



Guidelines for Monitoring and Evaluating World Bank Projects Aimed at Improving Reproductive Health Outcomes*

HNPNotes

Introduction

In May 2010, the World Bank Executive Board endorsed a Reproductive Health Action Plan, which spells out how the Bank will contribute to reducing high fertility, improving pregnancy outcomes, and reducing sexually transmitted infections, particularly in countries with high maternal mortality ratios (MMR) or total fertility rates.¹ Accordingly, the Bank will assist countries by supporting investments that accelerate progress toward the two targets of the fifth Millennium Development Goal (MDG 5): Reducing MMR by 75 percent between 1990 and 2015 and achieving universal access to reproductive health by 2015 (Box 1). Implementing the Reproductive Health Action Plan will entail monitoring and evaluation of World Bank funded health projects that aim to improve reproductive health. The purpose of this HNPNotes is to provide guidance to task teams on M&E for reproductive health interventions and outcomes.

The Bank's renewed focus on health, nutrition, and population (HNP) results is one of the key strategic directions of the 2007 HNP strategy. It has become increasingly apparent that to improve the effectiveness of Bank lending operations and to demonstrate results, monitoring and evaluation systems will have to be improved to show the link between investments and outcomes on the ground. The Reproductive Health Action Plan recognizes, among other needs, the need to strengthen not only the results framework of Bank-funded projects but also the health information systems of client countries, including civil registration systems and health management information systems.

Three elements are essential for effective monitoring and evaluation of health projects aimed at improving reproductive health outcomes:

- appropriate indicators must be selected
- realistic targets must be set, and

Box 1. MDG 5 goal and targets

Goal: *Improve maternal health*

Target 5A: Reduce the maternal mortality ratio by three-fourths between 1990 and 2015.

Indicators

- Maternal mortality ratio
- Proportion of births attended by skilled health personnel

Target 5B: Achieve, by 2015, universal access to reproductive health.

Indicators

- Adolescent birth rate
- Antenatal care coverage (at least one visit and at least four visits)
- Unmet need for family planning
- Contraceptive prevalence rate

Source: United Nations, Millennium Development Goals Indicators. <http://mdgs.un.org>

- baseline, intermediate, and endline data must be collected in order to monitor and evaluate the achievement of project objectives.

Selecting Appropriate Indicators

Following common practice in monitoring and evaluation, indicators for reproductive health programs and projects can be categorized as *input*, *output*, *outcome*, and *impact* indicators, as defined in Box 2.

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Box 2. Indicator domains

Indicators can be categorized by the stage of the results chain they report on. These stages show a logical progression, from inputs to outputs to outcomes and, finally, to impacts. For each of these stages (or “domains”), these indicators are proposed:

Inputs – Resources such as personnel, facilities, equipment, supplies, or funds that are used to implement the project.

Outputs – The immediate products or results of the activities implemented, such as the number of personnel trained, number of deliveries conducted, or number of contraceptives distributed. Outputs are measured at the program level.

Outcomes – The intermediate results of the activities implemented, such as contraceptive prevalence rates or percent of births with skilled birth attendants. Unlike outputs, outcomes are measured at the population level.

Impacts – Long-term outcomes, such as the MMR or infant mortality rate.

In order to accurately monitor and evaluate health projects and to harmonize and align with national monitoring frameworks, the task team will have to work closely with governments and development partners to identify and agree on the appropriate indicators. The following should be taken into account in the selection of indicators:

- Indicators should be in line with the project development objectives and reflective of the set of activities to be implemented.
- Indicators should be those that are employed in the national health sector strategic plans or found among indicators that are routinely tracked by the country. In circumstances where appropriate indicators reflecting the project activities are not routinely collected by the government, other indicators can be selected, but their number should be kept to a minimum.
- Indicators should be clearly defined and accurately measurable. Data for the selected indicators should be available or should not require expensive special surveys to collect.
- Indicators to be avoided are those that are complex, require large samples, or require estimates that pertain to past years.
- The number of indicators for monitoring project implementation and outcomes should be as low as possible. Including fewer indicators has been found to lead to more effective measurement.

Table 1 provides definitions of commonly used reproductive health indicators, guidance on target setting, and the respective data sources. Depending on the components of the project, some of these can be used in project results frameworks, whereas others are more suitable for national-level monitoring. The World Bank office of Operations, Policy, and Country Services also recommends that IDA core health sector indicators (shown in Box 3) should be reported for Bank health projects. In projects where the core health sector indicators cannot be incorporated in the results framework, they may instead be incorporated in Implementation Status Reports to ensure that they are reported during project supervision.

Setting Targets

After selecting the appropriate indicators, estimates of the baselines are obtained and targets are set for future periods, especially the end of the project or intervention. The endline target must be realistic and achievable with the available resources, and it should be chosen with cognizance of the implementation constraints and risks identified during project preparation. Table 1 provides notes (in the last column), based on data from previous demographic and health surveys (DHS), indicating the extent of progress made in the past by the countries that experienced the most improvement in selected reproductive health indicators. These notes could serve as a guide when setting endline targets. It is important to note that, for some interventions, it may be easier to increase the level of an indicator of the coverage of an intervention from low to moder-

Box 3. IDA core health sector indicators

1. People with access to a basic package of health, nutrition, or population services (percent increase based on number of people)
2. Health personnel receiving training (number)
3. Health facilities constructed, renovated, and/or equipped (number)
4. Children immunized (number)
5. Pregnant women receiving antenatal care during a visit to a health provider (number)
6. Children receiving a dose of vitamin A (number)
7. Long-lasting insecticide-treated malaria nets purchased and/or distributed (number)
8. Adults and children with HIV receiving antiretroviral combination therapy (number)
9. Pregnant women living with HIV who received antiretroviral to reduce the risk of MTCT (number)

ate than to increase it from moderate to high. For instance, expanding such interventions as skilled birth attendants in urban areas will frequently produce an initial increase in coverage level, but it is usually more difficult to expand the same intervention to rural or outlying areas.

Attribution of progress to specific projects

In the long term, one cannot usually attribute improvements in reproductive health outcomes solely to World Bank funded projects, since ongoing efforts by governments as well as the inputs from the government and other development partners are often trying to achieve the same outcomes in the same regions. The factors that could influence outcomes measured at the end of a project include the following:²

- **History effect** – Events other than the World Bank funded project, such as other government or development partners' activities, might explain the improved reproductive health outcomes.
- **Testing effect** – If the same questionnaire is used for the pretest and post-test among the same respondents, they are more likely to perform better in the post-test.
- **Instrumentation effect** – If different instruments or questionnaires or observers are used to collect the baseline and endline data, which can affect the findings.
- **Selection effect** – This occurs when the characteristics of the intervention area are different from those of the control or comparison area.
- **Maturation effect** – This occurs when respondents become more experienced or wiser with time and therefore perform better on the post-test than on the pretest.

Data Collection and Data Sources

An explicit plan for data collection should be developed during project preparation, including when baseline, intermediate, and endline data will be collected and made available and which agency or persons will be responsible for data collection, analysis, and reporting. The plan should also include the estimated cost of data collection.

Ideally, baseline data should be identified or collected prior to project implementation. Without adequate baseline data, subsequent project monitoring becomes challenging. It is important that baseline data be collected as close to a project's start of implementation as possible, so that a true baseline is obtained. Some survey-based estimates of health services use (such as skilled attendance at delivery measured in DHS) pool data for a five-year period before the survey and are therefore less suitable as

proper baselines. Regarding the frequency of data collection, a minimum of three collections is desirable: data collected at baseline, data collected for midterm project review, and data collected at end-of-project. For some indicators, such as those reporting on implementation progress, data can be collected annually.

Several sources of data and data collection instruments can be effectively used to measure indicators for improving reproductive health. These include routine Health Management Information System (HMIS), the civil registration system, household surveys (such as DHS or Multiple Indicator Cluster Survey [MICS]), health facility surveys (such as SPA), and censuses.

A complete and accurate HMIS together with a civil registration system can provide sufficient data to measure most indicators for improving reproductive health, as the details in Table 1 make clear. In countries where the HMIS is weak, a portion of project funds should be allocated to the strengthening the HMIS. In the interim, while the HMIS is still being improved, data from selected health facilities could be used to allow for the tracking of a project's progress, depending on the coverage of the project and local capacity. Health facility surveys, when focused on specific indicators, can also be a relatively inexpensive way to provide baseline, intermediate, and endline data.

Population-based household surveys are reliable sources of data for monitoring and evaluation, and they provide medium-term trends. However, in addition to their high cost, a limitation of such surveys is that they might not coincide with the beginning and end of a project. Moreover, as noted earlier, population-based estimates cannot be attributed solely to the World Bank funded project. In sum, these instruments can be reliable for general health monitoring purposes but may not always be reliable for evaluating the Bank's projects as such.

Indicators Requiring Special Consideration

Some indicators require special consideration and discussion before being incorporated in the project results framework. Examples are maternal mortality ratio, unmet need for contraception, and direct obstetric case fatality rate.

Maternal mortality ratio (MMR)

Measuring MMR accurately is generally too difficult to accomplish except in countries that have complete civil registration systems with good attribution of cause of death.³ Estimating maternal mortality from surveys requires large sample sizes and wide confidence intervals. Additionally, maternal deaths are

often misclassified, even in developed countries that have relatively complete civil registration systems. This makes MMR unsuitable for monitoring short-term changes in projects aimed at improving maternal health. In a typical five-year health project, it is therefore not advisable to use MMR as an indicator. The absence of agreed-upon baseline data from different sources in most low- and middle-income countries also makes it difficult to establish a baseline MMR and to set future targets.

Unmet need for contraception

Unmet need for contraception is defined as the proportion of currently married women who either do not want any more children but are not using any form of family planning (unmet need for contraception for limiting) or want to postpone their next birth for two years but are not using any form of family planning (unmet need for contraception for spacing). Unmet need points to the gap between potential demand and contraceptive use. It is important not to interpret high levels of unmet need as the failure of a family planning program to supply contraceptives, as unmet need is a dynamic indicator. It changes from

low levels in countries in which fertility preferences have not started to decline to higher levels during the fertility transition period, and back to low levels as the demand for small family size becomes fulfilled.

Direct obstetric case fatality rate

Direct obstetric case fatality rate is the ratio of the number of deaths due to direct obstetric complications to the number of women who were treated for all direct obstetric complications in the same health facilities and period.⁴ Although this indicator sounds complex, it can be measured from routine HMIS data. It can be used as a crude but useful measure for annually tracking the quality of emergency obstetric care. A list, with definitions, of those obstetric complications that constitute *direct obstetric complications* is shown in Box 4. It is best to compute just one aggregate estimate for all health facilities in a given geographic area, since comparing the rates among hospitals can be misleading; for example, tertiary facilities, which end up addressing most of the life-threatening complications, have spuriously higher rates. Based on previous studies, the maximum acceptable level is less than 1 percent.⁵

Box 4. Major direct obstetric complications

Haemorrhage

Antepartum

- Severe bleeding before and during labour: placenta praevia, placental abruption

Postpartum (any of the following)

- Bleeding that requires treatment (e.g., provision of intravenous fluids, uterotonic drugs or blood)
- Retained placenta
- Severe bleeding from lacerations (vaginal or cervical)
- Vaginal bleeding in excess of 500 ml after childbirth
- More than one pad soaked in blood in 5 minutes

Prolonged or obstructed labor (dystocia, abnormal labor) (any of the following)

- Prolonged established first stage of labor (> 12 hours)
- Prolonged second stage of labor (> 1 hour)
- Cephalo-pelvic disproportion, including scarred uterus
- Malpresentation: transverse, brow, or face presentation

Ruptured uterus

- Uterine rupture with a history of prolonged or obstructed labor when uterine contractions suddenly stopped
- Painful abdomen (pain may decrease after rupture of uterus)
- Patient may be in shock from internal or vaginal bleeding.

Postpartum sepsis

- A temperature of 38°C or higher more than 24 hours after delivery (with at least two readings, as labor alone can cause some fever) and any one of the following signs and symptoms: lower abdominal pain; purulent, offensive vaginal discharge (lochia); tender uterus; uterus not well contracted; history of heavy vaginal bleeding (ruling out malaria)

Complications of abortion (spontaneous or induced)

- Haemorrhage due to abortion which requires resuscitation with intravenous fluids, blood transfusion or uterotonics
- Sepsis due to abortion (including perforation and pelvic abscess)

Severe pre-eclampsia and eclampsia

- Severe pre-eclampsia: Diastolic blood pressure ≥ 110 mm Hg or proteinuria ≥ 3 after 20 weeks' gestation. Various signs and symptoms: headache, hyperflexia, blurred vision, oliguria, epigastric pain, pulmonary oedema
- Eclampsia
- Convulsions; diastolic blood pressure ≥ 90 mm Hg after 20 weeks' gestation or proteinuria ≥ 2 .
- Signs and symptoms of severe pre-eclampsia may be present.

Ectopic pregnancy

- Internal bleeding from a pregnancy outside the uterus
- Lower abdominal pain and shock possible from internal bleeding
- Delayed menses or positive pregnancy test

Source: WHO/UNFPA/UNICEF/AMDD, *Monitoring Emergency Obstetric Care: A Handbook* (Geneva: World Health Organization, 2009).

Table 1. Selected Indicators, Data Sources, and Targets for Monitoring Projects Aimed at Improving Reproductive Health

Indicator	Definition	Data source / collection instrument	Frequency	Notes & target setting
Reducing high fertility				
Total fertility rate ^a — <i>impact</i> —	Number of births a woman will have at the end of her reproductive period, based on the current age-specific fertility rates.	Household survey (e.g., DHS, MICS)	3 or 5 yearly surveys	This is a population-based periodic estimate which, as a 3- or 5-year average, will not coincide with the beginning and end of a project but may provide useful medium-term trends. Algeria had the highest fertility decline during 1980–2006, from 6.58 to 2.06, yielding a decline of approximately 0.17 births per woman per year. One could consider the latter as the best-case scenario in setting targets.
Adolescent birth rate ^{a,b} — <i>impact</i> —	Number of births to women ages 15–19/Number of women ages 15–19 in the same area and period (per 1,000 women)	Household survey (e.g., DHS, MICS)	3 or 5 yearly surveys	This is a population-based periodic estimate which, as a 3- or 5-year average, will not coincide with the beginning and end of a project, though it may provide useful medium-term trends. In previous DHS surveys, Ghana had one of the highest adolescent birth rate declines, dropping from 125 in 1988 to 66 in 2008, yielding a decline of approximately 3 births per 1,000 women per year. One could consider the latter as the best-case scenario in setting targets.
Contraceptive prevalence rate ^{a,b} — <i>outcome</i> —	Number of women who use contraceptives/Number of women ages 15–49 in the same area and period (per 100 women)	Household survey (e.g., DHS, MICS)	3 or 5 yearly surveys	This is a population-based periodic estimate which, as a 3- or 5-year average, will not coincide with the beginning and end of a project, although it may provide useful medium-term trends. It can be used to estimate among ‘currently married women’, ‘women currently in union’ or ‘all women’ ages 15–49. In previous DHS surveys, Namibia had one of the highest increases in use of modern contraceptives among all women, rising from 21.4% in 1992 to 45.7% in 2006, yielding an increase of approximately 1.7 % per year. One could consider the latter as the best-case scenario in setting targets.

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Table 1. (continued)

Indicator	Definition	Data source / collection instrument	Frequency	Notes & target setting
Unmet need for contraception — <i>outcome</i> —	Percent of currently married women who do not want any more children but are not using any form of family planning (unmet need for contraception for limiting) or who want to postpone their next birth for two years but are not using any form of family planning (unmet need for contraception for spacing)	Household survey (e.g., DHS, MICS)	3 or 5 yearly surveys	It is important not to interpret high levels of unmet need as the failure of a family planning program, since unmet need is a dynamic indicator. It changes from low levels in countries where fertility preferences have not started to decline to higher levels during the fertility transition period, and back to low levels as the demand for small family size becomes fulfilled. Thus, it is not appropriate to set targets for this indicator.
Number of new acceptors of modern contraceptives per year — <i>output</i> —	Number of new acceptors of modern contraceptives in a calendar year	Routine HMIS	Yearly	In addition to monitoring acceptance of all modern contraceptives, it is possible to monitor selected contraceptives (e.g., sterilization).
Couple years protection (CYP) ^c — <i>outcome</i> —	The estimated protection provided by contraceptive methods during a one-year period, based upon the volume of all contraceptives sold or distributed to clients during that period	Routine HMIS	Yearly	The CYP is calculated by multiplying the quantity of each method distributed to clients by a standard conversion factor (which estimates the duration of contraceptive protection provided per unit of that method) to yield an estimate of the duration of contraception provided by that method. The CYP for each method is then summed for all methods to obtain a total CYP figure. See Table 2 below for the conversion factors.
Improving pregnancy outcomes				
Maternal mortality ratio (MMR) ^{a,b} — <i>impact</i> —	Number of maternal deaths/Number of live births in the same area and period* 100,000	Routine HMIS and civil registration system, surveys, etc.	Depends on the source of data	In a typical 5-year health project, MMR will not be used as an indicator, since it is difficult to measure. However, MMR could be used in countries where the civil registration systems are complete and causes of female deaths are available. In Egypt, MMR decreased from 174 in 1992–93 to 84 in 2000, yielding a decline of approximately 11 per year. Similarly, in Sri Lanka, MMR decreased from 1,056 in 1947 to 24 in 1996, yielding a decline of approximately 21 maternal deaths per 100,000 live births per year. One could consider these as the best-case scenarios in setting targets. To achieve the MDG 5, countries will need an average annual decline of MMR of 5.5% from 1990 to 2015.

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Table 1. (continued)

Indicator	Definition	Data source / collection instrument	Frequency	Notes & target setting
Percent births by skilled health personnel ^{a,b} — <i>outcome</i> —	Number of births by skilled personnel/Number of births in the same area and period * 100	Household survey (e.g., DHS, MICS)	3 or 5 yearly surveys	This is a population-based periodic estimate which, as a 3- or 5-year average, will not coincide with the beginning and end of a project but may provide useful medium-term trends. In previous DHS surveys, the Philippines had the highest increase, rising from 56.4 in 1998 to 98.6 in 2008, yielding an increase of approximately 4.2% per year. One could consider the latter as the best-case scenario in setting targets.
Percent of newborns protected against tetanus ^a <i>outcome</i> —	Number of live births with 2 or more tetanus toxoid injections to the mother during the pregnancy (the last within 3 years of the last live birth), or 3 or more injections (the last within 5 years of the last birth), or 4 or more injections (the last within 10 years of the last live birth), or 5 or more injections (prior to the last birth) divided by the number of live births in the same area and period * 100	Household survey (e.g., DHS, MICS), routine HMIS	3 or 5 yearly surveys or routine HMIS	This is a population-based periodic estimate which, as a 3- or 5-year average, may not coincide with the beginning and end of a project, but may provide useful medium-term trends. In previous DHS surveys, Nepal had one of the highest increases, rising from 45.3 in 2001 to 63.2 in 2006, yielding an increase of approximately 3.6% per year. One could consider the latter as the best-case scenario in setting targets.
Percent antenatal care by skilled health personnel ^{a,b} — <i>outcome</i> —	Number of pregnant women attended by skilled health personnel/Number of births in the same area and period * 100	Household survey (e.g., DHS, MICS)	3 or 5 yearly surveys	This is a population-based periodic estimate which, as a 3- or 5-year average, may not coincide with the beginning and end of a project, but may provide useful medium-term trends. Estimates for at least one visit and at least four visits can be obtained as well. In previous DHS surveys, Senegal had one of the highest increases, rising from 29.9 in 1986 to 94 in 2008, yielding an increase of approximately 2.9% per year. One could consider the latter as the best-case scenario in setting targets.
Number of institutional deliveries per year — <i>output</i> —	Number of deliveries in health facilities in a calendar year	Routine HMIS	yearly	The data is generally collected monthly and reported yearly. Another indicator—percent of institutional deliveries—will require an accurate estimate of the total number of births in a given area as well.

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Table 1. (continues)

Indicator	Definition	Data source / collection instrument	Frequency	Notes & target setting
Number of 1st antenatal visits (health facility) per year — <i>output</i> —	Number of 1st antenatal visits (reg-istrants) in a calendar year	Routine HMIS	yearly	The data is generally collected monthly and reported yearly. Women go to antenatal care several times in a year, and it is easier to collect data on first visits. If accurate data is available, the number of women with 4 or more antenatal visits can be computed as well.
Number of first postnatal visits (health facility) per year — <i>output</i> —	Number of first postnatal visits (reg-istrants) in a calendar year	Routine HMIS	yearly	The data is generally collected monthly and reported yearly.
Number of normal vaginal deliveries per year — <i>output</i> —	Number of normal vaginal deliveries in a calendar year	Routine HMIS	yearly	The data is generally collected monthly and reported yearly.
Percent institutional deliveries with partographs used in labor per year — <i>output</i> —	Number of partographs used in labor divided/Number of institutional births in the same area and period	Routine HMIS	yearly	The data is collected monthly and reported yearly. Partographs are used to monitor labor in places where cardiocotographs are unavailable
Number of caesarean deliveries per year — <i>output</i> —	Number of caesarean deliveries in a calendar year	Routine HMIS	yearly	The data is collected monthly and reported yearly.
Caesarean delivery rate — <i>outcome</i> —	Number of caesarean deliveries/ Number of deliveries in the same area and period * 100	Household survey (e.g. DHS, MICS), routine HMIS	3 or 5 yearly surveys or yearly HMIS	If the data source is a survey, such as DHS, it will be a periodic estimate which, since it will be a 3- or 5-year average, will not coincide with the beginning and end of a project but may provide useful medium-term trends. If the HMIS is the data source, institutional rates can be computed yearly.
Direct obstetric case fatality rate — <i>outcome</i> —	Number of deaths due to direct obstetric complications/Number of women who were treated for all direct obstetric complications in the same health facilities and period * 100	Routine HMIS	yearly	The data is collected monthly and reported yearly. The list and definitions of direct obstetric complications shown in Box 3 should be agreed on in advance. Based on previous studies, the maximum acceptable level is less than 1%.

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Table 1. (continued)

Indicator	Definition	Data source / collection instrument	Frequency	Notes & target setting
Number of basic emergency obstetric and neonatal facilities — output —	Number of health facilities that provide all 7 basic emergency obstetric and neonatal procedures ^d	Routine HMIS	yearly	A given 3–12 month period, preferably in a calendar year, can be used as a reference period to ascertain whether the requisite emergency obstetric and neonatal procedures were available.
Number of comprehensive EmONC facilities — output —	Number of health facilities that provide all 9 emergency obstetric and neonatal procedures ^d	Routine HMIS	yearly	A given 3–12 month period, preferably in a calendar year, can be used as a reference period to ascertain whether the requisite emergency obstetric and neonatal procedures were available.
Percent facility-based maternal deaths audited — output —	Number of maternal deaths in health facilities that were reviewed for contributory factors or cause of death/Number of maternal deaths in the same health facilities and period * 100	Routine HMIS	yearly	The data is generally collected monthly and reported yearly.
Number of community-based maternal deaths audited — output —	Number of maternal deaths outside health facilities that were reviewed for contributory factors or cause of death	Routine reports of community deaths	yearly	This is difficult to collect in places where most women deliver at home. Active case-finding is essential in capturing these deaths.
Reducing sexually transmitted infections				
Number of pregnant women living with HIV who received antiretrovirals to reduce the risk of MTCT — output —	Number of HIV-infected pregnant women who received antiretrovirals during the last 12 months to reduce mother-to-child transmission	Patient registers, facility registers	yearly	The data is generally collected monthly and reported yearly.

^a Reproductive Health Action Plan results framework indicator

^b MDG 5 indicator

^c Source: http://www.usaid.gov/our_work/global_health/pop/techareas/cyp.html

^d A Basic EmONC facility performs the following 7 critical lifesaving procedures: administration of parenteral antibiotics, parenteral oxytocics (uterotonic drugs), parenteral anticonvulsants for pre-eclampsia/eclampsia; manual removal of retained placenta; removal of retained products of conception (manual vacuum aspiration [MVA] or dilatation and curettage [D&C]); assisted vaginal delivery (vacuum extraction or forceps delivery); and basic neonatal resuscitation (bag and mask). Additionally, a comprehensive EmONC facility offers blood transfusion and cesarean delivery.

Table 2. Couple Years of Protection Conversion factors

Method	CYP Per Unit
Oral contraceptives	15 cycles per CYP
Condoms	120 units per CYP
Female condoms	120 units per CYP
Vaginal foaming tablets	120 units per CYP
Depo provera injectable	4 doses (ml) per CYP
Noristerat injectable	6 doses per CYP
Cyclofem monthly injectable	13 doses per CYP
Copper-T 380-A IUD	3.5 CYP per IUD inserted
Norplant implant	3.5 CYP per implant
Implanon implant	2.0 CYP per implant
Jadelle implant	3.5 CYP per implant
Sterilization	10 CYP

Source: http://www.usaid.gov/our_work/global_health/pop/techareas/cyp.html

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