Sub-Saharan Africa reflects that much of the unmet need is concentrated in this area and that health systems there are greatly in need of strengthening.

If all unmet need for modern contraception among adolescent women were satisfied and quality of contraceptive care were improved:

- The annual cost per contraceptive user would average \$21 (varying by region).¹⁰ The cost would be \$3 per woman aged 15–19.
- Services for current and new users combined would cost an estimated \$770 million: \$351 million in Africa, \$222 million in Asia and \$196 million in Latin America and the Caribbean.
- As with current services, the additional costs would be borne by a combination of users' out-of-pocket payments, insurance payments, government budgets and donor contributions.

Benefits of Meeting All Contraceptive Needs

In 2016, an estimated 38 million adolescent women in developing regions want to avoid pregnancy.¹⁰ Fifteen million of these adolescent women use modern contraceptives, thereby preventing 5.4 million unintended pregnancies. Of these pregnancies, 2.9 million would have ended in abortion at current rates, and most of them would have

been unsafe (Table 3). Current use of modern contraceptives also averts 3,000 maternal deaths annually in developing countries.

Increased use of modern contraceptives by adolescents wanting to avoid pregnancy would prevent additional unintended pregnancies, thereby improving their health and ultimately that of their children. Currently, 10.2 million unintended pregnancies occur each year among women aged 15–19 in the developing world, either because women do not use contraceptives or because of contraceptive failure (and nonuse of contraceptives accounts for a far greater share of unintended pregnancies than contraceptive failure). The 10.2 million unintended pregnancies result in an estimated 3.3 million unplanned births, 5.6 million abortions (3.9 million of which are unsafe) and 1.2 million miscarriages.

If all 23 million adolescent women with an unmet need for modern contraception were to receive improved contraceptive services, unintended pregnancies would drop by 59% from current levels, or by an estimated 6.0 million per year. (Unintended pregnancies would not be eliminated altogether because some users would experience contraceptive failure—especially those using condoms and other short-term methods that rely on users' actions.) Compared with current levels of contraceptive use, there would be

- 2.1 million fewer unplanned births (a decline of 62%);
- 3.2 million fewer abortions (a decline of 57%), including 2.4 million fewer unsafe abortions;
- 700,000 fewer miscarriages of unintended pregnancies (a decline of 60%); and
- 5,600 fewer maternal deaths related to unintended pregnancies (a decline of 71%).

Most of the maternal deaths averted (4,800) would be in Africa, the region with the highest maternal mortality.

Satisfying all unmet need in this region would result in the largest gains in health and well-being.

Improvements in contraceptive services can lead to improved outcomes in other areas of reproductive health. For example, young women who go to a provider for contraceptives can be educated about the availability and importance of antenatal and delivery care, and they can be connected to testing, counseling and treatment services for HIV and other STIs. Contraceptive services can also prevent mother-to-child transmission of HIV by helping young women living with HIV avoid unintended pregnancies.

Although it is not estimated here, spending on contraceptive services saves funds that would otherwise be spent on health services, such as treatment for complications following an unsafe abortion and those that may arise during or after childbirth.⁴⁰ The return would be even greater if it took into account the short-term and lifelong effects of early and unplanned childbearing on women's education and employment, as well as its impacts on their children's health.

Reducing adolescent fertility can also contribute to a "demographic dividend."⁴¹ This is the economic boost that can occur when birthrates decline and the share of the working-age population grows relative to the dependent population. Smaller family size makes it possible for both families and governments to invest more in the health and education of each child, and for more women to enter the labor force. If governments enact policies to make the economic environment conducive to growth, and if this large cohort finds well-paying work, a dividend comes as this productive labor boosts family and national income.

Recommendations

Meeting young women's contraceptive needs is a critical component of strategies to improve their health and that of their children and to eliminate poverty. Policymakers and program planners should use data about the need for and costs and benefits of contraceptive services to develop these strategies. They must work on several fronts to meet adolescents' needs:

- End child marriage and prevent rape, other types of coerced sex and sexual abuse. These violate human rights and push some young women into sexual activity, marriage and childbearing before they wish and with partners they do not choose.
- Address women's lack of education and empowerment, which stem from gender-based discrimination and inequality in society. Efforts to advance the status of girls and women are essential, although they are not included in the cost analysis presented here.
- Provide high-quality contraceptive services that help young women overcome the personal and cultural

barriers they face by providing care that protects their rights to voluntary, informed and confidential contraceptive choice.

Address social and cultural barriers

Reproductive health programs must pay attention to how traditional gender norms—the societal and cultural expectations of what it means to be a man or woman—impact sexual behavior and the use of contraceptives. Women often have less power than their partners in relationships, especially if they are much younger than their partners, and this makes it difficult to negotiate sexual activity and use of contraceptives, particularly condoms.

Boosting girls' education can increase their knowledge and their ability to make autonomous decisions; studies have shown that adolescents who are in school are less likely to have sex and more likely to use contraceptives when they do have sex.⁴² Early marriage and pregnancy are also important—and preventable—reasons girls may drop out of school.

Young men's needs are also critical to address. Recent reviews of reproductive health programs have revealed that those aimed at both men and women are more effective than those aimed solely at women, and that engaging young men can help bring about more gender-equitable attitudes.^{43,44}

Support promising sexual and reproductive health programs

The most effective approaches to providing sexual and reproductive services to youth include a combination of health worker training; facility improvements geared toward welcoming adolescents and protecting their privacy; and information dissemination through schools, communities and the media.^{45,46} Because adolescent sexuality is a culturally sensitive issue, successful programs are those built with adolescent input, community buy-in and service elements that are locally appropriate.⁴⁶

Two approaches commonly pursued, however—stand-alone youth centers and peer education—have not been shown to be effective in changing young people's reproductive health behaviors.⁴⁷ Large-scale evaluations have found that youth centers (often designed for recreation) serve too few young people with health services to be cost-effective, and peer education programs, while valuable for information sharing, have not resulted in measurable behavior change.

Adolescents critically need access to age-appropriate sexual and reproductive health information before they are sexually active. This can be addressed through policies that acknowledge the needs of this age-group and through implementation of comprehensive sexuality education.⁴⁸ Such education should include discussions about gender

equity and gender relations, delaying sexual initiation and effective methods of pregnancy prevention.

The counseling provided with contraceptive methods must be strengthened, whether the services are offered in health clinics, pharmacies or community settings. All young women need correct information about their risk of becoming pregnant and about the choices of contraceptive methods that are most suited to their circumstances. Such counseling needs to include complete and accurate information about the possible side effects of modern methods and what to do about them, including switching methods when desired.

Even before young women seek services, they need to receive accurate information about the risks of pregnancy and the benefits of contraceptive use. Ideally, such education would begin in school, but most countries have a long way to go to adopt or, in some cases, fully implement comprehensive sexuality education in their public school systems.⁴⁹

Adolescents who become pregnant need antenatal and delivery care and access to safe abortion services; adolescents with complications from unsafe abortion require postabortion care. Following a birth or an abortion, adolescents should receive contraceptive services to help them avoid becoming pregnant again too soon or having repeated unintended pregnancies.

Invest in research to fill data gaps

To design effective programs, decision-makers need timely data on contraceptive services, method use, pregnancies and births, disaggregated by age.⁵⁰ For example, they need to know the proportion of women using modern contraceptives among those who want to avoid pregnancy, as well as adolescent birthrates, to monitor progress toward global initiatives such as FP2020; the Global Strategy on Women's, Children's and Adolescents' Health; and the Sustainable Development Goals.

Such efforts require having data on key groups of young women: those aged 10–14, 15–17 and 18–19. Current survey programs can help meet these needs, as would improvements in countries' vital statistics systems and development of new and more rapid ways to collect and report data. For example, the Performance Monitoring and Accountability 2020 project has pioneered new ways of collecting data using mobile devices—which provide data to decision-makers much more quickly than standard household surveys.⁵¹

Collecting data on adolescent girls aged 10–14 presents special challenges and, as a result, this age-group is usually excluded from national health surveys.⁵² Some data are available, however: As was done in this report, data can be derived from retrospective reports of older adolescents and adult women. Still, given that an estimated 780,000 births will occur in 2016 to mothers younger than 15,¹⁰ more data are critically needed on the information and services these girls receive.

References

1. World Health Organization (WHO), Mortality, morbidity and disability in adolescence, 2014, <http://apps.who.int/adolescent/second-decade/section3/page2/mortality.html>.
2. Kozuki N et al., The associations of parity and maternal age with small-for-gestational-age, preterm, and neonatal and infant mortality: a meta-analysis, *BMC Public Health*, 2013, 13(Suppl. 3):S2, <http://www.biomedcentral.com/1471-2458/13/S3/S2>.
3. Finlay JE, Özalpin E and Canning D, The association of maternal age with infant mortality, child anthropometric failure, diarrhoea and anaemia for first births: evidence from 55 low- and middle-income countries, *BMJ Open*, 2011, 1(2):e000226, doi:10.1136/bmjopen-2011-000226.
4. Merrick TW, *Making the Case for Investing in Adolescent Reproductive Health: A Review of Evidence and PopPop Research Contributions*, Washington, DC: Population and Poverty Research Initiative and Population Reference Bureau, 2015.
5. United Nations (UN), *Adolescent Fertility Since the International Conference on Population and Development (ICPD) in Cairo*, New York: UN Population Division, Department of Economic and Social Affairs, 2013.
6. Family Planning 2020, Family Planning 2020: accelerating progress, strategy for 2016–2020, 2015, <http://www.familyplanning2020.org/microsite/strategy>.
7. Every Woman Every Child, *Global Strategy for Women's, Children's and Adolescents' Health (2016–2030)*, 2015, http://globalstrategy.everywomaneverychild.org/pdf/EWEC_globalstrategyreport_200915_FINAL_WEB.pdf.
8. UN, *Transforming Our World: The 2030 Agenda for Sustainable Development, United Nations, 2015, A/RES/70/1*, no date, <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf>.
9. Barot S et al., *Sexual and Reproductive Health and Rights Indicators for the SDGs*, New York: Guttmacher Institute, 2015, <https://www.guttmacher.org/report/sexual-and-reproductive-health-and-rights-indicators-sdgs>.
10. Special analyses, see Box 1, p. 4.
11. UN, *Millennium Development Goals Report 2015*, New York: UN, 2015, http://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20%28July%201%29.pdf.
12. UN, Convention on the rights of the child, 1989, <http://www.ohchr.org/en/professionalinterest/pages/crc.aspx>.
13. de Silva-de-Alwis R, Child marriage and the law, *Legislative Reform Initiative Paper Series*, New York: UNICEF, 2008, http://www.unicef.org/policyanalysis/files/Child_Marriage_and_the_Law%281%29.pdf.
14. Hervish A and Feldman-Jacobs C, Who speaks for me? Ending child marriage, *Policy Brief*, Washington, D.C.: Population Reference Bureau, 2011.
15. Luke N, Clark S and Zulu EM, The relationship history calendar: improving the scope and quality of data on youth sexual behavior, *Demography*, 2011, 48(3):1151–1176.
16. Lindstrom DP et al., Nonmarital sex and condom knowledge among Ethiopian young people: improved estimates using a nonverbal response card, *Studies in Family Planning*, 2010, 41(4):251–262.
17. Vogel JP et al., Millennium Development Goal 5 and adolescents: looking back, moving forward, *Archives of Disease in Childhood*, 2015, 100(Suppl. 1):S43–S47.
18. Moore AM et al., Coerced first sex among adolescent girls in sub-Saharan Africa: prevalence and context, *African Journal of Reproductive Health*, 2007, 11(3):62–82.
19. Garcia-Moreno C et al., *Global and Regional Estimates of Violence Against Women: Prevalence and Health Effects of Intimate Partner Violence and Non-Partner Sexual Violence*, Geneva: WHO, 2013.
20. Temin M and Levine R, *Start with a Girl: A New Agenda for Global Health*, Washington, D.C.: Center for Global Development, 2009.
21. Stöckl H et al., Intimate partner violence among adolescents and young women: prevalence and associated factors in nine countries: a cross-sectional study, *BMC Public Health*, 2014, 14:751, <http://bmcpublihealth.biomedcentral.com/articles/10.1186/1471-2458-14-751>.

22. Sedgh G et al., Induced abortion: incidence and trends worldwide from 1995 to 2008, *The Lancet*, 2012, 379(9816):625–632.
23. Say L et al., Global causes of maternal death: a WHO systematic analysis, *Lancet Global Health*, 2014, 2(6):e323–e333.
24. Woog V et al., *Adolescent Women's Need for and Use of Sexual and Reproductive Health Services in Developing Countries*, New York: Guttmacher Institute, 2015.
25. Mutua MM et al., Factors associated with delays in seeking post abortion care among women in Kenya, *BMC Pregnancy and Childbirth*, 2015, 15:241, doi:10.1186/s12884-015-0660-7.
26. Nove A et al., Maternal mortality in adolescents compared with women of other ages: evidence from 144 countries, *Lancet Global Health*, 2014, 2(3):e155–e164.
27. Conde-Agudelo A, Belizán JM and Lammers C, Maternal-perinatal morbidity and mortality associated with adolescent pregnancy in Latin America: cross-sectional study, *American Journal of Obstetrics & Gynecology*, 2005, 192(2):342–349.
28. Singh S, Darroch JE and Ashford LS, *Adding It Up: The Costs and Benefits of Investing in Sexual and Reproductive Health 2014*, New York: Guttmacher Institute, 2014.
29. Lloyd CB, ed., *Growing Up Global: The Changing Transition to Adulthood in Developing Countries*, Washington, D.C.: National Academies Press, 2005.
30. Chandra-Mouli V et al., Contraception for adolescents in low and middle income countries: needs, barriers, and access, *Reproductive Health*, 2014, 11(1):1.
31. Jejeebhoy SJ, Santhya KG and Zavier AJ, Demand for contraception to delay first pregnancy among young married women in India, *Studies in Family Planning*, 2014, 45(2):183–201.
32. Glinski A, Sexton M and Petroni S, *Understanding the Adolescent Family Planning Evidence Base*, Washington, D.C.: International Center for Research on Women, 2014.
33. Hussain R, Ashford LS and Sedgh G, *Unmet Need for Contraception in Developing Countries: Examining Women's Reasons for Not Using a Method*, New York: Guttmacher Institute, 2016.
34. Darroch JE, Sedgh G and Ball H, *Contraceptive Technologies: Responding to Women's Needs*, New York: Guttmacher Institute, 2011.
35. Wells E, Countering myths and misperceptions about contraceptives, *Outlook on Reproductive Health*, Seattle, WA, USA: PATH, 2015.
36. Family Planning High Impact Practices, Adolescent-friendly contraceptive services: mainstreaming adolescent-friendly elements into existing contraceptive services, brief, Washington, D.C.: USAID, 2015, www.fphighimpactpractices.org/afcs.
37. WHO, Selected policies on adolescent friendly health services in low and middle income countries, 2014, http://www.who.int/entity/maternal_child_adolescent/documents/countries/indicators/5_adoles_health_policy_indicators.pdf?ua=1.
38. Hardee K et al., Voluntary, human rights-based family planning: a conceptual framework, *Studies in Family Planning*, 2014, 45(1):1–18.
39. WHO, *Ensuring Human Rights in the Provision of Contraceptive Information and Services: Guidance and Recommendations*, Geneva: WHO, 2014.
40. Greene ME and Merrick T, *The Case for Investing in Research to Increase Access to and Use of Contraception among Adolescents*, Seattle, WA, USA: Alliance for Reproductive, Maternal, and Newborn Health, 2015.
41. Canning D, Raja S and Yazbeck A, *Africa's Demographic Transition: Dividend or Disaster?* overview booklet, Africa Development Forum series, Washington, D.C.: World Bank, 2015.
42. Lloyd C, *Schooling and Adolescent Reproductive Behavior in Developing Countries, Millennium Project*, New York: United Nations Population Fund (UNFPA), 2006.
43. Kato-Wallace J et al., *Adolescent Boys and Young Men: Engaging Them as Supporters of Gender Equality and Health and Understanding Their Vulnerabilities*, Washington, D.C.: Promundo; and New York: UNFPA, 2016.
44. Croce-Galis M, Salazar E and Lundgren R, *Male Engagement in Family Planning: Reducing Unmet Need for Family Planning by Addressing Gender Norms*, Washington, D.C.: Georgetown University Institute for Reproductive Health, 2014, http://irh.org/wp-content/uploads/2014/10/Male_Engagement_in_FP_Brief_10.10.14.pdf.
45. Denno DM, Hoopes AJ and Chandra-Mouli V, Effective strategies to provide adolescent sexual and reproductive health services and to increase demand and community support, *Journal of Adolescent Health*, 2015, 56(1 Suppl.):S22–S41.
46. Gottschalk LB and Ortayli N, Interventions to improve adolescents' contraceptive behaviors in low- and middle-income countries: a review of the evidence base, *Contraception*, 2014, 90(3):211–225.
47. Chandra-Mouli V, Lane C and Wong S, What does not work in adolescent sexual and reproductive health: a review of evidence on interventions commonly accepted as best practices, *Global Health: Science and Practice*, 2015, 3(3):333–340.
48. Bankole A et al., Sexual behavior, knowledge and information sources of very young adolescents in four sub-Saharan African countries, *African Journal of Reproductive Health*, 2007, 11(3):28–43.
49. Haberland N and Rogow D, Sexuality education: emerging trends in evidence and practice, *Journal of Adolescent Health*, 2015, 56(1 Suppl.):S15–S21.
50. Darroch JE et al., *Research Gaps in Adolescent Sexual and Reproductive Health*, New York: Guttmacher Institute, 2016, <https://www.guttmacher.org/report/research-gaps-in-sexual-and-reproductive-health>.
51. Performance Monitoring and Accountability 2020, Snapshot of indicators, 2016, <http://pma2020.org/snapshot-indicators>.
52. Way A, Youth data collection in DHS surveys: an overview, *DHS Occasional Paper*, Rockville, MD, USA: ICF International, 2014, No. 9.

Box 1 References

1. Singh S, Darroch JE and Ashford LS, *Adding It Up: Costs and Benefits of Investing in Sexual and Reproductive Health 2014*, New York: Guttmacher Institute, 2014.
2. Darroch JE, Singh S and Weisman E, *Adding It Up: The Costs and Benefits of Investing in Sexual and Reproductive Health 2014 Estimation Methodology*, 2016, <https://www.guttmacher.org/report/adding-it-costs-and-benefits-investing-sexual-and-reproductive-health-2014-methodology>.
3. Reproductive Health Supplies Coalition, Review RHInterchange data, resources and tools, 2015, <http://www.myaccessrh.org/rhi-home>.
4. Stenberg K, WHO, personal communication, Mar. 1, 2013.
5. Management Sciences for Health (MSH), *International Drug Price Indicator Guide*, 2014 ed., Medford, MA, USA: MSH, 2015.
6. United Nations Children's Fund, Supply catalogue, 2016, <https://supply.unicef.org>.
7. Imres Medical Solutions, Product catalogue, 2014, <http://www.imres.nl/shop/categorie/108>.
8. IDA Foundation, Medical supplies: sutures, no date, <http://www.idafoundation.org/our-products/medical-supplies.html>.
9. United Nations Economic and Social Council, Flow of financial resources for assisting in the implementation of the Programme of Action of the International Conference on Population and Development, Commission on Population and Development, 46th sess., Apr. 22–26, 2013, <http://daccess-ods.un.org/access.nsf/Get?Open&DS=E/CN.9/2013/5&Lang=E>.

Box 2 References

1. Bradley SEK et al., Revising unmet need for family planning, *DHS Analytical Studies*, Calverton, MD, USA: ICF International, 2012, No. 25.
2. Trussell J, Contraceptive efficacy, in: Hatcher RA et al., eds., *Contraceptive Technology*, 20th ed., New York: Ardent Media, 2011, Table 3-2.

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