

Family Planning Topic Guide

HEART
HEALTH & EDUCATION ADVICE & RESOURCE TEAM



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Introduction

This document presents a summary of family planning. It reviews existing literature, examining carefully what the current knowledge is, where the important issues or problems lie and “what works”. It is divided into ten sections, namely:

- 1) Overview
- 2) Population growth, economic growth and fertility rates
- 3) Contraceptive methods and prevalence
- 4) Barriers to contraceptive adoption and sustained use
- 5) Health benefits of contraception
- 6) Demand for family planning
- 7) Family planning programmes
- 8) Service delivery options
- 9) Abortive technology
- 10) Value for money

This guide was produced as a result of a reading week held for the UK Department for International Development (DFID) advisers in mid-2012. The topics and readings were chosen by experts in the field but are not a comprehensive review of all family planning literature. This topic guide is an update and based on the key readings selected for this week plus updated materials. The main audience for this guide is policymakers, advisers, managers and practitioners.

Assessment of evidence strength

As part of this topic guide we have assessed the strength of the evidence that we have used. This will enable readers to use evidence responsibly and judiciously. Strong evidence should be of central importance in informing policy and programming decisions. Robust research and evaluation generates the evidence required to form judgements, deliberate options and make intelligent decisions about how to spend scarce financial resources on behalf of taxpayers.

This evidence assessment we have done is this topic guide is based on the *DFID How to Note on Assessing the Strength of Evidence* which is available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/291982/HTN-strength-evidence-march2014.pdf For this topic guide we have done a two part evidence assessment:

- Single study assessment:** We have assessed the strength of evidence of each individual paper used. This is based on research type, research design and method and a quality assessment. We used part two of the DFID paper, and the tables on page 9 and 15 to guide our method for this. In order to use the single study assessment, please see the key in the appendix which outlines the use of acronyms for each part. For example, and assessment of (P&E; EXP; H) would mean a study is primary and empirical, experimental and high quality.
- Evaluating the overall strength of a body of evidence:** Assessment of the overall strength is directly linked to the quality, size, consistency and context of the body of evidence. Ideally, this is based on the assessment of all the individual studies that constitute a body of evidence but due to limitations in time and to show the quality of evidence used for this guide, we have based this on the evidence that is used for each section. Therefore this assessment is based on the body of evidence used for this paper, not all the literature. For this assessment we used part four of the DFID paper, and the table on page 20. For the key for this assessment please see the appendix. We have also assessed the overall strength of the evidence in the whole guide below.

Overall Evidence Strength Assessment for the Family Planning Topic Guide

Quality of evidence:	Size of body of evidence:	Consistency of results:	Closely matched to topic:	Overall assessment:
Medium/High	Medium	Medium/High	Medium/High	Medium/High

1. Overview

Introduction to Topic Guide

By Professor John Cleland, London School of Hygiene and Tropical Medicine

The origin of state-sponsored family planning programmes can be traced back to the massive improvements in life expectancy, and in particular to child survival, that occurred in the last century. In 1900, global life expectancy was about 25 years. A couple typically had five or six births but only two, on average, survived to adulthood, sufficient to maintain a stable population size but no more (Dyson, 2010). By 1950, life expectancy had risen modestly to 30 years but thereafter the pace of change accelerated dramatically. By 1960, expectancy had leapt to 48 years and has continued to improve to reach 69 years by 2005-10 (UN DESA, 2013). At the global level, it is projected to reach 76 years in 2045-2050 and 82 years in 2095-2100. By the end of the century, people in developed countries could live on average around 89 years, compared to about 81 years in developing regions (UN DESA, 2013).

Birth rates in most of Asia, Latin America and Africa in the 1950s and 1960s remained high and thus the inevitable result of declining mortality was a rapid population growth. Between 1950 and 2000, world population rose from 2.5 to 6.1 billion. The era of peak growth has now passed but a further increase of more than two billion is expected between 2010 and 2050 (UN DESA, 2013). Demographic projections are outlined in section 2.

Two key publications provided the initial rationale for state promotion of contraception. The first was an economic analysis, concluding that rapid population growth and its associated high dependency ratio represented a serious barrier to socio-economic progress because national and domestic funds have to be diverted from investment in manufacturing and the modernisation of agriculture to the support of an ever growing number of children (Coale and Hoover, 1958). The second concerned women's health and highlighted the need for contraceptive promotion to reduce the large number of illegal and unsafe abortions that were taking a serious toll on the lives and health of women in Latin America in the 1960s (Armijo and Monreal, 1966).

Economic advance and health remain important justifications for family planning investment and the evidence for both is discussed in section 2 and section 4. Other powerful arguments have been added to these original two. The ability and freedom of individuals and couples to choose when and how often to become pregnant is rightly regarded as a fundamental human right (Baird, 1965). Exercise of this right is crucial for empowerment of women. In the absence of contraception, a woman's prime adult years are dominated by incessant cycles of pregnancy, breastfeeding and child care. As the number of pregnancies falls, women are able to participate more fully in public life including paid employment (Bloom et al., 2009).

Environmental concerns provide a further justification for family planning promotion. Growing population together with rapid increases in consumption have led to a realisation that humanity is approaching limits to our exploitation of the planet. Global warming, due to CO₂ emissions, ocean acidification, unsustainable depletion of aquifers, land use change and its effects on bio-diversity, are among the concerns. Of course rich nations bear the prime responsibility for these trends; poor countries, where further population increase will be concentrated, have contributed little to CO₂ emissions or ocean acidification. However, population growth is the main driver of increased demand for food and the likely consequences of this increased demand include further loss of bio-

diversity and natural habitats, degradation of fragile ecosystems due to over-cropping and grazing, and acute problems of fresh water availability (Royal Society, 2012).

Among medical interventions, family planning is unique in its breadth of benefits. It contributes directly or indirectly to the achievement of all the Millennium Development Goals and should be regarded as a central component of development strategy. Moreover, as shown in section 10, it is an extremely cost-effective intervention.

Driven by these considerations, family planning programmes flourished in the era 1960-2000 and many lessons have been learnt. Their key purpose is to reduce the barriers to contraceptive adoption and sustained use, discussed in section 6, and the principles underlying an effective programme can be summarised succinctly. A favourable climate of opinion should be established and this requires high level political commitment and harnessing the support of key constituencies, such as religious and community leaders. Knowledge of methods needs to be disseminated, largely through mass media. Access to a range of affordable methods and services has to be achieved. The options in terms of methods and services are outlined in section 4 and section 8. Health concerns about use of contraceptive methods need to be addressed by medical and paramedical staff. Buttressing these principles are the nuts and bolts of any effective mass programme: adequate funding; clear lines of management and supervision; well trained and competent staff; sound logistics system; and a management information system.

Though the principles are universal, the ways in which they have been achieved vary widely and, in terms of methods and services, no single blueprint for success can be identified. In some countries, for example, India, decisions were made to popularise sterilisation or long acting methods, such as intrauterine devices (IUDs) in Egypt. In others, sub-Saharan Africa, for example, the emphasis was placed on pills or injectables. Once a method becomes familiar, it becomes the desirable choice and this synergy between policy decisions and social influence accounts for the fact that the method-mix in many countries is dominated by one or two methods and method-mix has a major influence on service delivery (Sullivan et al., 2006). For instance, oral contraceptives and condoms, are ideally suited for distribution through commercial outlets, usually at prices that are subsidised by social marketing. Injectables can be provided by mid-level community-based staff. Conversely, sterilisations, implants and IUD insertions are usually performed in medical facilities.

A narrow method-mix has considerable disadvantages. In India, the unpopularity of effective reversible methods is responsible for the fact that short inter-birth intervals, that pose a risk to the health and survival of the newborn, remain extremely common (Rutstein, 2011). In Kenya, where use is dominated by pills and injectables, half of women with an unmet need have tried and stopped one or both of these methods, typically because of side effects and related health concerns (Machiyama and Cleland, 2013). The case for widening choice in these two countries, and many others, is compelling and should be a priority. However, it is not straightforward, because it demands simultaneous attention to supply chains, provider training, and demand-creation. Voucher schemes, discussed in section 8, linked to new methods might make an important contribution to widening method-mix.

Historically, periodic abstinence, other traditional methods and condoms, have rarely been promoted for married couples in family planning programmes because of their high failure rate and difficulty of adherence. The advent of medical abortion (see section 9) and its increasing, albeit often illegal, availability at pharmacies may result in a re-consideration of their roles. Use of these

methods, with abortion as back-up, can be an effective way of achieving small family sizes, as shown by the fertility decline in Europe between 1880 and 1930. There is intriguing survey evidence from Ghana, the forerunner of fertility decline in West Africa, that well educated women in the capital city, Accra, are preferring periodic abstinence and condoms over more effective pills and injectables, presumably because they are perceived to pose less of a risk to health (Ghana Statistical Service et al., 2009). Abortion laws in Ghana are liberal and no doubt terminations are easily accessible to women in Accra. This Ghana example illustrates the fact that the story of international family planning is still unfolding and may yet contain surprises.

Evidence Strength Assessment

Quality of evidence:	Size of body of evidence:	Consistency of results:	Closely matched to topic:	Overall assessment:
High/Medium	Medium	High/Medium	High/Medium	High/Medium

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2. Population growth, economic growth and fertility rates

Overview

In 2012, the UN revised its projections for world population growth upwards. The current world population, as of July 2013, is 7.2 billion, which is 648 million higher than it was in 2005, an increase of 81 million people per year. This is projected to increase by nearly one billion people within the next twelve years, reaching 8.1 billion in 2025, 9.6 billion in 2050 and 10.9 billion in 2100 according to medium-variant projections (UN DESA, 2013). Compared with previous projections, this is higher, especially after 2075.

Population growth in the developing world, where numbers will rise from 5.9 billion in 2013 to 8.2 billion in 2050, is driving this increase, and this has been revised from the 2010 prediction of only 8 billion. In contrast, the population of the developed world is expected to change minimally and remain at around 1.3 billion (UN DESA, 2013). Growth is expected to be most rapid in the 49 least developed countries which are projected to double from 900 million in 2013 to 1.8 billion in 2050 (UN DESA, 2013)

Population growth and fertility rates have substantial effects on the economic circumstances of individual regions and countries, partly because they determine the ratio of the working age population to the dependent young and old population. The new UN figures have also adjusted fertility levels upwards as new information has become available. In 15 high-fertility countries of sub-Saharan Africa, the estimated average number of children per woman has been adjusted upwards by more than 5 per cent (UN DESA, 2013). However, there are wider variations in fertility levels with 48 per cent of the world's population living in low fertility areas, where women have fewer than 2.1 children; a further 43 per cent live in intermediate fertility countries where women have between 2.1 and 5 children, and the final 9 per cent are in high fertility countries where women have 5 or more children. Of the 31 high-fertility countries, 29 are in Africa and two are in Asia (UN DESA, 2013).

Potential adverse effects of rapid population growth and high dependency ratios include slow economic growth and widespread poverty, poor health among women and children, unsustainable strain on existing education, health and employment infrastructure, and the depletion of environmental resources (Bongaarts and Sinding, 2009; Eastwood and Lipton, 2011; UN DESA, 2009). Furthermore, high levels of youth unemployment, exacerbated by rapid rises in the number of school leavers, can contribute to political instability (Bongaarts et al., 2012).

The promotion of family planning reduces unintended births and has thus been the main policy instrument to moderate rapid population growth and affect demographic change for the past half century. An evaluation of the success of family planning programmes can be found in section 7 of this guide.

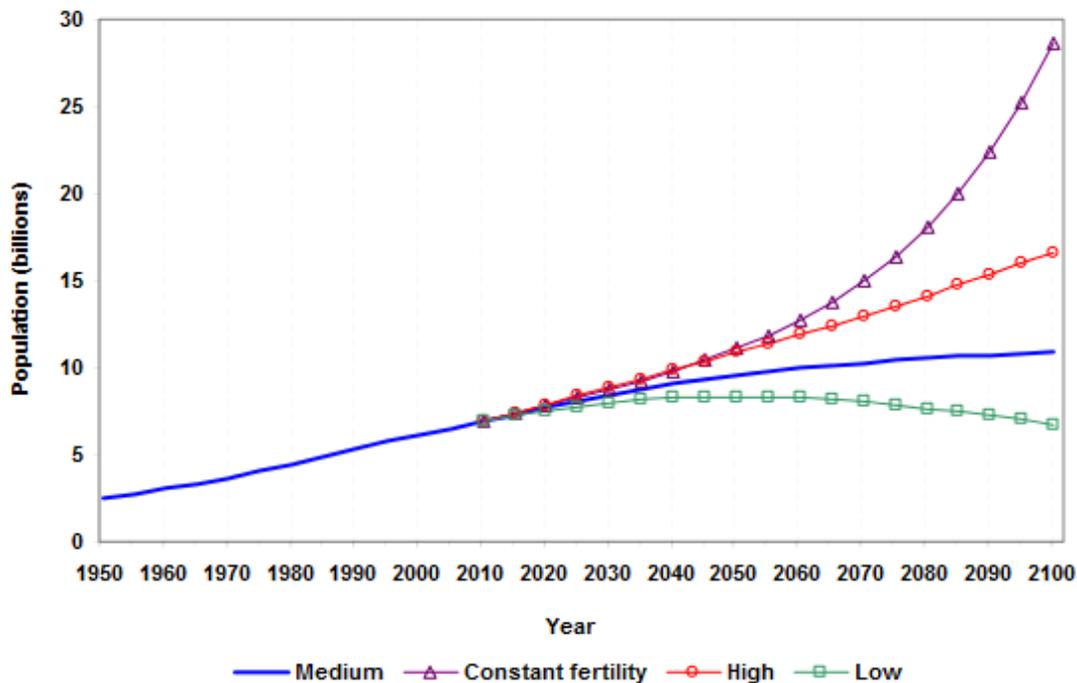


Figure 1. World Population Growth 1950-2100.

Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat (2013). World Population Prospects: The 2012 Revision. New York: United Nations.

What are the issues?

Globally, total fertility is expected to fall from 2.52 births per woman in 2005-2010 to 2.17 in 2040-2050, which is close to the defined rate for replacement fertility (2.1 births per woman) (UN DESA, 2011). The medium-variant projection for Africa, the area of highest fertility, assumes fertility will fall from 4.9 children per women in 2005-2010 to 3.1 in 2045-2050, reaching the replacement fertility rate by 2095-2100 (UN DESA, 2013).

Future population growth is highly dependent on the path that future fertility takes. Small differences in the trajectory of fertility during the next decades will have major consequences for population size, structure and distribution in the long term. The “high-variant” projection depicted in figure 1, for example, which assumes an extra half of a child per woman (on average) compared to the medium variant, implies a world population of 10.9 billion in 2050 and 16.6 billion in 2100. The “low-variant” projection, where women have half a child less, on average, than under the medium variant, would produce a population of 8.3 billion in 2050. Thus, a constant difference of only half a child above or below the medium variant would result in a global population in 2050 of around 1.3 billion more or less compared to the medium variant of 9.6 billion (UN DESA, 2013).

Population growth until 2050 is inevitable even if fertility rates decrease below what is projected and if fertility remains unchanged the planet’s population is projected to reach almost 11 billion by mid-century and over 25 billion by the end of the century.

The majority of the global population growth will take place in the developing world, where, although fertility rates are projected to fall from 2.53 children per woman in 2005-2010 to 2.24 in 2045-2050 and 1.99 in 2095-2100 according to the medium projection figures (UN DESA, 2013), the total population will continue to increase. The population of the 49 least developed countries is expected to continue increasing by 2.5% per year (Bongaarts and Sinding 2009; UN DESA 2011).

Population transitions from a state of high mortality and high fertility to low mortality and low fertility include a period where fertility per person decreases but the population continues to grow as a legacy of previous high fertility rates (Bongaarts et al., 2012; Eastwood and Lipton, 2011; Higgins and Williamson, 1997). Nevertheless, a sustained decrease in fertility will promote further demographic transition and eventually result in population stabilisation (figure 2).

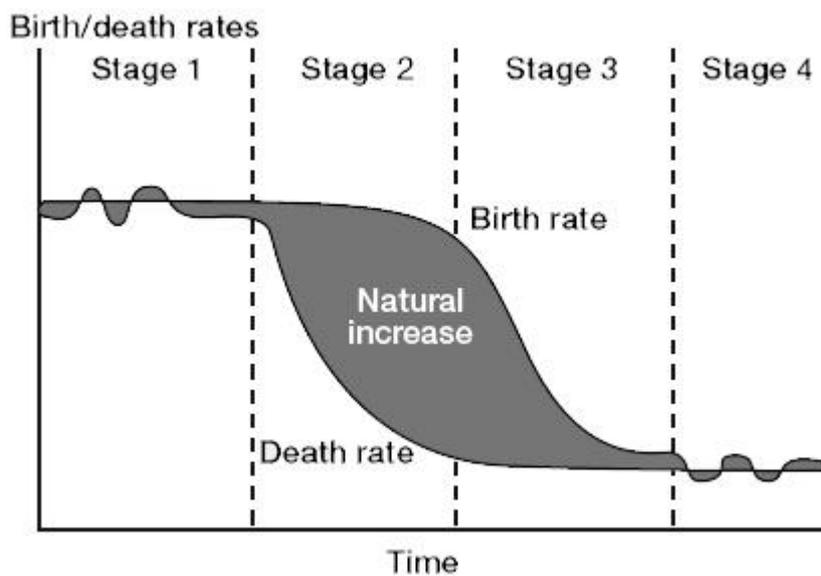


Figure 2. The Demographic Transition model. Source: Population Reference Bureau, 2004

Family planning is considered a tool to reduce population growth and effect demographic change, and many countries have adopted population policies to encourage this. In Mali, a population reduction policy was adopted in 2003 as part of a poverty reduction strategy (UN DESA, 2009). Likewise, Mauritania seeks to reduce fertility to 4 births per woman by 2015 as a measure to reduce widespread poverty (UN DESA, 2009). Cambodia's National Population Policy of 2003 acknowledged the negative effects of fast population growth on health, the environment and policy and implemented a National Birth Spacing Programme to reduce total fertility rates (UN DESA, 2009).

There are synergistic effects between longer inter-birth intervals and lower fertility with other development goals, for example health and education targets, and the speed at which demographic transition occurs within individual countries is affected by in-country demographic diversity between educated and uneducated, rich and poor, and urban and rural residents (Eastwood and Lipton, 2011; UN DESA, 2009). Fertility rates are more likely to decline when child mortality is declining and schooling opportunities are expanding; therefore decreases in child mortality and investment in education can help to increase demand for family planning and drive fertility reductions (UN DESA, 2009).

There is a strong correlation between gender equality and family planning, and some evidence shows that sexual and reproductive health projects that integrate gender considerations achieve better outcomes (Rottach et al. 2009 and Barker et al., 2007 reviewed in UNFPA, 2012). Gender inequity significantly impacts sexual and reproductive health outcomes, including contraceptive use, unwanted and unintended pregnancies and gender-based violence. At the same time high fertility rates and poor family planning lead to reduced opportunities for girls to attend school and for women to join the labour force, which enable them to contribute at both the household and macroeconomic levels. Important obstacles to gender equality include cultural attitudes and expectations around marriage and family roles and dominant concepts of masculinity.

Decreases in fertility deliver defined socio-economic benefits (Eastwood and Lipton, 2012). These include:

- Potential for higher spending per head on the health and education of children (UN DESA, 2009).
- Greater educational opportunities for children born into smaller families (UN DESA, 2009)
- More years of education for girls, leading to an average higher age of marriage (UN DESA, 2009)
- Higher female workforce participation (Eastwood and Lipton, 2012).

Population growth also effects economic growth through the idea of capital dilution and the 'carrying capacity' of global natural resources (Bloom et al., 1998). The rise in prosperity that was seen in the developed world following the industrial revolution was also due to a simultaneous rapid capital accumulation. This also helped to drive recent prosperity in East Asia (Case study 1). However, in the least developed countries of the world, population is increasing rapidly without necessarily any increase in capital accumulation (Pritchett, 1996). The population in the least developed countries is still young, with children under 15 accounting for 40 per cent of the population (UN DESA, 2011). In sub-Saharan Africa, where the majority of the least developed countries are located, there is: a low ratio of reproducible capital to natural capital; rapid population increases; and low net savings as a share of income (Bloom et al., 1998). Therefore there is a large savings gap, which means that the total available capital will be diluted as the population continues to increase (World Bank, 2006).

Case study 1: Demographic transition in East Asia

Between 1970 and 2005, East Asia experienced what has been described as an economic 'miracle'. The increase in economic prosperity occurred in the wake of rapid demographic transition that began in the 1950s. A dramatic decrease in child and infant mortality in 1965-1970 led to a rapid expansion in the proportion of young dependents in the population, and by 1980 the dependency ratio peaked at 80% of the total population. Post-1980, the dependency ratio fell to less than 50% in 2010 and there was significant growth in labour, human capital per head of population, and the savings ratio. The economic result was an increase in GDP of 6.1% per head between 1965-2005, of which 1.37-1.87% of GDP, and 20% of the increase in the savings ratio, has been attributed to the change in the age structure of the population (Bloom and Williamson, 1998; Schultz, 2004). Therefore, although East Asia can attribute a significant fraction of its increase in economic prosperity to demographic transition, it cannot necessarily be used as a model for other areas of the developing world (Bloom and Williamson, 1998).

Key messages

- Total world population is expected to surpass 9 billion by 2050 (UN DESA 2011).
- The population of the 49 least developed countries is the fastest growing in the world, at 2.5% per year (Bongaarts and Sinding 2009; UN DESA, 2011).
- Projected trends are dependent on an overall decline in fertility in developing countries; small changes in the number of births per woman can have a large effect on total population growth (UN DESA, 2011).
- Although reductions in fertility have defined economic benefits, for populations to successfully undergo population stabilisation with associated economic prosperity, capital accumulation needs to occur concurrently.
- The population in the 49 least developed countries is expected to increase by 2.5% per year; there is a savings and capital accumulation gap that threatens future living standards.

Evidence Strength Assessment

Quality of evidence:	Size of body of evidence:	Consistency of results:	Closely matched to topic:	Overall assessment:
High	Medium	Medium/High	Medium/High	Medium/High

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3. Contraceptive methods and prevalence

Overview

Globally, an estimated 661 million women of reproductive age who are either married or single and sexually active use modern contraceptives (Singh and Darroch., 2012). The majority of these women are from Europe, North America, Latin America, Asia and North Africa (Singh and Darroch, 2012). Sub-Saharan Africa lags behind and has the lowest prevalence rates of 18% (in 2010) (Singh and Darroch, 2012). Least progress has been seen in West Africa and Central Africa particularly among the poorest, those with no education, and those living in rural or remote areas (Alkema et al., 2013; Singh and Darroch, 2012).

Contraceptive prevalence in individual countries is dependent on access to an adequate mix of contraceptive methods, social acceptability and health concerns (Singh et al., 2009; Singh et al., 2012; Sullivan et al., 2006). The complex barriers that prevent women from using modern contraceptives are discussed in detail in section 4 of this guide. The increase in contraceptive prevalence has stalled since the year 2000 due to factors such as sustainability of funding for supplies, access and cost issues (Alkema et al., 2013).

An estimated 215 million women globally want to avoid pregnancy; however, they are not using contraceptives (Singh et al., 2009). Women with unmet contraceptive needs have 1 in 180 lifetime risk of dying during pregnancy (Singh et al., 2012). The original definition of unmet need has changed over time. Using a revised definition, evidence suggests unmet need is slightly higher compared to the original definition. The average total unmet need across 169 Demographic and Health Surveys between 1990 and 2010 was 21.3% for the original definition and 23% for the revised definition (Bradley S, Croft T & Fishel, 2011). An assessment of the demand for family planning programmes can be found in section 6 of this guide.

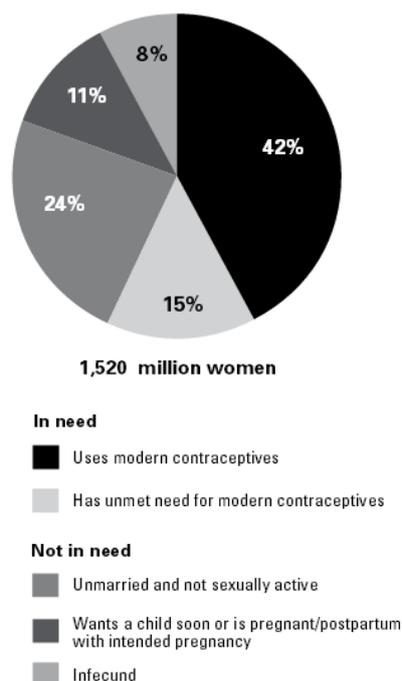


Figure 3. World Contraceptive Use and Unmet Need. Source: Singh et al., 2012.

What do we know?

Contraceptive prevalence

The global estimate for modern contraception use among married or cohabiting women is 56% (UN DESA, 2011), with a noticeable difference between the more developed (61%) and least developed (25%) countries (UN DESA, 2011). The regions with the highest prevalence are North America and Latin America and the Caribbean (73% and 67%, respectively), and the lowest prevalence is seen in Africa (22%; figures 4 and 5). Prevalence varies within each region and by individual characteristics, for example, wealth, education and age (UNFPA, 2012). The highest levels in Europe are seen in Norway and other Northern European countries and the lowest levels are seen in the countries of the former Yugoslav Republic (UN DESA, 2011). In Latin America and the Caribbean, the highest levels are seen in Brazil and the lowest in Haiti. In Asia, China has the highest levels and Afghanistan the lowest. In Oceania, New Zealand has the highest levels and Samoa the lowest; while, in Africa, Morocco has the highest levels and Chad the lowest.

Although the use of modern contraceptives in the developing world has increased from 10% in 1950 to 57% in 2012, the degree of increase in recent years has all but stopped; from 2008 to 2012 the increase in uptake was only 1% (Singh and Darroch, 2012).

The highest level of unmet contraceptive need is in Africa. A strong link exists between high unmet need, low use of modern contraceptives, and poverty. In India, unmet contraceptive needs were twice as high among the poorest women as among the wealthiest (Singh et al., 2009).

When considering contraceptive prevalence and unmet need, it is important to note that these measures fail to capture the nature of individuals' decisions regarding their sexual activity and the factors that are out of women's control, such as changing availability and supply of contraceptives over time. Nor does unmet need take into account willingness to use in the future. Many women with unmet need state no intention for future use (Westoff, 2006). UNFPA has stated that it would be useful to monitor progress by additional indicators to capture demand for contraceptives, including 'proportion of demand satisfied' to monitor whether women's stated desires for family planning are being met and the rights based approach is becoming a reality (UNFPA, 2012).

Contraceptive methods

Modern contraceptive methods can be permanent or reversible; permanent methods include surgical sterilisation of men or women, and reversible methods are often divided into long-acting (IUDs and implants) and shorter-acting methods that include the pill, injectables, hormonal patches, barrier methods such as male and female condoms, sponges and diaphragms, and spermicides (Singh et al., 2009). Globally, the most commonly used contraceptives are female sterilisation, the pill and IUDs (Sullivan et al., 2006); however, the popularity of each method varies with geographic region. Female sterilisation is more prevalent in Asian countries such as China (29%) and India (37%) and in Latin America (26%) than in sub-Saharan African countries (1.6%) (Sullivan et al., 2006; UN DESA, 2011). The highest use of the contraceptive pill is seen in Europe, the Americas and Oceania, and the IUD has its highest prevalence in Asia.

The marked differences between countries in method-choice often reflect past policy decisions to promote specific methods rather than cultural preferences or women's personal preferences. In many countries, one or two methods account for the majority of use (Sullivan et al., 2006). Widening method choice is a priority but requires considerable investment in logistics, training

and demand-creation, expanding access to safe, effective and affordable contraception and making information about different methods readily available. Additionally, some methods have additional issues which must be factored in to planning. For example, sterilisation has been used in a coercive or persuasive manner at state level, for example in China, and also been used to target women with disabilities, on low income, and other disadvantaged groups. Therefore sterilisation programmes must be planned using a rights based approach (Jones, 2006).

Hormonal contraceptives (the pill, injectable contraceptives, implants, patches and some IUDs) offer up to 99% certainty of control for pregnancies if used correctly (Cleland et al., 2006). There are potential side effects associated with the use of some hormonal contraceptives, including irregular or heavy vaginal bleeding (implants), a delayed return to fertility (progesterone only pills) and an increased risk of cardiovascular disease (combined oral contraceptives); combined oral pills are also contraindicated during breastfeeding (WHO, 2010). Importantly, there are concerns that some injectable methods of hormonal contraception, for example Depot medroxyprogesterone acetate (DMPA), may increase the risk of HIV acquisition (Heffron et al., 2011; Jain, 2012).

Among barrier and/or spermicidal methods, only the male condom is commonly used, accounting for 8% of all contraceptive use among married couples (UN DESA, 2011). The highest prevalence is seen in Hong Kong (50%), Japan (41%), Greece (34%) and Russian Federation (30%) (UN DESA, 2011). It is also the most common method used by sexually-active single women in sub-Saharan Africa and Latin America. If consistently used, condoms are 98% effective and also offer protection against STIs and/or UTIs (Cleland et al., 2006; WHO, 2010). The health benefits of contraception are discussed in detail in section 4 of this guide.

Lesser used methods of modern contraception include the emergency contraception (EC) pill, which is also known as the 'morning after pill'. Unlike other contraceptive methods discussed above, which are taken before intercourse, the EC pill is usually taken after intercourse to reduce the risk of pregnancy. The use of this method remains relatively low, in part due to a persistent poor understanding of fertility, contraception and pregnancy risk in both the developed and developing worlds (Westley and Glasier, 2010). However, women are also prevented from accessing emergency contraception in the developed and developing worlds by political and social ideologies. For example, the United States currently has age restrictions on the sale of emergency contraception, despite legal rulings compelling their removal (Centre for Reproductive Rights, 2010; FDA, 2013). Where emergency contraception is legal, but not available over the counter, women are dependent on provider willingness for access, which further restricts the use of this method (Ellertson et al., 1995).

Typically, about 40% of reversible method adopters will stop use within 12 months, with the clear exception of IUD adopters who are much more likely to continue use (Ali et al., 2012). The main reasons for stopping pills and injectables are health concerns and side-effects. Many couples do not switch promptly to an alternative method, leaving them at risk of an unintended pregnancy. Accidental pregnancy is the main reason for stopping traditional methods. Traditional methods of contraception include withdrawal and rhythm or calendar or fertility awareness methods. Jointly, these account for 6% of all contraceptive use globally, with highest use observed in Albania (59%), Azerbaijan (38%) and Greece (30%) (UN DESA, 2011). These methods have high failure rates and have not been included in any of the figures for modern contraceptives (Singh et al., 2012).

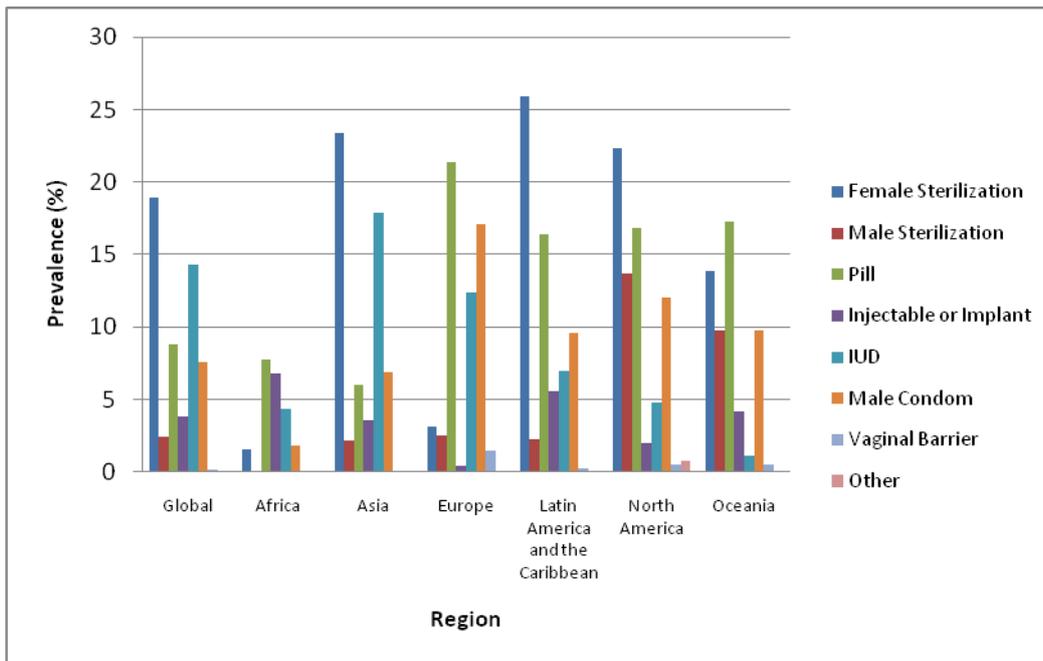


Figure 4. Prevalence of contraceptive method by region.

Data taken from the UN World Contraceptive Use 2011, <http://www.un.org/esa/population/publications/contraceptive2011/contraceptive2011.htm>. NB. 'Other' refers to little-used methods of modern contraception and does not include traditional contraceptive methods.

The Couple Years of Protection (CYP) indicator is the estimated protection provided by contraceptive methods during a one-year period, based on the volume of all contraceptives sold or distributed during that period (USAID, 2011). Permanent and long-acting contraceptives such as male and female sterilisation, IUDs and hormonal implants have the highest CYP values, whilst short-acting and single-use methods such as the oral contraceptive pill and condoms have low CYPs (USAID, 2011). Cost per CYP for contraceptive methods varies by region, which is typically due to costs associated with programme setting and mode of delivery rather than regional variations in commodity costs (Levine et al., 2006; Singh and Darroch, 2012). Voluntary sterilisation and IUDs typically have the lowest cost per CYP, whilst hormonal implants and injectables have the highest cost per CYP (Levine et al., 2006; Singh and Darroch, 2012). The cost-effectiveness of family planning programmes is discussed further in section 10 of this guide.

Key messages

- Contraceptive prevalence is critically low in many areas of the developing world, particularly sub-Saharan Africa, leading to a large unmet demand for modern contraceptives.
- Use of specific contraceptive methods varies by region and often reflects past policy decisions that determine access, availability, and the social acceptability of individual methods, as well as lack of choice and women's poor access to information about/and availability of affordable contraceptive methods.
- Female sterilisation, reversible hormonal methods of contraception and IUDs are the most widely used contraceptive methods; the male condom is commonly used by married couples in a minority of countries but is often the dominant choice of single people.

Evidence Strength Assessment

Quality of evidence:	Size of body of evidence:	Consistency of results:	Closely matched to topic:	Overall assessment:
High	Medium	Medium/High	High	Strong

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4. Barriers to contraceptive adoption and sustained use

Overview

Barriers to contraception are the constraining factors standing between people's preferences concerning the number and timing of pregnancies and the adoption of behaviour to achieve these. Barriers can inhibit women's ability to avoid unintended pregnancy (Campbell et al., 2006). Barriers to family planning occur at multiple levels in government, society and the health system (WHO, 2012). Two dominant reasons for non-use are health concerns and social disapproval. Social disapproval, expressed by women as opposition to family planning, together with lack of information, tends to be more important when contraceptive use is low. Health concerns grow in importance as contraceptive use increases. Effective and targeted actions are urgently needed to improve contraceptive choice and access for women and families globally.

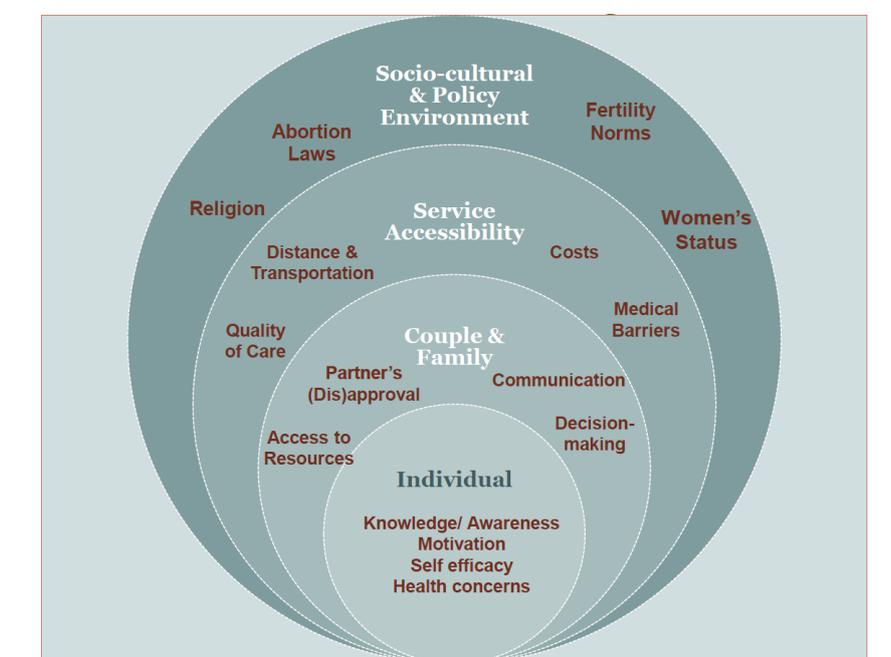


Figure 5. Determinants of family planning use: a social ecological framework. Source: Adapted from a presentation given by Joanna Busza from LSHTM, 2012.

What are the issues?

Limited method choice and access

Contraceptive use depends on a person's knowledge of methods and sources of supplies. There is also usually a correlation between travel time from a woman's home to any health clinic and the likelihood that she will use a contraceptive. Evidence suggests that increasing the number of family planning methods available in a country increases the overall practice of contraception and accelerates fertility reduction (Campbell et al., 2006; Sullivan et al., 2006). It is important to remember that women are not a homogenous group, and that different population groups such as the disabled and ethnic minorities experience different barriers to choice and access, and may face additional barriers to those experienced by other women (UNFPA, 2012).

Financial costs

The prices of contraceptives vary widely in different markets and between branded and generic products. The financial cost of contraceptives may influence choice of method and adoption (Campbell et al., 2006). Evidence from South Africa shows that even when contraceptive services were offered free of charge, teenage pregnancies were not being avoided, suggesting other barriers or pressures were present (Wood & Jewkes, 2006).

Women's status and perceptions of partner's views

The social construction of gender and women's position within society affects many aspects of family planning. Fertility preferences can be derived from the social and economic status gained by conforming to cultural expectations about motherhood rather than through personal choice, for example by having large families, sons or proving fertility by having children straight after marriage (Sills et al., 2012). Additionally, women are often financially dependent on men and may lack access to cash to purchase contraceptives and may also be coerced into making reproductive choices based on the wishes of others (Miller et al., 2002).

The dynamics and prevalence of women's exposure to intimate partner violence undermines their ability to negotiate safe sex increasing the risk of sexually transmitted infections (STIs), abortion, maternal morbidity and mortality and adverse pregnancy outcomes. As well as this, unplanned pregnancies increase the risk of intimate partner violence and violence increases the risk of unplanned pregnancies (Koenig et al., 2003). Measures to address intimate partner violence should be part of comprehensive reproductive health programmes, including by promoting men's involvement in programmes (Pallitto and O'Campo, 2004).

Women's perceptions of societal views can also be a barrier. They may think that their husbands oppose family planning which can be a factor discouraging contraceptive practice in a wide variety of settings, including Egypt, Guatemala, India, the Philippines and Nepal. Data from Pakistan indicate that women's perceptions of their husbands' views are not always accurate and that they may perceive their husbands to have more negative views toward family planning than is the case (Casterline et al., 2001). Surveys of men do not reveal widespread opposition. Fears about being thought of as sexually promiscuous have also been mentioned as barriers to using condoms in some settings in the Middle East (Kulczycki, 2004).

Medical and legal restrictions

Practices, derived at least partly from a medical rationale, which result in a scientifically unjustifiable impediment to, or denial of, contraception. For example, women being subjected to unnecessary medical procedures as a prerequisite for gaining access to contraceptive methods may act as a barrier (Campbell et al., 2006). Even where family planning services are physically accessible and economic barriers to access are few, medical barriers to contraceptive services—such as overspecialisation, demanding husbands' consent, eligibility restrictions and process hurdles—can limit women's use of services (Speizer et al., 2000). Task shifting, for instance by allowing mid-level providers to insert IUDs and give injectable contraception, has greatly expanded access in many countries.

Provider bias

Service providers sometimes deny access to a family planning method as a result of their own prejudices about the method or its delivery system or the status of the person asking for family planning (Campbell et al., 2006; Speizer et al., 2000; Sullivan et al., 2006).

Additionally, another gender dimension of service provision that should be considered is the 'appropriateness' of family planning services, including days and hours of operation. This is especially important for services aimed at women as they usually have the burden of care of responsibilities and may find it difficult to travel to access services during the day or may not be able to travel after dark, hence the need for mobile services outlined in section 8 and privacy with separate facilities available for women and men.

Job aides and training for providers can help reduce biases interfering with quality of service. The two most well-known, rigorously evaluated, and effective job aides include the Balanced Counseling Strategy (BCS), developed by the Population Council as part of the FRONTIERS programme, and the Decision-Making Tool (DMT) developed by the WHO (DFID, 2010; Kim et al., 2005).

Misinformation

Side effects, lack of accurate information, and misinformation commonly interact to create a disproportionate fear of fertility regulation methods (Campbell et al., 2006). For example, in Mali, young people were found to be wary of using either the pill or injectable contraceptives because they believed that these methods would make them permanently sterile (Castle, 2003). Limited and inaccurate knowledge of reproductive anatomy and physiology are a serious concern.

Medically inaccurate notions about how conception occurs and fears about the effects of contraception on fertility and menstruation, which were not taken seriously by nurses were found to be barriers to adolescents accessing contraception in South Africa. Nurses' attempts to stigmatise teenage sexuality, their scolding and harsh treatment of adolescent girls, and their unwillingness to acknowledge adolescents' experiences as contraceptive users, undermined the effective use of contraception by girls (Wood and Jewkes, 2006).

Youth need better information on reproductive physiology and sexual health, and detailed information on contraception. Tools to enhance the accuracy and availability of knowledge in the clinical setting have a role, but need to be introduced along with initiatives to ensure that services are adolescent friendly and do not stigmatise adolescent sexual activity (Wood and Jewkes, 2006). To make progress, interventions should aim to counter negative perceptions of modern contraceptive methods and the dual role of condoms for contraception and STI prevention should be exploited (Williamson et al., 2009).

Strength of motivation to avoid pregnancy

Some women who indicate a desire to avoid pregnancy are relatively unconcerned about becoming pregnant, whereas others regard it as a highly undesirable outcome and, when asked, admit to numerous concerns and worries. Women who feel ambivalent about their stated desire may be especially susceptible to other factors that act against them practicing contraception (Casterline et al., 2001).

Key messages

- The presence or absence of barriers to fertility regulation is likely an important determinant of the pace of fertility decline or its delay in many countries. Barriers inhibit women's ability to avoid unintended pregnancy. Problems of quantifying barriers limit understanding of their importance (Campbell et al., 2006).

- Effective and targeted actions are urgently needed to improve contraceptive access. The following actions are recommended:
 - Governments and donors need to develop and implement policies to secure access to family planning for all and in particular for vulnerable populations. Funds also need to be committed to pay for it.
 - Mass and other media should be used to enhance social acceptability among men as well as women.
 - Counselling skills should be recognised as key to success in addressing concerns about adverse health effects of methods and in eliminating provider bias in services.
 - Ongoing training and supportive supervision needs to be provided for cadres of family planning providers within the health system and community.

Evidence Strength Assessment

Quality of evidence:	Size of body of evidence:	Consistency of results:	Closely matched to topic:	Overall assessment:
Medium	Medium	Fairly Consistent	Medium	Medium

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5. Health benefits of contraception

Overview

The reduction in the number of unintended pregnancies in women is the greatest health benefit of contraception. In 2008, it is estimated that contraception prevented over 250,000 maternal deaths compared with 355,000 deaths that occurred in that year (Cleland et al., 2012). A further 30% of maternal deaths could be avoided by fulfillment of unmet need for contraception (Cleland et al., 2012). By preventing high-risk pregnancies, especially in women of high parities, and those that would have ended in unsafe abortion, increased contraceptive use has also reduced the maternal mortality ratio—the risk of maternal death per 100,000 live births—by about 26% in little more than a decade.

The benefits of modern contraceptives to women's health, including non-contraceptive benefits of specific methods (such as a reduced risk of transmission of HIV and anaemia), outweigh the risks (Cleland et al., 2012; Warner et al., 2004; Willard et al., 2002).

What are the issues?

Increasing contraceptive use in developing countries has cut the number of maternal deaths by 40% over the past 20 years, merely by reducing the number of unintended pregnancies, particularly in high-risk women. Women with greater than average obstetric risk include those who are younger than 18 years or older than 34 years, those with only one child or more than three, and those whose births are closely spaced. Contraception reduces the risk of maternal death per pregnancy; each 1 percentage point increase in contraceptive use reduces the maternal mortality ratio by 4.8 deaths per 100,000 live births (Cleland et al., 2012).

The use of contraception also reduces maternal morbidity. For every woman who dies of pregnancy and childbirth complications, at least 20 more women suffer long-term illness and disabilities related to unwanted pregnancy or recent childbirth, which affects individual women and impacts on the economic well-being of their families and society (UK Government, 2009).

Unwanted and mistimed births can pose health and socioeconomic risks to mothers and infants (Conde-Agudelo et al., 2007; Singh et al., 2010). In addition to risks to maternal health discussed above, unwanted births threaten maternal psychological well-being that can result from reduced participation in education, social and familial rejection in the case of unmarried women, and being forced to marry or undergo serious physical harm (Singh et al., 2010).

Contraception can also improve perinatal outcomes and child survival, mainly by lengthening interpregnancy intervals. In developing countries, the risk of prematurity and low birthweight doubles when conception occurs within 6 months of a previous birth, and children born within 2 years of an elder sibling are 60% more likely to die in infancy than are those born 3 years or more after their sibling. In early childhood, children who experience the birth of a younger sibling within 2 years have twice the risk of death than other children. In high fertility countries where the majority of children have younger and older siblings, ensuring an interval of at least 2 years between births would reduce infant mortality by about 10% and early childhood deaths by about 20% (Cleland et al., 2012; Hobcraft et al., 1983.). Women resolve nearly half of unintended pregnancies through abortion (Singh et al., 2010). Safe and effective abortive technology exists (see

section 9 of this guide), but this is not always legal or available, causing women to turn to unlicensed abortion providers (Ahman and Shah, 2011). Legal barriers are a particular issue in Africa and Latin America and in these contexts, induced abortion become the privilege of the rich, while poor women are left with little choice but to resort to unsafe providers (Sedgh et al., 2012). Nearly half of all abortions are considered unsafe (Grimes et al., 2006) and there is a link between countries' restrictive abortion laws and high rates of maternal mortality and morbidity (Haddad and Nour, 2009). Unlike other causes of maternal death, mortality attributable through unsafe abortion is entirely avoidable through effective family planning and the provision of safe abortion services for accidental pregnancies among contraceptive users and unintended pregnancies among non-users of contraceptives and victims of rape and incest (Ahman and Shah, 2011).

Condoms are the only method of contraception that also reduce the risk of acquiring sexually transmitted infections (STIs) such as HIV, gonorrhoea and chlamydia, although research is currently ongoing to determine whether the female diaphragm can also reduce the risks of some bacterial STIs (Warner et al., 2004; Willard et al., 2002). It is worth noting that condoms are associated with higher risks of pregnancy than some other contraceptive methods that do not protect against transmission of STIs (Willard et al., 2002). The ideal approach to realise the combined health benefits is to use condoms together with a more effective contraceptive method (Willard et al., 2002). Additional benefits to women can include an increase in self-esteem, quality of life, status and decision-making power.

HIV transmission and family planning programmes

Use of contraception reduces unintended pregnancies in HIV-infected women, which reduces the risk of perinatal HIV transmission (Reynolds et al., 2006). Adding family planning aspects to programmes designed to prevent mother-to-child HIV transmission in 14 countries averted 71,000 HIV-positive births in 2007 (Reynolds et al., 2006). However, increasing contraceptive use among women who do not know their HIV status is at least as cost-effective as providing the anti-retroviral treatment needed to prevent perinatal HIV transmission, and also provides clear public health benefits in reduced HIV transmission (Reynolds et al., 2006). It is important to note, however, that these services need to be provided alongside education about choices to avoid issues such as HIV positive women being coerced to give up their right to have children. Additionally, programmes need to be sensitive to local needs and contexts and avoid overbearing approaches, such as providing 'cash for contraception'. An example of this is in a recent case in Kenya where Project Prevention, a US-based NGO offered HIV-positive women in western Kenya US\$40 to be fitted with intrauterine devices (IUDs), which can prevent pregnancy for over a decade.

Key messages

- Increases in contraceptive use account for about 75% of fertility decline in developing countries in the past six decades and have substantially reduced the proportion of pregnancies in women of high parity, which pose a greater-than-average risk to maternal survival.
- In 2008, contraceptive use averted over 250,000 maternal deaths worldwide by reducing unintended pregnancies, which is equivalent to 40% of the 355,000 maternal deaths that occurred that year.

- If all women in developing countries who want to avoid pregnancy use an effective contraceptive method, the number of maternal deaths would fall by a further 30%.
- Contraceptive use has the potential to improve perinatal outcomes and child survival by widening the interval between successive pregnancies; in rich and poor countries the risks of prematurity and low birthweight are substantially raised by short intervals, and in developing countries, risk of death in infancy (ages <1 year) would fall by 10%, and in ages 1–4 years by 21%, if all children were spaced by a gap of 2 years.
- The health benefits of specific contraceptive methods far outweigh the health risks, although minor side effects result in high probabilities of discontinuation, particularly of hormonal methods.

Evidence Strength Assessment

Quality of evidence:	Size of body of evidence:	Consistency of results:	Closely matched to topic:	Overall assessment:
High	Medium/High	High	High	Strong

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6. Demand for family planning

Overview

Although the world's total fertility rate has dropped considerably, and contraceptive prevalence is increasing, there is a growing worldwide demand for family planning services (Bongaarts, 1997; UN DESA, 2011; section 2 of this guide). The increase in demand is due to two trends: the burgeoning numbers of young people entering childbearing age and the increasing adoption or desired adoption of contraceptive use (Kent, 2008). In nearly all developing countries, the number of women of reproductive age will grow between 2005 and 2015 because of the large numbers of young people in these countries (refer to section 2 of this guide).

What are the issues?

The absolute number of married women who either use contraception or who have an unmet need for family planning is projected to grow from 900 million in 2010 to 962 million in 2015, and will increase in most developing countries (Alkema et al., 2013). In addition, the demand for contraceptives is projected to grow due to couples' desires for smaller families (Clifton et al., 2008). Contraceptive use in recent years has risen, but unmet needs remain.

Key concept: unmet need

Women with unmet need are those who are fecund (fertile) and sexually active but are not using any method of contraception, and report not wanting any more children or wanting to delay the birth of their next child. Unmet need for family planning is expressed as a percentage of women of reproductive age who are married or in a union, and is calculated using the following formula:

$$\text{Unmet need for family planning} = \frac{\text{Women (married or in consensual union) who are pregnant or post-partum amenorrheic and whose current pregnancy/most recent birth was unintended + fecund women who desire to stop childbearing or postpone the next birth for two years or more and who are not using a contraceptive method}}{\text{Total number of women of reproductive age (15-49) who are married or in consensual union}} \times 100$$

The indicator is widely used to assess progress towards the goal of enabling all couples to implement their preferences for the number and timing of children. The sum of contraceptive prevalence and unmet need provides the total potential demand for family planning. It gives a snapshot measure of the extent of unmet need for family planning at a particular point in time. Unmet need tracked over time can indicate progress towards universal access to reproductive choice. Where survey data are available, unmet need can be disaggregated by whether women have prior experience of a modern method or not and whether they state an intention to use modern contraceptives in the future.

In 2012, 222 million married and sexually active single women worldwide had an unmet need for family planning (Singh et al., 2012). Unmet need is not confined to married women but relevant data for single women are lacking for many countries, particularly in Asia. Typically, use is higher in unmarried sexually active women than married women but unmet need is higher because few

single women want a child within 2 years. In Latin America, where relevant data are available, unmarried women account for 28% of all unmet need and the corresponding figure in sub-Saharan Africa is 17% (Cleland et al., 2006).

It should be noted that, even when contraceptive prevalence is rising, unmet need for family planning may sometimes fail to decline, or may even increase, if demand for family planning increases due to declines in the desired number of children. This combination accounts for the small change in unmet need in Eastern Africa despite a large increase in use (figure 9). Changes in the desired spacing of births or changes in the percentage of women who are at risk of pregnancy can also influence the trend in demand for family planning, independently of trends in contraceptive prevalence (UN DESA, 2011).

The factors responsible for high unmet need in particular population groups will differ by context and interventions will need to be modified accordingly. Demand-side subsidies may be required for specific groups; these could include cash transfers or vouchers to reduce the cost of family planning services.

Focusing on the fulfilment of individual aspirations, unmet need remains a sound rationale for the formulation of population policy and a sensible guide to the design of family planning programmes (Casterline and Sindings, 2000). Unmet need accounts for the majority of mistimed and unwanted pregnancies, though contraceptive failure makes an appreciable contribution where less effective methods are commonly used. The main rationale of family planning programmes is to reduce unmet need and such reduction accounts for most of the rise in contraceptive use over recent decades (Feyisetan and Casterline, 2000).

As countries transition from high fertility to low fertility, unmet need will initially be low, and then increase in response to more knowledge about family planning and changing norms. Finally, unmet need will reach a low level because women who want to use family planning are doing so, and relatively few women who want to space or limit childbearing are not using a method (Gribble, 2012). The inverse link between the levels of contraceptive use and unmet need is clearly seen in figure 6.

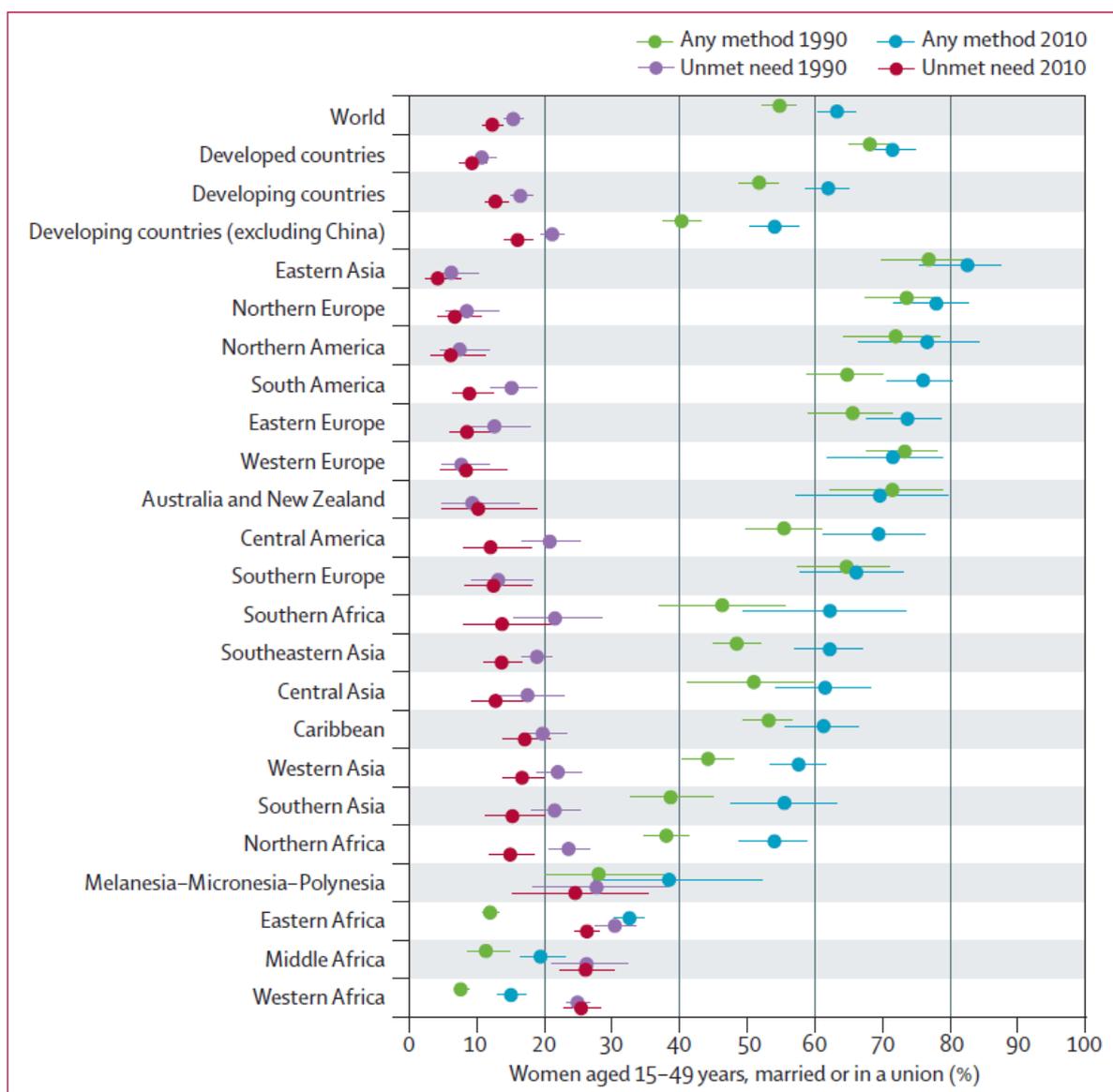


Figure 6. Percentage of women aged 15-49 years who were married or in a union who used a contraceptive methods or who had an unmet need for family planning in 1990 and 2010, by world, development group and sub-region. (Horizontal lines represent the 95% uncertainty intervals). **Source:** Alkema et al., 2013.

Key messages

- Although global fertility is declining, and contraceptive prevalence is increasing, the absolute number of women with an unmet need for contraception is increasing. This translates into a growing demand for family planning services.
- Trends in contraceptive prevalence and unmet need for family planning, and the projected growth in the number of potential contraceptive users indicate that increased investment is necessary to meet demand for contraceptive methods and improve reproductive health worldwide.
- Understanding demand for contraception is vital in the design of projects which aim at improving access to and quality of family planning programmes. It is important to understand the reasons why women are not using contraceptives.

Evidence Strength Assessment

Quality of evidence:	Size of body of evidence:	Consistency of results:	Closely matched to topic:	Overall assessment:
Medium	Medium	Fairly Consistent	Medium	Medium

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7. Family planning programmes

Overview

The implementation of state-sponsored family planning programmes began in the early 1950s as a route to promoting development through population stabilisation (Bongaarts et al., 2012; Finkle and MacIntosh, 2002; Visaria, Jejeebhoy & Merrick 1999) (see section 2 of this guide for the economic rationale behind population stabilisation). By 1996, the number of countries with official policies to support family planning had increased from 2 in 1960 to 115, and at its peak, donor funding for family planning programmes totalled US\$980 million in 1995 (2007 real dollars) (Bongaarts et al., 2012; Cleland et al., 2006).

The greatest reductions in fertility occurred in Asia (58%) and Latin America (62%), and by 1990-1995, the level of childbearing dropped from approximately 5 births per woman to 3 in these regions (Bongaarts et al., 2012). Reductions in fertility were seen in some sub-Saharan African countries, such as Kenya, South Africa and Zimbabwe, and the levels of childbearing in developed countries fell from 2.5 to 1.7 births per woman (Bongaarts et al., 2012).

Despite evidence of success, funding for family planning declined post-1995 (Bongaarts et al., 2012). Several factors can account for this shift, among them a sense that the problem of rapid population growth was largely solved, criticism of the strategies of some early programmes, and the emergence of compelling new priorities such as HIV/AIDS (Bongaarts et al., 2012; Casterline and Sinding, 2000). As a result, much funding was shifted to programmes for reproductive health and HIV/AIDS (Bongaarts et al., 2012).

What are the issues?

Early family planning programmes were characterised by largely economic rationales, as countries sought to combat rapid population growth; however, regional variations occurred, for example in Latin America, where family planning was initiated largely as a response to evidence of an increase in illegal, unsafe abortions (Cleland et al., 2006; Bongaarts et al., 2012). Following the spread of family planning programmes, fertility declined from 5.7 births per woman in 1970 to 2.8 in 2005 in less developed regions of the world (UNDP, 2009). Countries such as Bangladesh (case study 2), South Korea and Taiwan implemented particularly successful programmes that led to rapid declines in fertility levels.

Case study 2: Bangladesh

The Family Planning and Health Services Project was initiated in the late 1970s in Matlab, Bangladesh, at a time when Bangladesh was one of the poorest countries in the world. The region, which had a population of 173,000 in 1977, was divided into experimental and control areas of approximately equal sizes; the control area received the same services as the rest of the country, while a comprehensive high-quality programme aimed at reducing the monetary, social, psychological and health costs of contraception was adopted in the experimental region. Within one year of the programme's inception, the proportion of women using contraception in the experimental area increased from less than 5% to 28%; a decline in fertility occurred to about 1.5 births less per woman than in the control area. Importantly, both the experimental and control areas saw similar declines in fertility preferences, confirming the impact of the experimental programme of the reduction of unintended births. The success of the programme led to the adoption of it as the national family planning strategy by the Bangladeshi Government.

However, not all programmes were created equal. High pressure, target-led programmes such as those seen in India (case study 3) and some other Asian countries were considered to restrict women's agency and reproductive choice, and the payment of financial incentives to healthcare providers and individuals for sterilisation created a high risk of corrupt practices (Bongaarts et al., 2012; Casterline and Sinding, 2000).

Case study 3: Family planning in India

The Indian state-run family planning programme was implemented in 1951. Since the mid-1970s, it primarily focused on sterilisation, with little choice of alternative contraceptive methods being offered. Individual health workers were responsible for achieving method-specific targets, with punitive sanctions if these were not met. Although the total fertility rate decreased from 6.5 lifetime births per woman in 1970 to 3.4 per woman in the mid-1990s, various stakeholders including women's organisations and the donor community, voiced concerns that the programme was coercive and offering limited choice. Since then, the Indian state has shifted to a target-free approach (Bongaarts et al., 2012; Visaria, Jejeebhoy & Merrick 1999).

After the 1994 International Conference on Population and Development in Cairo, narrowly focussed target-driven family planning approaches were largely abandoned (see Box 1). An agenda of women's rights, health and empowerment was adopted, with fertility reduction achieved through addressing the issue of unmet contraceptive need and a consensus that governments should address social development beyond family planning as part of a broader package of care (Bongaarts et al., 2012; Casterline and Sinding, 2000; Finkle and MacIntosh, 2002; Gillespie, 2004). This was based on an underlying belief that enhancing individual rights would slow population growth. Since this time, funding for family planning has declined by 30%, and there is less enthusiasm for meeting the commitments of earlier years (Bongaarts and Sinding, 2009; Cleland et al., 2006). The London summit on family planning in July 2012 marked the end of 15 years of neglect.

Box 1. Cairo Consensus Programme of Action

A total of 179 governments signed up to the International Conference on Population and Development/Cairo Consensus Programme of Action which set out to:

- Provide universal access to family planning and sexual and reproductive health services and reproductive rights;
- Deliver gender equality, empowerment of women and equal access to education for girls;
- Address the individual, social and economic impact of urbanisation and migration;
- Support sustainable development and address environmental issues associated with population changes (UNFPA, 1995)

The programme of action and benchmarks added at the ICPD+5 review went on to inform the eight Millennium Development Goals.

Assessing the impact of family planning programmes can be difficult because it can be hard to uncouple development progress from the family planning programme. However, there is evidence to suggest that family planning programmes have had significant impact in areas that have experienced poor development progress. Fertility has declined rapidly in a number of countries with unfavourable development conditions, for example, Bangladesh, Nepal, Rwanda and Sri Lanka.

These countries were all largely poor, agricultural and traditional at the time when fertility started to fall, and the unifying factor between them is the priority given by governments to social development and the implementation of family planning and health programmes. In the past 50 years no sustained fertility decline has been observed in a poor and largely illiterate country in the absence of a strong family planning programme (Bongaarts et al., 2012).

Impact can also be assessed by examining the disparity between rates of unwanted fertility in the poorest and richest quintiles of individual countries. Gillespie's (2004) analysis of unwanted fertility in 41 developing countries found that unwanted fertility was more than twice as high in the poorest quintile than in the richest quintile (1.2 vs. 0.5 births per woman).

This disparity is much smaller in countries with strong family planning programmes, for example, in Indonesia, which has strong family planning programmes, the difference between the highest and lowest quintiles is just 0.1 births per woman, whereas the Philippines (which has weak family planning programmes) has a much larger discrepancy of 1.9 unwanted births per woman between the poorest and the richest (Gillespie, 2004; Bongaarts et al., 2012).

The impact of family planning projects can also be assessed using recently-developed tools that allow individual family planning programmes to be evaluated within national health and demographic changes. These tools can be used for both prospective and retrospective evaluations, and allow detailed assessment of the acceptability of services to clients and providers, and the feasibility and efficacy of different service combinations (Weinberger et al., 2012; Rivero-Fuentes et al., 2008).

There is also considerable evidence to suggest that family planning programmes that intentionally challenge gender norms have a positive impact on use of family planning. The Institute for Reproductive Health implemented programmes in Honduras and El Salvador that specifically targeted men as decision-makers about family planning. The programmes offered sexual and reproductive health education sessions to men at their work sites in water and sanitation and agricultural committees. The messages and materials intentionally challenged gender norms and presented the benefits of family planning. In Honduras, family planning use increased from 37% to 55% throughout the programme duration. The project area in El Salvador also experienced a significant increase in use of family planning (Lundgren et al., 2005; Gribble et al., 2008).

The case for effective family planning programmes: sub-Saharan Africa

Sub-Saharan Africa demonstrates the need for effective family planning programmes. By the time that many African governments accepted the need for population stabilisation programmes, the promotion of family planning was no longer an international development priority. At least partly as a result of this, the fertility decline in most of Africa has been slow: of the 43 countries globally with total fertility rates of 4 or more births per woman, 35 are in sub-Saharan Africa. Continued high fertility, high dependency ratios, and rapid population growth in Africa will make achievement of most of the Millennium Development Goals nearly impossible (Bongaarts et al., 2012; Caldwell, 2002). However, there have been rapid recent increases in contraceptive use in some countries in the wake of political initiatives to promote family planning, including Rwanda, Ethiopia and Malawi, demonstrating the efficacy of targeted family planning initiatives.

Key messages

- Family planning programmes have been implemented in 115 different countries, often with the explicit aim to achieve population stabilisation and enhance socioeconomic progress. Since 1994, greater emphasis has been placed on the contribution of family planning to women’s health and reproductive rights.
- Modern tools exist that allow the evaluation of the impact of family planning programmes within national and international frameworks and as part of wider reproductive health programmes.
- There is clear evidence that family planning programmes can successfully reduce fertility levels.
- Sub-Saharan Africa has the lowest number of family planning programmes and the highest level of unmet contraceptive need.

Evidence Strength Assessment

Quality of evidence:	Size of body of evidence:	Consistency of results:	Closely matched to topic:	Overall assessment:
Medium	Medium	Medium	High	Medium

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8. Service delivery options

Overview

Service delivery for family planning programmes must be defined in terms of hoped-for outcomes. Policy aims have evolved over time. Since the 1970s, when the policy focus was on slowing population growth, it has been recognised that programmes should focus on choice, rights and responsibilities, health benefits, and helping women decide how many children to have and when to have them (Bongaarts et al., 2012) (see section 2, section 4 and section 6 of this guide). Several options exist in terms of designing effective family planning programmes to deliver these aims, which include interaction between static health services and community-based distribution services, social marketing, social franchising, voucher systems and programmes that focus on increasing equity of access.

What are the issues?

Service delivery faces two key challenges over the coming years:

- Demand for family planning will increase with global population increases
- A greater proportion of reproductive lives will be spent using contraception.

Some key principles have been identified which should be adhered to when planning service delivery. Provision of high quality service involves a client-centred approach with informed choice of a range of contraceptive methods, information about alternative methods, competent and caring providers, and offering follow up with well-informed staff. Additionally, voluntarism, counselling, consistent standards, quality assurance and affordable costs through multiple reliable service delivery channels are highly desirable. This should be done alongside infrastructure strengthening of public health systems, and programmes should be flexible enough to adapt in response to changes in the needs of the target population and feedback from users (Mwaikambo et al., 2011; RamaRao and Mohanam, 2003; Simmons et al., 2007).

To achieve these aims, the needs of the target population must first be identified (Mwaikambo et al., 2011). For example, in countries where modern contraceptive method use is very low, such as in much of West and Central Africa, the emphasis needs to be on increasing knowledge and access and defusing social obstacles to contraception. The most effective strategy may be to focus initial efforts on sectors of the population where demand is highest. As programmes mature, the focus should shift to underserved groups, widening the range of services and methods, and cost-effectiveness considerations. A fully mature programme may include the following elements:

- education, counselling, and contraception for sexually-active young people
- family planning for the disabled
- treatment for infertility
- safe abortion where it is legal
- post-abortion care wherever abortion is conducted

- reproductive health needs of peri-menopausal women and those requiring hysterectomies
- advocacy related to eliminating practices such as female genital mutilation and gender-based and sexual violence (Bongaarts et al., 2012)
- an understanding of the role of men in family planning decisions and strategies for when and how to involve men in efforts to help women achieve their reproductive intentions (McCleary-Sills et al., 2012).

What works?

Integrated static services

Although the focus on providing integrated public sector static services such as health centres and hospitals has lessened since the 1970s, these services remain the backbone of service delivery. Improvements to these services can be sought through adapting the service delivery model to local conditions e.g. the number of trained physicians available, and by integrating static services with newer community-based distribution models (Bongaarts et al., 2012).

Education and changing perceptions of family planning through mass media

Education through mass media has been used to promote family planning initiatives for over five decades (Mwaikambo et al., 2011). Communication through mass media has been popular due to the opportunity that it affords to reach a large audience and address issues that are sensitive or culturally taboo in an entertaining and informative manner (Mwaikambo et al., 2011). Studies that have focused on behavioural changes due to mass media family planning campaigns have found that they are most effective when combined with other intervention components such as social marketing or interpersonal communication interventions (Mwaikambo et al., 2011).

Interpersonal communications

Interpersonal communication approaches can include one-on-one discussions, small-group sessions, and facilitator-led curriculum-based programmes. Like mass media campaigns, interpersonal communications are used to influence knowledge, attitudes and intentions regarding family planning. Interpersonal communication interventions can be delivered through healthcare or community-based settings, and have so far been used to target an almost exclusively adolescent audience. A systematic review of interpersonal communication interventions found that 86% reported improved knowledge and attitudes, 63% of those that measured family planning reported increased family planning use and over half of those that measured fertility outcomes found a decline in fertility (Mwaikambo et al., 2011).

Social marketing

Social marketing schemes are typically run by international organisations, and make contraceptives accessible and affordable through private sector outlets; commercial marketing techniques are used to achieve specific behavioural goals (Cleland et al., 2006; USAID, 2013a; DFID, 2010). These methods can help increase availability, and reduce burden on the public sector. Programmes utilising social marketing are most successful when demand for contraception is well established; pills and condoms are popular methods of contraception; a well-developed commercial infrastructure – and a poor public service – exists; coverage of radio and television services are high; and where no restrictions exist on the mass media promotion of family planning (Cleland et al., 2006). At least three systematic reviews of social marketing programmes found that

these programmes have had a positive impact on clients' knowledge of and access to contraceptive methods and on condom use (Chapman, 2003; Madhavan, 2010; Sweat et al., 2012). Evidence also suggests that social marketing increases contraceptive use among adolescents (Agha, 2002).

Community-based distribution

Community-based distribution involves any programme that is delivered outside of traditional healthcare settings, and can take many forms, including interpersonal communications (discussed above), routine household visits and community meetings (Cleland et al., 2006). These services, particularly in the poorest rural locations, have played an important part in many family planning programmes, and have helped to overcome both poor access and unmet need for contraception, especially in communities where women have limited mobility (Bongaarts et al., 2012; Cleland et al., 2006). A programme in Pakistan that focused on reaching women with impaired mobility and which implemented door-to-door visits, found that women who received visits were 1.5 times more likely to use contraception than women who received no visits (McCleary-Sills et al., 2012).

A further evaluation of community-based distribution found that communities typically saw large increases in contraceptive acceptance and use and that these services are an effective and acceptable way of increasing access to contraceptives, particularly injectables and long acting and permanent methods (figure 7) (Bongaarts et al., 2012). No one model of community-based distribution has yet emerged as best practice, but evidence suggests that these programmes are most successful in countries with sufficient social and political capital to recruit large numbers of volunteers, for example, China, India and Iran (Cleland et al., 2006).

Finally, some community-based programmes are not concerned with the distribution of contraceptives, but with indirectly changing norms and practices around the timing and bearing of children. For example, by keeping girls in school for longer, these programmes hope to equip girls with the skills to advocate for their own reproductive choices whilst also challenging social and community perceptions of what is appropriate for young girls, and therefore effecting long-term community change (McCleary-Sills et al., 2012).

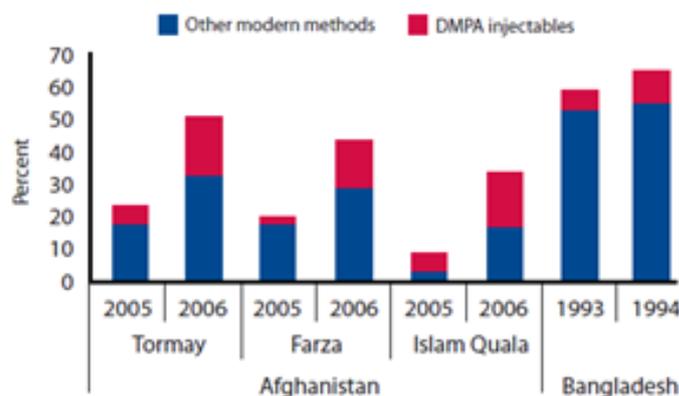


Figure 7. Percentage of women using contraception before and after introduction of community based provision of injectables in selected programmes. Source: Malarcher et al., 2011.

Social franchising

A social franchise is a network of private or government health providers whose products and services are standardised and promoted by a single entity. Social franchising aims to increase the

number of providers and health services offered, to provide services at an equal or lower cost to other delivery options, to provide services that adhere to quality standards and serve all population groups, especially those most in need, thus addressing equity and quality effectiveness issues. Social franchising has proliferated in recent years, especially for family planning. Many franchises are starting to expand beyond family planning and reproductive health, leveraging their platforms to deliver TB, HIV/AIDS and malaria interventions.

Private sector involvement

The involvement of the private sector in providing family planning services varies among regions, and often dominates in countries with poor public health infrastructure, or where governments have promoted a switch to private sector provision as a cost-containment measure (Cleland et al., 2006; Madhavan et al., 2010). Private sector provision caters mainly to affluent couples, but expansion of this sector does increase choice and reduce costs to government (Cleland et al., 2006). Private sector involvement can include demand-side strategies – such as voucher schemes and conditional cash transfers, or supply-side strategies – such as using microfinance to encourage private midwives and other women’s health providers to improve their services (Madhavan et al., 2010). There is a need for well-designed studies to fully clarify the most effective forms of private sector involvement, but the available evidence indicates that strategies such as voucher provision schemes are well-received and amenable to rapid scale-up (Madhavan et al., 2010).

Vouchers

Voucher programmes aim to increase the use of reproductive health services by distributing vouchers for free or highly subsidised health services and health service providers are reimbursed for seeing voucher-bearing patients. An assessment of reproductive health voucher schemes indicated that voucher programmes increased the use of reproductive health services, improved quality of care, and improved population health outcomes (Bellows et al., 2001; Madhavan et al., 2010).

Service integration

The integration of services is an essential feature of health system strengthening and it is important to continue to strengthen health systems, with particular attention to health equity and accountability to civil society in order to increase responsiveness to the needs of the most vulnerable populations. However, there are significant challenges to implementing integrated systems, such as weak administrative capacity in some countries, the availability of medical support, integrated record-keeping, and the prior existence of established vertical programmes (Hardee and Yount, 1995).

The emergence of new service models, particularly social franchising and voucher schemes, has led to new partnerships with producers, procurers and providers (Bellows et al., 2011). Recruiting community health workers from beneficiary communities and linking health workers to existing health systems is crucial for the success of these programmes (USAID, 2013b).

Individual rights and inequity of access

Choice should also be an essential element of family planning service delivery and it must be recognised that choice about family planning is made within a much larger context than the health system. For family planning programmes to have an influence in this process they need the support of key opinion leaders and social networks, including satisfied users, to ensure community support

and that cultural norms and barriers to contraceptive use are addressed and potential clients feel secure in their behaviour (Mwaikambo, 2011; DFID, 2010). The most difficult challenge ahead is to reduce inequities in access and use according to wealth, sex, ethnic group, age, marital status and religious affiliation. Part of the difficulty is that there is no shared definition of what constitutes equity in the context of service delivery. However, the Beijing Platform for Action created agreed international standards for equity, and these can be adopted to inform service delivery (Plattner, 1995).

Well-designed programmes can address equity issues. Family planning programmes should focus additional efforts on women under 25 and their families, particularly to decrease high rates of method failure and discontinuation (Bongaarts et al., 2012). The availability of alternative methods and support in switching methods may make a substantial difference for rural and poorly educated users. Increases in spousal discussion about fertility intentions and contraception could lead to decreases in discontinuation and the use of more effective methods. There is no single formula for service delivery though and programmes need to be culturally appropriate, sensitive to clients' needs, and monitored and modified in response to lessons learned (Mwaikambo et al., 2011; Bongaarts et al., 1990; UNICEF et al., 2010).

Key messages

- Service delivery of reproductive healthcare has evolved in response to trends in contraceptive use, demographic changes, health transitions and changing perspectives on feasible and appropriate healthcare.
- Delivery methodologies that show evidence of success are education through mass media, interpersonal communications, social marketing, community-based distribution, voucher schemes and strategies that integrate static and mobile services.
- The focus of service delivery is increasingly on individual rights, unmet needs and equity of access, as well as beneficial effects on maternal and child health.
- Family planning programmes should not be stand-alone services or luxuries for only the wealthiest segments of the population; they must become an integral part of health systems that respond to the full range of human needs.

Evidence Strength Assessment

Quality of evidence:	Size of body of evidence:	Consistency of results:	Closely matched to topic:	Overall assessment:
High	Medium	Fairly Consistent	High	Medium

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9. Abortive technology

Overview

Unsafe abortion can be defined as a procedure for terminating an unintended pregnancy, carried out either by persons lacking the necessary skills or in an environment that does not conform to minimal medical standards, or both. Unsafe abortions are characterised by the lack of or inadequacy of skills of the provider, hazardous techniques and unsanitary facilities (WHO, 1992).

In 2008, an estimated 21.6 million unsafe abortions took place worldwide, almost all in developing countries. This is an increase from the 19.7 million unsafe abortions in 2003. It was estimated that 14 of 1,000 women of reproductive age (15-44 years) had an unsafe abortion (figure 8).

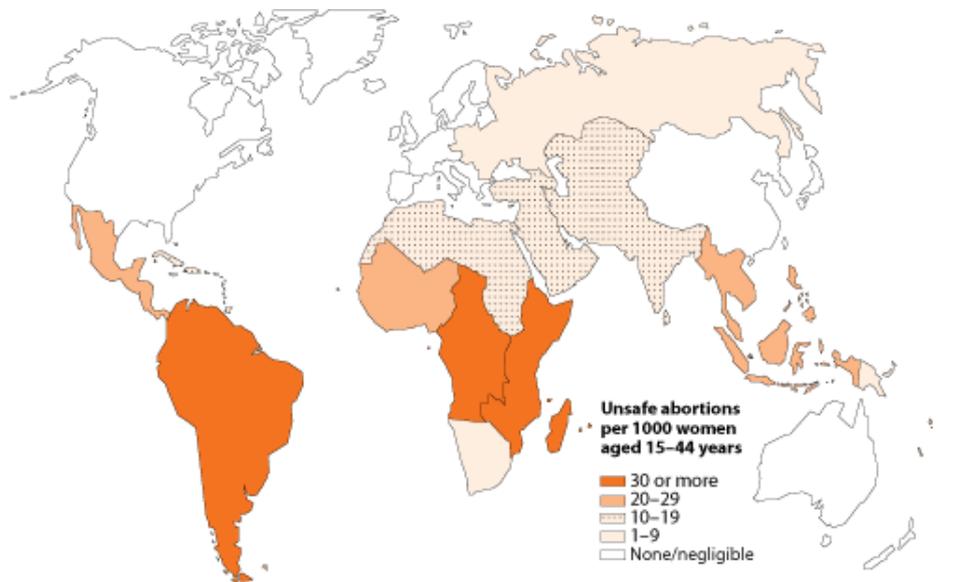


Figure 8. Estimated annual number of unsafe abortions per 1,000 women aged 15-44 years, by sub-regions, 2008. Source: WHO, 2011.

What are the issues?

Despite efforts to achieve Millennium Development Goal 5 Target 5A – reduce by three quarters the maternal mortality ratio between 1990 and 2015 – deaths due to unsafe abortion remain close to 13% of all maternal deaths. It is likely that the numbers of unsafe abortions will continue to increase unless women’s access to safe abortion and contraception – and support to empower women (including their freedom to decide whether and when to have a child) – are put in place and further strengthened. Unsafe abortions are preventable, yet they continue to pose undue risks to a woman’s health and may endanger life (WHO, 2011).

Box 2. Women's rights

Whilst the technology is available to prevent deaths from abortion, the underlying causes of this global pandemic are apathy and unequal rights for women; they suffer and die because they are not valued (Grimes et al., 2006).

Women often don't have control over their own bodies and are influenced and coerced into making decisions about if and when they want children, when they can or can't say no to sex, when and where they are subjected to sexualised violence. This takes away women's fundamental right to decide when she wants a child. Young women and adolescents face higher levels of unwanted pregnancy and unsafe abortions and are particularly at risk because of discrimination based on gender and age.

Tackling wider gender inequalities is needed and this should include work towards eliminating violence against women and girls, closing gender gaps in education, increasing women's access to decision-making and economic opportunities in addition to fulfilling their sexual and reproductive health and rights.

A total of 99% of unsafe abortions were performed in developing countries and 99% of deaths from these abortions also occurred in those countries (Grimes et al., 2006). Access to safe abortion is limited in many developing countries because of legal restrictions, administrative barriers to access legal abortion services, financial barriers and lack of adequately trained providers (Grossman, 2004).

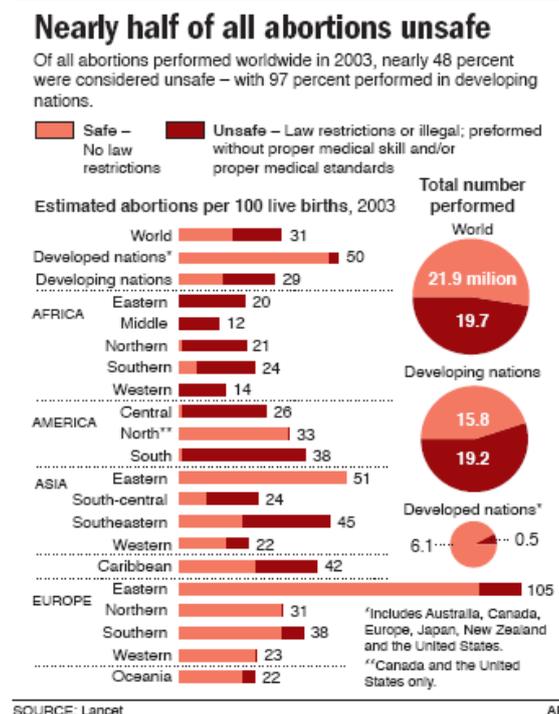


Figure 9. Unsafe abortions. Source: Associated Press, 2007.

WHO (2011) listed the following as conditions that may (either individually or jointly) characterise an unsafe abortion:

- no pre-abortion counselling and advice
- abortion being induced by an unskilled provider, frequently in unhygienic conditions, or by a health practitioner outside official/adequate health facilities
- abortion is provoked by insertion of an object into the uterus by the woman herself or by a traditional practitioner, or by a violent abdominal massage
- a medical abortion is prescribed incorrectly or medication is issued by a pharmacist with no or inadequate instructions and no follow-up
- abortion is self-induced by ingestion of traditional medication or hazardous substances.

Further hazardous features of unsafe abortion are:

- the lack of immediate intervention if severe bleeding or another emergency develops during the procedure
- failure to provide post-abortion check-up and care, including no contraceptive counselling to prevent repeat abortion
- the reluctance of a woman to seek timely medical care in case of complications because of legal restrictions and social and cultural beliefs linked to induced abortion.

Recommended abortion techniques

Legal abortion in developed countries is one of the safest procedures in contemporary practice, with case fatality rates less than one death per 100,000 procedures (Grimes et al., 2006).

Medical abortion (non-surgical)

Medical abortion is the use of pharmaceutical compounds to end a pregnancy. Any method of medical abortion should have an overall efficacy comparable to that of surgical vacuum aspiration, i.e. a rate of complete abortion of more than 95% and an ongoing pregnancy rate of less than 1% (WHO, 2011).

Any method of medical abortion for the early first trimester should be:

- effective up to 63 days of gestation
- easy to administer
- safe, and have acceptable side-effects
- blood loss should be similar to, or less than, that associated with vacuum aspiration
- affordable (WHO, 2011).

The only regimen that meets the efficacy criteria is a combination of mifepristone and a prostaglandin – either misoprostol or gemeprost. Use of mifepristone or a prostaglandin alone does not meet them. Use of methotrexate in combination with prostaglandin can approach the required efficacy, but is not recommended because it is teratogenic (can cause birth defects).

The recommended regimen for medical abortion is 200 mg of mifepristone given orally, followed 36-48 hours later by a prostaglandin – either 0.8 mg of misoprostol or 1 mg of gemeprost – given

vaginally. Misoprostol has been studied for use as a sole abortifacient, but success rates are less than 95% (Carbonell et al., 1997). Nevertheless, sole misoprostol is used by women unable to access legal abortions, despite the high rates of unsuccessful complete abortion (Coêlho et al., 1993).

This combination results in complete abortion in more than 96% of cases; the rate of continuing pregnancies is less than 1% in gestations up to 63 days' amenorrhoea (3-5). Misoprostol can also be given orally at a dose of 0.4 mg, but owing to the higher failure rate with this dose, it is recommended that oral misoprostol use at this dosage be restricted to very early pregnancy, i.e. <50 days (WHO, 2003; WHO, 2006).

It is likely that medical abortion will largely replace surgical abortion as the method of choice because of its unintrusive nature. Over-the-counter sales by pharmacists without medical prescription is common in some countries. While this trend represents an extension of choice, there are valid concerns about such unregulated use.

Surgical abortion

There are several methods of surgical abortion including Manual Vacuum Aspiration (MVA), Electric Vacuum Aspiration (EVA) and dilation and curettage (D&C). MVA is used to end a pregnancy up to 12 weeks. It is performed with the use of a handheld syringe as a source of suction for removing uterine contents. The procedure time is 5 to 15 minutes and a patient typically leaves a doctor's office or a clinic within two hours. EVA is a procedure where the cervix is dilated and a cannula of appropriate size is inserted and the uterine contents are removed by EVA (sometimes curettage may also be performed at the end). D&C is a procedure in which the cervix is dilated and a forceps or curette is inserted to remove the uterine contents. All three methods can be performed under local anaesthesia (Blackrishan, 2010).

The choice of method would depend on the setting and equipment available. Both MVA and EVA are ideal for under-resourced settings. MVA may have a definite role in early abortions as it is inexpensive and the equipment needs very little maintenance. Since the operating time is markedly less with EVA compared to D&C, it may be a better choice for late terminations. This may be particularly relevant when local anaesthesia is used in busy clinics and in low-resource settings (Balakrishnan, 2010).

Surgical verses medical abortion

The main advantage of the medical method over surgical termination of pregnancy is the potential avoidance of an anaesthetic and complications such as cervical laceration and uterine perforation. Furthermore, the whole procedure can be undertaken either at home or in an outpatient setting. In under-resourced settings, these features can be an advantage as the direct healthcare cost is lower compared with the surgical option. The drawback with the use of mifepristone and misoprostol is the need to follow up with patients to ensure that the abortion process is complete (Chien and Thomson, 2006).

What works?

Evidence presented by WHO (2012) suggests that a reliance on abortion can be greatly reduced when:

- women can plan pregnancies through effective contraception
- counselling and services meet the unmet need for family planning, and appropriate method-mix of contraception (including the promotion of long acting and/or permanent contraception methods) is offered to all women, including those both married and unmarried.

Additionally, available evidence underlines the importance of promoting access to the full range of abortion technologies, removing barriers to medical abortion, training providers, removing procedural barriers and ensuring adequate funding for both medical and surgical abortion (Center for Reproductive Rights, 2005).

In the meantime, ill-effects of unsafe abortion should be prevented by:

- making safe abortion services available and accessible where abortion is not against the law
- ensuring that permitted reasons for abortion are supported by the national legislative process and health systems
- granting access to services for the management of complications arising from unsafe abortion
- providing post-abortion counselling and offering contraceptive services, which will also help to avoid repeat abortion (WHO, 2012).

Key messages

- Deaths attributable to unsafe abortion can be prevented by effective contraception, safe abortion services, and post-abortion services (Ahman and Shah, 2011).
- Ending the silent pandemic of unsafe abortion is an urgent public health and human rights imperative.
- Despite its frequency, unsafe abortion remains one of the most neglected global public health challenges, with an estimated 68,000 women dying every year.
- Access to modern contraception can reduce but never eliminate the need for abortion.
- Legalisation of abortion is a necessary but insufficient step toward eliminating unsafe abortion.
- When abortion is made legal, safe, and easily accessible, women's health rapidly improves. By contrast, women's health deteriorates when access to safe abortion is made more difficult or illegal.
- Treating complications of unsafe abortion overwhelms impoverished healthcare services and diverts limited resources from other critical healthcare programmes (Grimes et al., 2006).

Evidence Strength Assessment

Quality of evidence:	Size of body of evidence:	Consistency of results:	Closely matched to topic:	Overall assessment:
High	Medium	Fairly Consistent (medical advice very consistent but alternative views exist)	High	Medium/Strong

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10. Value for money

Overview

As already noted, in 2008, more than half of women (818 million) of reproductive age (15-49) in developing countries wanted to avoid a pregnancy so that they either limited their total number of births or spaced their childbearing (Singh et al., 2009). Of these women, 215 million (26%) have an unmet need for modern contraceptives and account for 82% of unintended pregnancies. In approximately a third of cases, cost was the reason for women not using contraceptives (WHO, 2005).

The cost of providing modern family planning services (for example, costs of contraceptives, labour costs of health workers and health system support costs) to the 603 million women who do use contraception was estimated at US\$3.1 billion in 2008, paid for by a combination of the public (e.g. tax revenues) and private sectors (e.g. health insurance), and individual and international donations (Singh et al., 2009). It is estimated that it would cost a further US\$3.6 billion to extend services to women with an unmet need for modern contraceptives (figure 10). The higher cost per head of meeting unmet need than for existing users reflects costs incurred in strengthening healthcare systems, especially in regions with the highest unmet need e.g. sub-Saharan Africa (Singh et al., 2009).

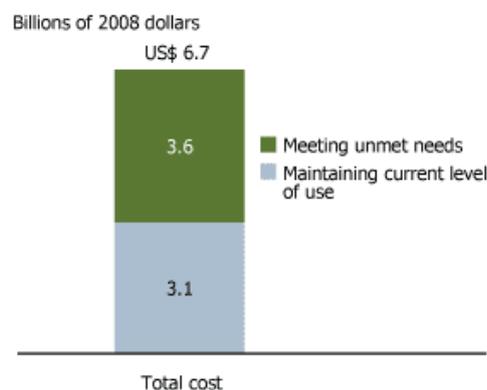


Figure 10. Cost of providing modern contraceptives to all who need them, 2008. Source: Singh et al., 2009.

What are the issues?

Providing both modern family planning and the recommended standard of maternal and newborn care is synergistic in terms of health and cost benefit. Helping all women who wanted to avoid unwanted pregnancies through using modern contraceptives would reduce the cost of providing the recommended standard of maternal and newborn care by US\$5.1 billion. This means that for each additional dollar spent to provide modern contraceptives, US\$1.40 would be saved in costs of medical care because of fewer unintended pregnancies (Singh et al., 2009).

As a result of pregnancy-related causes, the WHO estimated that 38 million disability-adjusted life years (DALYs) were lost among women globally in 2004 (WHO, 2009). About 40% of pregnancy-related DALYs lost worldwide are in sub-Saharan Africa, and another 36% are in South Central

Asia. A DALY is a commonly used measure of the burden from mortality and morbidity and is roughly equivalent to one healthy year of life. Providing both modern family planning and the recommended standard of maternal and newborn care would reduce the number of DALYs lost because of pregnancy-related illness and premature death by 66% (Singh et al., 2009).

Savings would also accrue from fulfilling unmet need in terms of obstetric care, immunisation, and, after a lag, primary schooling. A study of 16 countries in sub-Saharan Africa shows that US\$3,700 would be saved in meeting the Millennium Development Goals for every US\$1,000 spent on family planning (Moreland and Talbird, 2006).

When the benefits of increased contraception in terms of DALYs are combined with the probable effects of reduced fertility on economic growth per head, the economic rationale for investing in family planning is further strengthened. A detailed review indicates benefit-cost ratios of the order of 90-150 (Kohler, 2012).

Focusing on HIV, the annual cost of providing family planning for all HIV-infected women who wish to prevent unintended births is over US\$33 million globally. If all unmet need for family planning were met for women living with HIV, it is estimated that the cost for each unintended pregnancy prevented to women with HIV is US\$63 globally (Halperin et al., 2009). Contraception is a cost-effective form of HIV prevention. Integrating family planning and the prevention of mother-to-child transmission of HIV (PMTCT) services would save an estimated US\$660 for each HIV infection averted compared with US\$1300 per infection averted with treatment alone (Stover et al., 2003). Thus, family planning is also cost-effective for preventing HIV transmission (Wilcher et al., 2003).

It is essential to examine the impact of integrating any component of STI or HIV prevention, care, and treatment into a family planning setting in developing countries. The weight of evidence demonstrates that integrated services can have a positive impact on client satisfaction, improve access to component services, and reduce clinic-based HIV-related stigma, and that they are cost-effective. Integrated services are thought to expand access to and coverage of critical services and to improve their efficiency and cost-effectiveness by reducing duplication of service delivery functions and delivering more services per client contact.

However, the cost of adding routine clinical screening for STIs among family planning clientele may not be justified by the number of infections detected and treated. There is an argument that sexually active, unmarried young people are at disproportionately high risk, both of unplanned pregnancy and of STI and HIV infection. So youth-friendly services in settings with a high prevalence of STIs or HIV should consider offering the full range of reproductive health services, with the clear understanding this is likely to increase operating costs.

The cost of saving one DALY through family planning and maternal and newborn care (US\$62) (Singh et al., 2009) compares favourably with the cost-effectiveness of other common widely accepted health interventions, such as antiretroviral therapy (US\$150 to US\$547) (Bertozzi et al., 2006), BCG tuberculosis vaccination of children for tuberculosis (US\$48 to US\$203) (Dye and Floyd, 2006) and oral rehydration therapy (US\$1,268) (Keusch et al., 2006). Family planning is therefore considered good value for money in global health because of its relative cost-effectiveness.

Research suggests that understanding the level of demand for family planning and better specification of both the gender barriers and pathways could help to make interventions more cost-effective and strategic (Sills et al., 2012). However, whilst efforts to change gender and other norms ultimately related to sexual and reproductive health outcomes can be costed, the credit they can take for increasing contraceptive use is difficult to measure. This makes it hard to assess their cost in relation to family planning, even though they may ultimately have effects not only on family planning and other aspects of sexual and reproductive health but on other areas of health and development. This also highlights the absence of a rights discourse to date in discussions about how much it costs to provide family planning to all who want it, although there have been some instances in other fields where the costs of ensuring human rights are factored in to overall costs. There are some examples of efforts to cost 'rights' and measure the impact of interventions to change gender norms and outcomes for family planning (UNFPA, 2012).

Key messages

- It is cost-effective to provide family planning and the recommended standard of maternal and newborn care to all women of reproductive age in low income countries.
- Integrating family planning services with other health programmes to reduce transmission of infections such as HIV could also be a cost effective service delivery method.
- Fulfilling the unmet need of family planning is cost effective in preventing unwanted pregnancies, spacing childbirth and reducing the cost of providing the recommended standard of maternal and newborn care. Integrating with other services, such as HIV programmes, is also good value for money in preventing HIV infection. However, funding must be sustained to ensure ongoing progress.

Evidence Strength Assessment

Quality of evidence:	Size of body of evidence:	Consistency of results:	Closely matched to topic:	Overall assessment:
Medium/High	Medium	Fairly Consistent	Medium/High	Medium

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Appendix

Single study assessment key:

Research Type	Research Design
Primary & Empirical (P&E)	Non-Experimental (NEX)
	Quasi-Experimental (QEX)
	Experimental (EXP)
Secondary (S)	Systematic Review (SR)
	Non-Systematic Review (NSR)
Theoretical or Conceptual (TC)	N/A

Study quality	Abbreviation	Definition
High	H	Demonstrates adherence to principles of appropriateness/rigour, validity and reliability; likely to demonstrate principles of conceptual framing, openness/ transparency and cogency
Moderate	M	Some deficiencies in appropriateness/rigour, validity and/or reliability, or difficulty determining these; may or may not demonstrate principles of conceptual framing, openness/transparency and cogency
Low	L	Major and/or numerous deficiencies in appropriateness/rigour, validity and reliability; may/may not demonstrate principles of conceptual framing, openness/ transparency and cogency

Evaluating the overall strength of a body of evidence:

Categories of evidence	Combinations of quality + size + consistency + context	Typical features of the body of evidence	What it means
Very Strong	High quality body of evidence, large in size, consistent, and closely matched to the specific context of the business case.	The body of evidence includes studies based on experimental designs (including impact evaluations), as well as systematic reviews and/or meta-analysis.	We are very confident that the intervention has the effect anticipated or does not have the anticipated impact. The body of evidence has few or no deficiencies. We believe that the findings are convincing and stable.
Strong	High quality body of evidence, large or medium in size, generally consistent, and matched to the specific context of the business case.	The body of evidence is likely to include either experimental or quasi-experimental designs (including use of RCTs and statistical methods enabling causal identification). Non-experimental research designs (including comparative case study methods) that make attempts at counterfactual analysis are also likely to feature in these bodies of evidence, as are systematic reviews.	We are confident that the intervention has the effect anticipated or does not have the anticipated impact. The body of evidence has few deficiencies.
Medium	Moderate quality studies, medium size evidence body, generally consistent, which may or may not be relevant to the specific context of the business case. Also covers limited number of high quality studies.	The body of evidence is likely to include studies from multiple designs (qualitative and quantitative), but which have been assessed as being only of a moderate quality. The findings of the studies do not offer robust findings that can be derived and replicated across a range of contexts.	We are moderately confident that the intervention has the effect anticipated or does not have the anticipated impact. The body of evidence has some deficiencies. We believe that the findings are likely to be stable, but some doubt remains.
Limited	Moderate or low quality studies, small or medium size body, inconsistent, not matched to specific context of the business case	The body of evidence is comprised of studies based on varied designs and methodologies, which do not meet the minimum standards of research quality. Includes causal inference derived from single case studies in a limited number of contexts, and cross-sectional analysis performed in the absence of rigorous baseline data.	We have limited confidence that the intervention has/does not have the anticipated effect. Body of evidence has major and/or numerous deficiencies. Additional evidence needed to conclude that the findings are stable or that intervention has the indicated effect.
No evidence	No studies or impact evaluations exist		We have evidence of need but no evidence that the intervention does or does not have the effect indicated.