



## Abortion in India: A Literature Review

Melissa Stillman, Jennifer J. Frost, Susheela Singh, Ann M. Moore and Shveta Kalyanwala

### HIGHLIGHTS

- This report reviews and synthesizes the peer-reviewed literature, as well as important grey literature, published between 2002 and 2014 on abortion in India.
- Over the past decade, some key policy developments have contributed to improved availability, accessibility and safety of induced abortion services; these include revised regulations expanding services to primary health centers, the approval of medical abortion for terminating early pregnancies, and the promotion of manual vacuum aspiration as the preferred method for early surgical abortion.
- The impact of these efforts has been dampened by difficulties in implementation. For example, the expansion of abortion services into lower-level facilities has been uneven, leaving many districts with few public facilities that provide the services. Studies indicate that many of the largest, least developed states are disproportionately underserved by certified facilities.
- National- and state-level studies suggest that the majority of women in India who seek abortion services do so to limit family size, space births or protect their health, or because of poverty and economic constraints. Only a small proportion of all abortions are likely performed for sex-selective reasons.
- The incidence of complications among women having unsafe abortions is poorly documented. Such complications appear to have declined over the past decade, but limited knowledge and poor access to safe and legal services mean that many women seeking abortion make at least one unsuccessful attempt before they end their pregnancy. Some of these attempts carry health consequences for the women.
- Young and unmarried women are particularly vulnerable to poor sexual and reproductive health in general, and they have especially poor access to safe abortion services, which leads to delays in obtaining services and reliance on unsafe providers.
- Estimates of abortion in India are based on a variety of indirect methods that likely underestimate its prevalence; improved incidence studies are an important area for future research.

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# Introduction

## Purpose of the Literature Review

Globally, induced abortion—safe or unsafe, legal or illegal—is a reproductive health service that is part of the lives of women, couples and communities in both developed and developing countries. When faced with unintended pregnancies, especially in contexts in which women lack access to effective family planning, induced abortion is an important part of women’s reproductive health care. Ensuring the safety and availability of abortion services is critical to women’s health, and creating a supportive legal environment is one step in that process. In India, the second most populous country in the world, abortion has been legal on a broad range of grounds since 1971.<sup>1,2</sup> A substantial body of research on various aspects of abortion in India, including policies, service provision and women’s perspectives, has been conducted in the past decade. This report provides a synthesis of recent studies related to abortion and presents an up-to-date overview of the status of induced abortion in India by highlighting what is known and what knowledge gaps exist. Some of the questions this review will answer are as follows:

- How have policies and service provision changed over the past 10 years?
- What are the main reasons women have an abortion?
- What are the characteristics of women who are more or less likely to seek abortion services?
- With the growing demand for smaller families and the relatively slow increase in contraceptive use, what is the role of abortion in women’s reproductive strategies?
- How reliable are existing estimates of abortion incidence?
- To what extent and through which pathways do women experience unsafe abortion and suffer consequent morbidity or mortality?
- What abortion services are available to women, and what are the important gaps in or barriers to obtaining safe and legal abortion services?

To our knowledge, the most recent published literature review of abortion in India was written by Heidi Johnston as part of the Abortion Assessment Project–India (AAPi) working papers series in 2002.<sup>3</sup> In her review, Johnston outlined abortion services in India at the time, estimates of abortion rates and associated morbidity and mortality, legal and social factors associated with abortion, and the state and quality of postabortion care services. In addition to Johnston, the India Working Group, consisting of members from Centre for Enquiry into Health and Allied Themes, Federation of Obstetric and Gynaecological Societies of India, Family Planning Association of India, Ipas, Society of Midwives–India and United Nations Population Fund, collated existing information to create a situational analysis of unwanted pregnancies and abortion in India.<sup>4</sup> This 2007–2008 analysis was part of a broader multicountry effort by the International Federation of Gynecology and Obstetrics Working Group for the Prevention of Unsafe Abortion to gather country-level information to present at national and regional workshops in order to discuss and define plans of action to reduce unsafe abortion in various countries. Most recently, in 2014, Population Council India published a literature review, written by Mary Philip Sebastian et al., that focused broadly on reproductive health in India, including trends in fertility, contraceptive use and unmet need, quality of and access to family planning and abortion services, financing and delivery mechanisms, and barriers to services.<sup>5</sup> Sebastian’s review focused exclusively on the states of Bihar, Madhya Pradesh and Odisha, providing a snapshot of the most current research in these states but not of India as a whole.

As a result of the introduction of medical abortion\* in 2002, and its subsequent widespread availability, the abortion landscape in India has changed substantially. The main objective of this review is to synthesize the key findings of studies conducted since Johnston’s review, and to describe the current reality of abortion in India to the

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\*A form of induced abortion performed nonsurgically using medications. In this publication, we use the term to refer specifically to abortions resulting from the use of a combined oral regimen of mifepristone and misoprostol.

extent possible. We focus on key issue areas on which a sufficient amount of literature exists: abortion laws, policies and guidelines; abortion services, including the availability and quality of services among different facility and provider types; task-shifting related to provision of abortion services; and the availability, effectiveness and safety of, and women's preferences for, different abortion procedures (medical versus surgical). We present the characteristics of women who are seeking or obtaining abortion services, as well as the most common reasons women cite for terminating a pregnancy. We also discuss the wide range of barriers—on the individual, social and systemic levels—to safe and legal abortion services that women in India face. Finally, we discuss the policy and programmatic implications of the findings and make recommendations for future research.

## Background and Context

More than 1.2 billion people live in India, approximately 26% (328 million) of whom are women of reproductive age (15–49).<sup>1</sup> According to Sample Registration System data for 2012, women in India have an average of 2.4 births in their lifetime.<sup>6</sup> This key indicator of reproductive health, known as the total fertility rate, has declined from 3.6 in 1991. Women living in urban areas have fewer children (1.8) than their rural counterparts (2.6). Reproductive outcomes vary widely throughout India, reflecting the social, demographic and economic diversity of its states and differential access to health services across the country. For example, among the bigger states, the total fertility rate varies from 1.7 in Himachal Pradesh, Punjab, Tamil Nadu and West Bengal to 3.5 in Bihar. Fertility is higher than the national average among women living in parts of the Central region (2.9 and 3.3 in Madhya Pradesh and Uttar Pradesh), Eastern region (2.8 and 3.5 in Jharkhand and Bihar)<sup>6</sup> and Northeastern region (3.0 to 3.8 in Arunachal Pradesh, Nagaland and Meghalaya).<sup>\*7</sup>

The most recent data on the contraceptive prevalence rate among married women in India come from the 2012–2013 Annual Health Survey, which covers the nine high-focus states.<sup>†8</sup> While geographically limited, the data show that contraceptive use varies widely from state to

state, ranging from 41% in Bihar to 70% in Rajasthan. The contraceptive prevalence rate also varies across districts within states; for instance, it ranges from 28% to 56% in Bihar, 33% to 79% in Odisha and 55% to 90% in Rajasthan. Nationally representative data from the 1992 National Family Health Survey (NFHS-1) and the 2007–2008 District Level Household and Facility Survey (DLHS-3) indicate that contraceptive use among married women increased some between 1992 and 2007, from 41% to 55%.<sup>9,10</sup> Contraceptive use was higher among women living in urban areas (61%) than among those in rural areas (50%).<sup>10</sup> Only 7% of married women aged 15–19 and 22% of those aged 20–24 were using a modern method. Of all current users in India, 88% relied on a modern contraceptive method, and the remaining 12% reported using a traditional method. Spacing methods were much less common than permanent methods, especially among women aged 35 and older: Female sterilization accounted for two-thirds of total contraceptive use and for 74% of modern method use among married women aged 15–49. Among married women with children, the proportion who had been sterilized increased with their number of sons: Twenty-five percent of women with two daughters and no sons had been sterilized, compared with 47% of women with at least one son.

In 2007–2008, approximately 21% of married women had an unmet need for contraception—that is, they reported wanting to space or limit births but were not using a contraceptive method.<sup>10</sup> Unmet need was higher among rural, low-income and young women than among others. In the states of Bihar, Jharkhand, Meghalaya and Uttar Pradesh, contraceptive use was low (22–38%), and levels of unmet need were highest (32–36%; Figure 1, page 6).<sup>10</sup> Nationally, according to results from the 2005–2006 National Family Health Survey (NFHS-3), 21% of recent births were unintended—10% were wanted later and 11% were not wanted at all.<sup>7</sup> The proportion of unintended (mistimed or unwanted) births was highest among women aged 40–44 (50%) and lowest among women younger than 20 (14%). The total wanted fertility rate was 1.9 children per women, 30% lower than the actual fertility rate of 2.7 children per woman at that time.<sup>‡</sup> The gap between wanted and actual childbearing was larger for rural women (0.9 children) than for urban women (0.5 children). This gap also varied by state, ranging from 0.1 children in Kerala to 1.6 in Bihar. The gap was one child or

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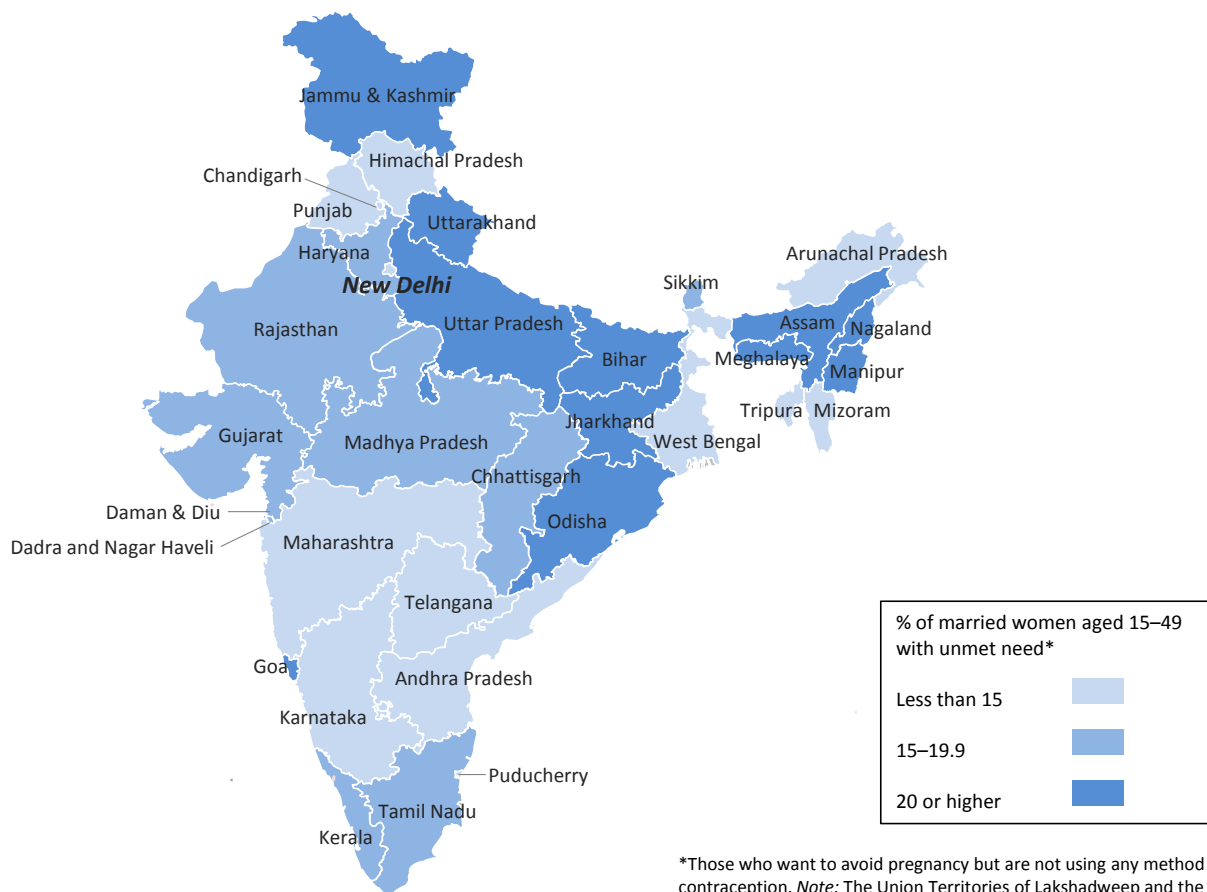
\*Sample Registration System reports from 2012 do not provide data for some small states. In these cases, we used data from the 2005–2006 National Family Health Survey.

†High-focus states are Assam, Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttar Pradesh and Uttarakhand. This group was established by the government of India in 2001 to facilitate focused efforts to promote the Child and Reproductive Health Programme in the states that had been lagging behind in a number of sociodemographic indices.

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‡To compare the wanted and actual fertility rates, we used data from the 2005–2006 NFHS-3 because the 2012 Sample Registration System data reported earlier in this publication do not include the wanted fertility rate.

**FIGURE 1. Unmet need for contraception is highest in states in the eastern and northeastern regions of India.**



\*Those who want to avoid pregnancy but are not using any method of contraception. *Note:* The Union Territories of Lakshadweep and the Andaman and Nicobar Islands are not shown on this map. *Source:* reference 10.

more in Bihar (1.6), Uttar Pradesh (1.5), Jharkhand (1.2), and Madhya Pradesh, Nagaland and Rajasthan (1.0 each).<sup>7</sup>

Little is known about the degree to which unmarried adolescents engage in sexual activity; the subject is sensitive in India and reliable data are lacking. Youth in India: Situation and Needs Study, a large-scale survey of young men and women aged 15–24 conducted in six states in 2006–2007, showed that about 4% of young women reported (in face-to-face interviews or written surveys) having had sex prior to marriage.<sup>11</sup> Although premarital sex was likely underreported, the proportion ranged from 1–2% in Bihar, Maharashtra, Rajasthan and Tamil Nadu, to 6–7% in Andhra Pradesh and Jharkhand. Among those who reported sexual activity, 21% reported having had more than one concurrent sexual partner, and only 3% reported consistent condom use. Awareness of sexual and reproductive health matters was also inadequate among adolescents: Fewer than half of young women knew

that they could get pregnant at first sex or had correct knowledge of how to use at least one modern reversible method of contraception, and only six in 10 were aware that 18 is the minimum legal age of marriage for women.

While data on sexually active unmarried women are limited, what we do know suggests that contraceptive use is relatively low among this population (38%).<sup>7</sup> Use varies by age: Only 9–12% of sexually active unmarried 15–24-year-olds were using a modern method in 2005–2006, compared with 52% of unmarried 25–49-year-olds.

Much more is known about early marriage, which exposes young women to early onset of sexual activity and the concomitant risks of unintended pregnancy, childbearing or abortion. According to the Youth in India study, 19% of women aged 20–24 in 2006–2007 in the six states had married by the age of 15 and 49% had married before age 18, despite an overwhelming preference among women to marry after the age of 18.<sup>11</sup> Data from the NFHS-3 tell

a similar story: Around 45% of women aged 20–24 in 2005–2006 had married before age 18.<sup>7</sup> The proportion marrying early varied by state: As many as 60–61% of 20–24-year-olds had married by age 18 in the states of Bihar and Jharkhand, compared with lows of 12% in Goa and Himachal Pradesh.<sup>7,12</sup>

As these indicators reflect, the context in which women in India must navigate their options related to sexual and reproductive health is complex and varies by state, age and marital status, as well as by other social, demographic and health system factors. Given the relevance of these factors to understanding sexual and reproductive health behaviors, including abortion, we are careful to mention the geographic coverage and particular subgroup of each study included in the literature synthesis.

## Methodology

This paper draws on an extensive literature review conducted from January through October of 2014. We defined the parameters of our search to include literature published between 2002 and 2014, to capture articles produced since Johnston’s review. We identified published research on abortion in India using the PubMed, JStor and Popline databases and clustered related search terms into the following six groups:

- Group 1: abortion, induced abortion, medical termination of pregnancy, MTP, menstrual regulation
- Group 2: misoprostol, mifepristone, abortion pill, medication abortion, medical abortion
- Group 3: surgical abortion, dilation and curettage, manual vacuum aspiration, electric vacuum aspiration
- Group 4: Pre-Conception and Pre-Natal diagnostic Techniques Act, PNDT, PCPNDT, prenatal diagnosis
- Group 5: unintended pregnancy, intention of pregnancy, unwanted pregnancy, unplanned pregnancy, pregnancy intention
- Group 6: mid-level providers, mid-level provision, midlevel provision, midlevel providers

All groups were searched in combination with the term “India,” which we did not limit beyond all fields, in order to ensure capture of state-specific literature. Group 6 was also searched in combination with Group 1.

We identified 826 items through the search. We eliminated 403 duplicate articles and those with titles that were clearly not relevant. We then eliminated publications that were not peer-reviewed articles, such as comments, editorials or other journalism pieces, and brief communications, bringing the total to 296 items. Next we excluded clinical case studies and articles whose objectives did not focus on or pertain to our intended topics. We then

collected and reviewed abstracts of the remaining 182 items to identify which were eligible for inclusion in the review. We included original data analyses and literature reviews written in English that were either India-specific or that included India in a multicountry study. By examining the citations in each article, we identified additional papers for inclusion. We also identified key gray literature, which we defined as relevant reports published by certain international and local organizations: Centre for Enquiry into Health and Allied Themes, Healthwatch, International Institute for Population Sciences, Ipas and Population Council. These organizations were specifically chosen as they have each published rigorously conducted research on abortion in India. Finally, we included some additional references suggested by colleagues selected as peer reviewers for this report, all of whom are experts on issues related to abortion in India.

We included a few studies that were published prior to 2002 because they are especially important or provide data that has not since been updated. For example, an abortion incidence study published in the 1990s was included because it is one of the most widely cited studies on the topic.<sup>13</sup>

For laws, regulations and guidelines, we reference government documents from agencies such as the Ministry of Health and Family Welfare, the Registrar General and the Census Commission of India. For the most recent data on abortion, related factors and service provision, we relied on the following key studies:

- *National Family Health Survey (NFHS)*.<sup>7</sup> This nationally representative study provides estimates of important indicators on fertility, mortality, family planning, and adolescent sexual and reproductive health and high-risk sexual behavior. The third and most recent survey in the series (NFHS-3) was conducted in 2005–2006. For the 2005–2006 survey, the sample of 124,000 women and 74,000 men was representative of 99% of the population in 29 states in India. Some of the studies cited in this review used data from the 1998–1999 NFHS-2 because, unlike the NFHS-3, it contained questions that distinguished between induced and spontaneous abortions.
- *District Level Household and Facility Survey (DLHS)*.<sup>10</sup> This study includes both a facility survey and a household survey and covered 601 districts in 34 states and union territories. The most recent national data come from the DLHS-3, conducted in 2007–2008.\* Like the two previous

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\*Results from the latest DLHS-4 (2012–2013) have been published in 13 state fact sheets, but national-level data are not available at the time of publication of this report, nor have there been any reports or journal articles published using the DLHS-4 abortion data.

rounds of the DLHS, this one was designed to provide district-level estimates of maternal and child health, family planning, and other reproductive health indicators. The 2007–2008 population-linked facility survey gathered data on human resources, infrastructure and service provision from 18,068 subcenters, 8,619 primary health centers, 4,162 community health centers and 596 district hospitals. The household survey interviewed about 6.5 million married women aged 15–49 and 1.6 million unmarried women aged 15–24.

- *Abortion Assessment Project–India.*<sup>14</sup> Conducted in 2000–2002, this survey is perhaps the largest abortion study ever undertaken in India. It included five main components: a policy review and multiple commissioned working papers; a multicenter facility study; eight qualitative studies on decision-making, decision pathways and reasons for seeking an abortion; community-based studies to estimate abortion incidence and out-of-pocket expenditures on abortion in two states; and an information-dissemination and advocacy program. The multicenter facility survey in six states (Haryana, Kerala, Madhya Pradesh, Mizoram, Odisha and Rajasthan) included providers from 380 formal facilities in both the public and private sectors and 1,270 informal providers.<sup>15</sup> The states included in the study were selected to represent the country's diversity in terms of geography, economic status and health.

- *Population Council studies.*<sup>16,17</sup> Two studies conducted in 2007 and 2010 evaluated the comprehensive, evidence-based abortion care models developed by the Consortium for Safe Abortion in India to address both facility- and individual-level barriers to abortion services. Intervention models were implemented in one district of a more developed state (Aurangabad district, Maharashtra) and in one district of a less developed state (Tonk district, Rajasthan). They focused on enabling public-sector facilities to provide comprehensive abortion services, building awareness among women and communities about the legality of abortion and the availability of safe public-sector abortion services. The baseline investigation, conducted in 2007, and the endline investigation, in 2010, used a quasi-experimental design with cross-sectional surveys undertaken at the health facility and household levels among about 1,000 married women aged 15–39 in each district. In addition to assessing the intervention, these reports provide valuable information on women's experiences with abortion, both in the public and the private sectors, and give some insight into the number of abortions that occur and the types of methods that are used.



# Laws, Policies and Guidelines

## Medical Termination of Pregnancy Act

The Indian Parliament passed the Medical Termination of Pregnancy (MTP) Act in 1971 with the goal of regulating and ensuring access to safe abortion.<sup>2</sup> As of this writing, this law permits only registered allopathic medical practitioners\* at certified abortion facilities to perform abortions to save a woman's life or to preserve her physical or mental health; it also permits abortion in cases of economic or social necessity, rape, incest, fetal impairment or the failure of a contraceptive method used by a married woman or her husband. Consent for the abortion is not required from the woman's husband or from other family members, however a guardian's consent is required if the woman seeking an abortion is either younger than 18 or mentally ill. The act allows an unintended pregnancy to be terminated up to 20 weeks' gestation; however, if the pregnancy is beyond twelve weeks, a second doctor's approval is required. There are exceptions to this: If the provider is of the opinion that an abortion is immediately necessary to save a woman's life, the gestational age limit does not apply and the second opinion is not required.

## Providers of Legal Abortion Services Under the MTP Act

Current abortion policy in India excludes health care workers who are not allopathic physicians from being trained as abortion providers or legally providing abortions.<sup>18</sup> Only obstetrician-gynecologists and other allopathic physicians who have completed a bachelor of medicine/bachelor of surgery degree, have undergone specific government-approved training in abortion provision and have received certification are permitted to legally provide abortion.<sup>2</sup> To meet government criteria, a training center must perform a minimum of 600 procedures per year and have all necessary equipment.<sup>19,20</sup> The recommended duration of training for surgical abortion is two weeks, and each trainee must observe at least 10 abortion procedures, assist with five, perform at least five under supervision and perform another five independently.

Abortion provision is allowed at all public facilities, as long as the provider is certified in abortion provision. The MTP Act mandates that each state provide abortion services at tertiary-level health care centers (medical colleges) and secondary-level health care centers (district hospitals and first referral units) up to 20 weeks' gestation. Private-sector facilities are permitted to provide first- and second-trimester abortion services after receiving government approval as a registered abortion facility.<sup>19</sup> The Medical Termination of Pregnancy Rules and Regulations of 1975, which operationalized the MTP Act, define the criteria and procedures for approval of an abortion facility, which applies exclusively to private-sector facilities, in addition to outlining the procedures for consent and confidentiality requirements, record-keeping and reporting.<sup>21,22</sup>

## Amendments to the MTP Act

Since 1971, the government of India has taken steps to increase access to legal and safe abortion services by implementing policies designed to expand the number of legal abortion providers. Despite the legality of abortion provision in the public sector, actual provision at lower-level public facilities (such as primary health centers) was scarce prior to 2000. In 2000, the National Population Policy officially recommended expanding the provision of abortion up to eight weeks' gestation to all public facilities, including primary health centers.<sup>21</sup> A decade later, community health centers continue to be the main providers of abortions up to eight weeks' gestation, and provision at the lower level remains a challenge because most primary health centers are not staffed with certified abortion providers.<sup>23</sup>

Additional amendments to the MTP Act and Rules and Regulations were made in 2002 and 2003 in an effort to streamline registration of private doctors as abortion providers and thereby further expand access to safe abortion services.<sup>24,25</sup> The 2002 amendment to the MTP Act decentralized the regulation of abortion facilities from the state level to District Level Committees, and the subsequent amended Rules streamlined the facility registration process by creating facility inspection deadlines to which the

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\*See section below on a proposed amendment to the MTP Act.

district-level committees must adhere—policy changes that were expected to speed up the process of certifying private facilities. The Rules also changed the physical standards for facilities providing first-trimester abortion services: Facilities are no longer required to have onsite capability for managing emergency complications, but must have personnel trained to recognize complications and be able to refer patients to another facility for emergency care. After the decentralization of the registration and certification processes, local governments became empowered to regulate abortion services. Operationally, however, implementation has been uneven because many District Level Committees are nonfunctional; in addition, the devolution to the local level also implies there may be differences in regulations across states.<sup>26,27</sup>

### **Policies on Provision of Medical Abortion**

Another result of the 2002 amendment was the approval of medical abortion using a combined mifepristone-misoprostol regimen as a legal method for the termination of early pregnancy.<sup>24</sup> The amendment allowed for registered medical practitioners to provide medical abortion up to seven weeks' gestation in a facility approved to provide abortion. In 2003, an amendment to the MTP Rules and Regulations was passed to enable certified abortion providers to prescribe medical abortion drugs outside a registered setting, as long as emergency facilities are available to them.<sup>25,28</sup> In 2010, the national training and service delivery guidelines of comprehensive abortion care were issued and included both surgical and medical guidelines. These guidelines mention (as a footnote) that medical abortion with mifepristone and misoprostol may be provided up to 63 days' (nine weeks') gestation; however, this protocol has not yet been incorporated in a modification to the MTP Act amendment.<sup>19,29</sup>

### **Proposed 2014 Amendment to the MTP Act**

For several years, sections of India's medical community, advocacy groups and government officials have been discussing an amendment to the MTP Act, which was officially proposed by the Ministries of Health and Law in 2014 and is now pending approval by Parliament.<sup>30,31</sup> The 2014 draft amendment, which includes changes that would potentially improve access to legal abortion, proposes

- expanding abortion provision to nurses, auxiliary nurse midwives and practitioners trained in the Indian System of Medicine with recognized qualifications in Ayurveda, Unani, Siddha or homeopathy;
- allowing abortion at a woman's request up to 12 weeks' gestation and increasing the gestational age

limit for abortion to 24 weeks;

- clarifying the use of prenatal diagnostic technology by stating that the gestational age limit does not apply if the termination of pregnancy is necessitated by the diagnosis of a substantial fetal abnormality;
- replacing the term "married women" with "all women" and the word "husband" with "partner" in the contraceptive failure clause, in an attempt to clarify that abortion is legal for all women, not only those who are married; and
- mandating that the name and other particulars of a woman having an abortion remain confidential.

### **Pre-Conception and Pre-Natal Diagnostic Techniques Act**

Discriminatory practices against females in India are widespread and broadly rooted in cultural norms that value men over women. Sons are perceived as contributing to family income and bringing in dowry, while daughters are viewed as obligating families to pay for a dowry and other marriage expenses and are considered less likely to help their parents in old age.<sup>32</sup> Although average family size has decreased over time, the pressure to bear at least one son remains.<sup>33,34</sup> The introduction in the 1980s of technologies that allowed parents to determine the sex of the fetus prior to birth was embraced by many as a way to both achieve a smaller family and be assured of having at least one son. Widespread use of this technology has elicited public concern over the discriminatory aborting of female fetuses and the resulting sex imbalance in the population.<sup>35</sup>

To address this issue, the government passed a law in 1994 with the goal of eliminating prenatal sex determination and associated sex-selective abortions and arresting the declining sex ratio in India. The Pre-Conception and Pre-Natal Diagnostic Techniques (Prohibition of Sex Selection) Act,<sup>36</sup> amended in 2003,<sup>37</sup> prohibits the misuse of antenatal diagnostic tests for the purpose of sex determination. The Act also prohibits the advertisement of such tests, requires registration of all facilities that use them and prohibits those conducting the tests from revealing the sex of the fetus to the expectant parents.

### **Guidelines for Abortion and Postabortion Care**

In India, abortion guidelines have not always translated into practice. Despite the 2001 guidelines<sup>38</sup> recommending that primary care providers use manual vacuum aspiration (MVA) for abortions up to eight weeks' gestation, studies have found that providers commonly use more invasive dilation and curettage (D&C) procedures.<sup>15,39</sup> In a government effort to improve access to quality services at the facility level, priority was placed on ensuring the

availability of MVA technologies at all community health centers and first referral units and at least half of all primary health centers, which operate 24 hours per day, seven days a week.<sup>16</sup> New national training and service delivery guidelines for comprehensive abortion care were introduced in 2010<sup>19</sup> and included many elements from the 2003 World Health Organization (WHO) technical and policy guidelines for safe abortion.<sup>40</sup> For instance, the new guidelines stipulate that preabortion counseling should include discussion of termination method choices, contraceptive counseling and services should be provided after the abortion procedure, and follow-up visits should reinforce contraceptive use plans and ensure the procedure's successful completion. The national guidelines also advocate the use of electric vacuum aspiration (EVA) and MVA up to 12 weeks' gestation and mention that WHO recommends eliminating the use of D&C. The guidelines follow WHO recommendations for dosages and oral administration of mifepristone (200mg) and misoprostol (400mcg),<sup>19,40</sup> including using mifepristone with repeated doses of misoprostol for second-trimester abortions; however this protocol is not approved by the MTP Act amendment.<sup>24</sup> Instead, the legally approved medical method for second-trimester abortion uses ethacridine lactate (which is in short supply and not recommended by WHO); dilation and evacuation (D&E) is the approved surgical method.<sup>19,40</sup>

While laws, policies and guidelines on abortion have generally moved in the direction of increasing access to safe abortion services, many providers lack in-depth knowledge of these guidelines for abortion and post-abortion care.<sup>16,17,29</sup> Lack of awareness among women and deep-seated social, economic and health system constraints have also had a dampening effect and act as barriers for many women who may need quality abortion-related information and services. Consequently, many women receive poor-quality abortion services from untrained or uncertified providers and experience negative health outcomes as a result.

# Estimates of Abortion Incidence

Published estimates of the number of abortions performed annually in India vary considerably. The Ministry of Health and Family Welfare collects and publishes statistics on the number of abortion procedures provided by certified facilities. The number of procedures recorded through this data collection system was 723,000 in 2001 and 642,000 in 2008.<sup>41,42</sup> Provisional government figures estimate that 621,748 abortions were performed in 2011–2012, and the number increased slightly to 636,306 in 2012–2013, indicating an annual rate of about two abortions per 1,000 women aged 15–49 in 2013.<sup>43,44</sup> However, these numbers greatly underestimate the actual incidence of abortion for several reasons. They exclude all abortions done by private-sector physicians who are trained in abortion service provision but who do not work in certified facilities, as well as abortions done by physicians or other cadres of formally trained health professionals who do not have specific training in abortion service provision but who nonetheless provide abortions. They also exclude abortions completed using medical abortion pills sold without a prescription by drug sellers/pharmacists (who represent an important source of abortion services since medical abortion became available for sale by prescription starting in 2003<sup>25</sup>), as well as abortions done by untrained providers. It is also likely that many abortions performed by registered providers in certified facilities are not reported because of deficiencies in data reporting systems and data collection practices.<sup>14</sup>

Various approaches to estimating abortion incidence have been used in the past several decades. Two widely cited national studies estimated the total number of abortions performed in India using indirect methods. One study estimated that there were 6.7 million abortions in India in 1994,<sup>13</sup> which would be equivalent to a rate of 33 per 1,000 women aged 15–49.<sup>45</sup> This study used the same methodology as the 1966 Shah Commission report,<sup>\*</sup> which estimated abortion incidence based in part on the assumption that for every 73 live births, there would be two stillbirths and 25 abortions, three-fifths of which would be induced and two-fifths of which would be spontaneous. The 1994 study applied the same rate of 15 induced abortions per 73 live births to the current population size and adjusted for the crude birthrate at the

time. This methodology has serious limitations: The Shah Commission's estimate of abortion incidence was based on small-scale studies that were not nationally representative, and the 1994 calculations did not take into account the potential impact of demographic or social changes over the decades since the Shah report, such as changes in contraceptive use, age at marriage, desired family size or technologies.

The second national-level estimate—6.4 million abortions, or a rate of 26 abortions per 1,000 women of reproductive age—comes from a 2002 facility-based study by the Abortion Assessment Project–India (AAPI). Researchers first estimated the average number of abortions performed per year in each sampled abortion-providing facility, based on facility survey results, and then used the ratio of providers to population in the sample areas to infer the number of providers in the country to reach their estimation of abortion incidence. This estimate was nearly 10 times that reported by the Ministry of Health in 2003.<sup>14,15</sup> About 4.8 million induced abortions were estimated to have been performed annually in formal facilities (2.4 million of which were performed in abortion-certified facilities), and another 1.6 million abortions were performed by informal abortion providers.

While this estimate is the most complete and recent national estimate of abortion incidence available for India, there are limitations to the methodology used to calculate it. The estimate is based on a small sample of 380 providers (95 public and 285 private). Also, estimating the national-level incidence of abortion was not a main objective of the study, and therefore the areas surveyed were not necessarily representative of the entire country. Furthermore, although population-based surveys often underestimate abortion rates, two population-based studies

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\*In 1964, the Shah Commission was set up in response to concerns about the many illegal abortions occurring under unsafe conditions and affecting the health and lives of women in India.<sup>13</sup> The Commission was charged with examining abortion from legal, medical, social and ethical perspectives and making a recommendation for or against the legalization of abortion in India. In 1966, the Commission presented a case supporting broadening and rationalizing the country's abortion laws.

in Maharashtra and Tamil Nadu (conducted as part of the AAPI series with the specific objective to estimate state-level abortion incidence) found rates much higher than indicated by the national study: 70 and 45 induced abortions per 1,000 women, respectively.<sup>46,47</sup> This suggests the AAPI national estimate may have significantly underestimated actual abortion incidence.

A few other government-sponsored, large-scale, representative community-based surveys have included questions on abortion experience in face-to-face interviews of women. This approach is known to result in high levels of underreporting, since abortion is considered a taboo subject, many women are reluctant to report their experiences to government interviewers.<sup>48</sup> For example, the 1998–1999 NFHS-2 and 2007–2008 DLHS-3 found that only 1.7–1.8% of all pregnancies among married women ended in induced abortion.<sup>10,49</sup> Reports from other sources—while not directly comparable—suggest that abortion is likely much more common than national surveys indicate. One such source, an in-depth study conducted in Madhya Pradesh in 2002, used an innovative mixed-method data collection approach that allowed women to tell their individual stories over a two-day period of multiple interviews, increasing trust between the respondent and interviewer and yielding better-quality results. In this study, 15% of women aged 15–39 and 23% of those aged 35–39 reported ever having had an abortion.<sup>50,51</sup> The abortion ratio, or number of abortions per 100 live births, in Madhya Pradesh in this study was nearly five times the ratio estimated for Madhya Pradesh using data from the NFHS-2: 5.5 versus 1.2.<sup>49–51</sup> While it is very likely that abortion was underreported even in the Madhya Pradesh study, the results further highlight the high level of underreporting in the NFHS data and the need for more innovative data collection approaches. Further research is needed to gain a comprehensive understanding of the extent to which abortion is occurring in India today.

# Unsafe Abortion and its Consequences

Maternal mortality is a key indicator of women's health and social status, and levels in India are unacceptably high.<sup>52</sup> According to Sample Registration System data, the maternal mortality ratio declined 40% over the last decade, from 301 maternal deaths per 100,000 live births in 2001–2003 to 212 in 2007–2009 and 178 in 2010–2012. Given the numerous challenges faced in accurately measuring maternal deaths, it is likely that these data undercount some maternal deaths. Two recent indirect estimates of the maternal mortality ratio in India indicate a similar decline over time, but somewhat different overall levels, possibly due to differences in defining maternal deaths: WHO estimates indicate the maternal mortality ratio fell from 370 in 2000 to 190 in 2013,<sup>53</sup> while the Global Burden of Disease study estimates indicate it fell from 382 in 2003 to 280 in 2013.<sup>54</sup> In terms of numbers, it is estimated that 50,000–72,000 maternal deaths occurred in India in 2013, significantly fewer than the 100,000 maternal deaths estimated for 2003.<sup>53,54</sup>

A 2014 systematic analysis of worldwide data estimates that approximately 8% of all maternal deaths are attributable to unsafe abortion and related complications.<sup>55</sup> Unsafe abortion is defined by WHO as “a procedure for terminating an unwanted pregnancy either by persons lacking the necessary skills or in an environment lacking minimal medical standards or both.” In India, complications of unsafe abortion account for an estimated 9% of all maternal deaths, according to the latest government report on causes of death from 2010.<sup>56</sup> While maternal mortality rates have declined, the proportion of maternal deaths attributable to these complications has remained relatively constant over the past decade.<sup>57</sup> Hence, the overall number of deaths due to unsafe abortion is likely to have decreased along with maternal deaths—potentially by 28–40%, depending on which maternal mortality estimate is used.

Unsafe abortion in India is commonly carried out by women self-administering unapproved and typically ineffective drugs or taking approved drugs incorrectly; these types of abortion attempts often result in incomplete abortion and further complications.<sup>58</sup> Providers who have medical training but lack specific training in abortion procedures are another source of unsafe abortions. Additionally,

traditional providers without any medical training may use sticks, roots, herbal medicines or other unsafe and ineffective means for terminating a pregnancy, but the prevalence of these methods seems to have declined considerably in recent years.<sup>16,17,51,58,59</sup> D&C remains a common abortion method in India, although there has been an encouraging transition to EVA, MVA and medical methods in recent years. Especially if performed by an untrained person or under unhygienic conditions, D&C is more likely to result in postabortion complications than these less invasive methods.<sup>23,26,51,60,61</sup> It is important to note that safety of abortion does not correspond directly with its legal status: While most legal abortions (those performed by certified providers at approved facilities) are likely safe, illegal abortions may be either safe or unsafe, depending largely upon the provider's training and where the abortion is done.

A few studies specific to unsafe abortion and its consequences have been conducted in recent years. One such study conducted in a tertiary rural hospital in North Bengal between 2005 and 2008 found that among patients seeking any abortion-related services, approximately 12% were women seeking care for complications related to unsafe abortion.<sup>59</sup> The majority of these women (63%) reported that their abortion had been performed by an uncertified provider; a significant minority (28%) reported receiving services from certified providers at a lower-level facility. Complications in this particular study were severe, in part because this level facility only handles the most severe cases (thus the experience of women in the study is not generalizable to a larger population). Nearly one-fifth (17%) of the women with complications experienced multiple organ failure, and 22% of those presenting with septic abortion died as a result. Another study, conducted in Madhya Pradesh in 2007, focused on the 381 women treated for postabortion complications that year in 10 government-run medical colleges and district hospitals.<sup>58</sup> Women experiencing complications accounted for 29% of all women presenting for an abortion-related service. Some 53% had first attempted abortion at home using traditional medicines. Eighteen percent of women received no advice prior to attempting to induce abortion; of those who did receive advice, most relied on friends or

family (38%) or medicine shops (17%). Nearly all women who had self-induced terminations (95%) experienced some postabortion complications, and the majority who self-induced (78%) experienced an incomplete abortion. The study suggests that many women seeking care for postabortion complications do not initially reach a qualified doctor: Sixty-eight percent of women experiencing complications first received postabortion care from an unqualified provider. Almost half of the women (47%) first went to a chemist or medicine shop, while another fourth (23%) went to a private doctor. Women's reasons for choosing particular providers included proximity, perceptions that there were no other alternatives, and recommendations by friends or family members. Sixty-three percent of women seeking care for complications reported not knowing whether the provider had the training or qualifications to provide abortion services.

The profile of women diagnosed with postabortion complications in the Madhya Pradesh study reflects the fact that unsafe abortion can impact all segments of the population, not only the poorest and most vulnerable: Most were aged 25–30 and were married, 74% lived in urban areas, and 43% had a secondary or higher education level.

# Women Seeking Abortion: Their Reasons and Characteristics

## Reasons for Seeking Abortion

In India, as in other countries, women choose to terminate their pregnancies for a variety of reasons that often reflect their social and economic circumstances. Unintended pregnancies and subsequent abortions may also be indicative of women's inadequate access to and ineffective use of modern contraceptives, as well as gender inequities that often compromise women's ability to negotiate contraceptive use when they do not desire a pregnancy.

**Most commonly reported reasons.** Across quantitative and qualitative studies conducted in different states, the most common reason women report for having an abortion is to limit family size.<sup>50,62,63</sup> Other common reasons are to increase the spacing between births or to protect their health in cases where underlying medical conditions would be worsened by pregnancy or childbirth. For example, women participating in large quantitative surveys in Rajasthan<sup>63</sup> and Madhya Pradesh<sup>50</sup> in 2001–2002 and Maharashtra<sup>64</sup> in 1996–1998 reported having had an abortion because they had achieved their desired family size (41%, 59% and 45%, respectively), because their last child was too young (30%, 22% and 21%) and because they had health problems (22%, 20% and 5%). Among married adolescents obtaining abortions in Maharashtra, more than half (53%) reported having an abortion because their previous child was too young.

Poverty and economic constraints also emerged as an important reason in some of the qualitative studies conducted as part of the Abortion Assessment Project in 2002 and reported by Visaria et al.<sup>62</sup> and was also reported by 13% of women having an abortion in the quantitative Madhya Pradesh study.<sup>50</sup> In a qualitative AAPI study conducted in Tamil Nadu in 2002, among married women younger than 35, economic circumstances, including not having support during or after the pregnancy, emerged as the most common reason for having an abortion (reported by nine of 16 women).<sup>65</sup> Among married women younger than 25 in Bihar and Jharkhand in 2007–2008, 37% of those obtaining abortions reported economic reasons for the abortion.<sup>66</sup>

For many women, beginning childbearing soon after

marriage is a way of proving fertility and achieving status within the marital family, but for some of the respondents in four of the qualitative studies reported by Visaria,<sup>50,62</sup> and for 6% of abortion-seekers in the Madhya Pradesh study, becoming pregnant too soon after marriage was mentioned as a reason for abortion. For example, in Gujarat, some young women marrying nonresident Indians, who became pregnant immediately after marriage, aborted the pregnancy because they were afraid they would be unable to get a visa to join their husbands abroad if they were pregnant.<sup>62</sup> Among young married women with no children in Bihar and Jharkhand, 51% reported having had an abortion because the pregnancy occurred too soon after marriage or when they were too young.<sup>66</sup>

Health problems with the fetus and having a female fetus are also mentioned as reasons for abortion, each of which were reported by 2–3% of abortion recipients in the large-scale Madhya Pradesh<sup>50,67</sup> and Rajasthan<sup>63</sup> studies. Although the abortion of female fetuses has been widely covered in the media, only a small proportion of the women surveyed across multiple studies reported that their abortions were to avoid having a girl. Estimates based on sex-ratios at birth in the NFHS-2 suggest that about 8% of induced abortions nationwide may have been done for sex-selective reasons.<sup>68</sup> Smaller studies among specific subpopulations of women have shown proportions between 10% and 15%.<sup>62,64</sup> This topic is discussed in more detail below.

**Abortion, contraception and gender.** In India, the need for abortion is related to the availability and use of contraceptives and to the social, cultural, familial and gender dynamics around whether and when contraception is acceptable. In fact, in qualitative studies conducted as part of the Abortion Assessment Project across multiple states in 2002, the majority of unintended pregnancies that were resolved through abortion occurred during periods when women were not using any form of contraception; few were reportedly due to contraceptive failure.<sup>62</sup>

Nonuse of contraception often reflects an inadequate or uneven supply of contraceptive services, particularly temporary methods of contraception. Nonuse is also perpetuated by unequal power structures within families that



restrict women's access to contraceptive information and services and prevent women from being able to negotiate contraceptive use.

Studies show that violence in relationships is related to abortion, sometimes through its effect on contraceptive use. A recent analysis of the quantitative data collected in Madhya Pradesh in 2002 examined associations between abortion and several measures of women's empowerment.<sup>69</sup> Consistent with findings from other parts of the world<sup>70,71</sup> was a strong positive association between abortion and violence, based on reports of physical abuse (defined as slapping or beating) in the past year by husbands. The study's authors reported that women in violent relationships were more likely to have an abortion, as well as to experience violence after (and possibly because of) the abortion.<sup>69</sup> Qualitative studies of women in several states found similar associations.<sup>62</sup> For example, in Tamil Nadu, qualitative interviews with 66 women and 44 of their husbands living in rural hamlets showed that nonconsensual sex and sexual violence were strongly associated with both having had an abortion and with being unable to use contraceptives effectively or to get cooperation from husbands to abstain from sex as a way to space their births.<sup>65</sup> Both the women and the men in this study reported that it was the right of the husband to demand sex, regardless of what the wife wanted. Several respondents noted that especially if the husband was drunk, he might demand sex and refuse to use contraception. Women who objected or wanted to use contraception were sometimes accused of sexual infidelity and were often beaten.

**Abortion among unmarried adolescents.** In India, considerable stigma is attached to having a nonmarital pregnancy or birth, especially during adolescence. Among 549 unmarried adolescents obtaining abortions who were included in a 2007–2008 study in Bihar and Jharkhand, nearly all (92%) chose to terminate their pregnancy because they were unmarried or did not want to raise a child alone.<sup>66</sup> A large minority of respondents reported that the pregnancy resulted from nonconsensual sex (18%), most often perpetrated by a family member (9%) or neighbor (6%). Similar findings came from in-depth interviews conducted in Maharashtra in 1996–1998. Among 16 unmarried adolescents obtaining abortions, a majority reported that they were seeking an abortion because their pregnancy was the result of nonconsensual sex with their employer (6) or a family member (4).<sup>64</sup>

**Reasons for second-trimester abortions.** Evidence suggests that the majority of all induced abortions in India occur during the first trimester (12 weeks). Government

statistics for registered abortions in 2001 indicate that only 11% took place at 12–20 weeks' gestation.<sup>72</sup> Similar national estimates are available from the DLHS-3: Of reported abortions in 2007–2008, 13% were performed during the second or third trimester.<sup>5</sup> Other studies within particular states or among women receiving care at specific facilities have found that second-trimester abortions account for 2–26% of all reported abortions in the sample.<sup>63,64,66,73–76</sup>

Most second-trimester abortions occur for the same reasons as abortions at earlier gestations: to limit family size, to space births, because the family cannot afford the child or because the woman is unmarried.<sup>75</sup> In many cases, the abortion is delayed because of delays in recognizing the pregnancy, limited information about or access to abortion services, unsuccessful initial attempts to abort using traditional methods, and delays in decision-making by the woman and her family.<sup>13,16–18,28,74</sup> Delays in recognizing the pregnancy are common among breast-feeding women, who may become pregnant before menstruation has resumed.<sup>64</sup> And pregnancy is so stigmatized among adolescents and other unmarried women that they may deny or conceal the pregnancy until it becomes obvious.<sup>75</sup> Poverty, limited access to services (measured by the length of time the women travel to arrive at the clinic), and having made multiple abortion attempts are characteristics that were also strongly associated with having had a second-trimester abortion among women in rural Maharashtra and Rajasthan.<sup>74</sup> Although some later-term abortions are done for sex-selective reasons, it is difficult to empirically measure the number of second-trimester abortions performed for this reason. We discuss some of the evidence and debate around this issue below.<sup>63</sup>

**Son preference and sex-selective abortions.** Numerous social, cultural and economic factors contribute to son preference, including patrilineal kinship and inheritance practices, a patrilocal marriage system, the expectation that sons will help with farming or a family business and provide security to their parents in old age, and religious traditions that require sons to perform last rites for their parents.<sup>68,77,78</sup> On the other hand, daughters traditionally incur dowry and marriage costs and leave after marriage, rarely providing support to their aging parents.<sup>33</sup>

There are a number of reproductive strategies that Indian couples adopt as they attempt to ensure the birth and survival of at least one son. These include bearing children until the desired number of sons has been achieved and stopping once that number has been attained (through temporary or permanent contraception or abortion of later pregnancies) and the selective termination of female fetuses.<sup>77,79</sup> In addition, gender disparities may

arise in the allocation of health and nutrition resources, leading to excess morbidity and mortality of female infants and children.<sup>80–82</sup>

In recent decades, the widespread availability of reproductive technologies, such as ultrasonography, has allowed couples to learn the gender of the fetus during pregnancy, and some to choose to selectively abort female fetuses. Because this technology can only reliably determine gender during the second trimester of pregnancy, sex-selective abortions can only occur among the 10–15% of abortions that are performed after the first trimester. And, since not all later-term abortions are done for this reason, only a small proportion of all abortions in India are likely performed for the purpose of sex selection. Despite this, much media attention over the last decade and many recent abortion studies have focused on this issue.<sup>74,83–86</sup>

In the absence of reliable direct measures of the prevalence of sex-selective abortion, indirect methods have been used to estimate the number of girls who are “missing” as a result of sex-selective abortions. The broader concept of missing girls or women<sup>87</sup> relates to the cumulative impact of gender bias on mortality—specifically, the number of females who die (or are never born) as a result of unequal treatment in the allocation of health and nutrition or who are purposefully aborted or killed because of their gender (i.e., sex-selective abortion and infanticide).<sup>80,88,89</sup> Evidence for missing girls is found in imbalanced sex ratios—either the overall sex ratio (the number of females per 1,000 males of all ages\*), the child sex ratio (which applies to those aged 0–6) or the sex ratio at birth (the number of female births per 1,000 male births). An imbalanced sex ratio is found when there is variation from the natural or biological number of females per males at birth, which is approximately 950 females per 1,000 males or 105 males per 100 females. Attention to the role of sex-selective abortions as a reason for worsening sex ratios intensified after the 2011 census of India revealed that the child sex ratio had fallen from 927 in 2001 to 914 in 2011 and had dropped below 850 in some states.<sup>43</sup>

Recent reviews by Bongaarts<sup>79</sup> and Guilmoto<sup>34</sup> provide comprehensive worldwide data on sex ratio patterns and trends and describe various mechanisms by which sex ratios at birth may be altered from their normal levels. Both studies describe a confluence of three factors that

have contributed to the growing imbalance in sex ratios at birth found in many countries, but especially in India and China: son preference, the widespread availability of prenatal diagnosis technology and declining fertility (which increases the pressure to abort female fetuses to ensure having a son while maintaining a family size of two or three children).

Measurement of the level of sex-selective abortion in India has primarily been based on examining patterns and trends in the sex ratio at birth or the child sex ratio. While an imbalanced sex ratio at birth is the clearest evidence for sex selection, Indian birth registration is incomplete, so alternative methodologies are often used. As a proxy, child sex ratios from census data are sometimes used, but this introduces a need to account for multiple factors that can affect gender imbalances in the numbers of young children. Using a variety of indirect methods, several estimates of the number of sex selective abortions in India have been made for the 1980s through 2011. These estimates, which suggest an increase over time, vary widely, from about 100,000–220,000 annually in the 1980s to 100,000–400,000 in the 1990s to 300,000–700,000 in 2000–2011.<sup>68,79,81,90,91</sup> Differences between estimates for any given time period are primarily due to differences in data sources (census, Sample Registration System, NFHS), different assumptions about the standard or normal sex ratio, and different mortality adjustments (including adjustments to account for reasons other than sex-selective abortion that impact imbalanced child sex ratios). It is important to note that all of these estimates are based on imperfect data and are therefore subject to unknown biases; they may underestimate or overestimate the actual number of sex-selective abortions (see Atané and Guilmoto<sup>92</sup> for a discussion of the data and methodological problems inherent when using sex ratios to estimate missing girls, particularly in countries like India). Some researchers have also suggested that the impact on child sex ratios of other reproductive strategies, such as stopping childbearing after a son has been born, may be greater than has been previously appreciated and needs to be accounted for when estimating sex-selective abortions using child sex ratios.<sup>93</sup>

Researchers have also looked at the gender composition of children already born and the family’s socioeconomic status when examining likely sex-selective patterns. For example, Jha et al. examined the conditional sex ratio of second-order births depending on whether the firstborn was a girl or a boy, using three rounds of NFHS survey data.<sup>91</sup> Between 1990 and 2005, the sex ratio of second births among women whose firstborn was a daughter fell from 906 to 836 females per 1,000 males, while the

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\*Sex ratios in India are typically presented as the number of females per 1,000 males, in contrast to other demographic standards that present the sex ratio as the number of males per 100 females. In this review, unless otherwise stated, we will follow the Indian standard, which means that a low or declining sex ratio indicates fewer females relative to males.

sex ratio of second births among women whose firstborn was a son showed no such trend and remained near the natural range of 950–975 females per 1,000 males. They also found that the declines in sex ratios for second-order births after a firstborn daughter occurred only among the most educated women (those with 10 or more years of education) and among women in households in the top 20% of the wealth index. Other research has reported similar findings, documenting significantly lower sex ratios among second (or higher-order) births if the firstborn was a girl rather than a boy,<sup>90,94,95</sup> and corroborating the relationship between higher socioeconomic status and lower sex ratios at birth.<sup>96</sup> Variation in the use of abortion according to birth order and gender of prior children has also been seen in an analysis of birth histories. Edmeades et al.<sup>67</sup> examined pregnancy intervals for over 2,000 women in Madhya Pradesh and found that during intervals after women achieved the desired gender composition (two boys and one girl), their odds of having an abortion were twice as high and their odds of becoming sterilized were 12 times as high as during intervals following the birth of women's second daughter. In another study, the gender composition of prior births was associated with having an abortion—women with two or more children, at least one of whom was a son, were more likely to report having experienced an induced abortion compared with women with other gender-parity combinations.<sup>97</sup>

Analyses of missing girls and imbalanced sex ratios in India have focused on variation among India's states and regions, often assuming that lower sex ratios at birth or among children aged 0–6 are found in areas with a higher prevalence of sex-selective abortion.<sup>68,79,81,91,98,99</sup> Following cultural patterns of son preference, the lowest sex ratios at birth and among children are found in the North and West: Gujarat, Haryana, Himachal Pradesh and Punjab consistently had low child sex ratios across the last three censuses (1991, 2001 and 2011), typically lower than 900 females per 1,000 males.<sup>91</sup> Other northern and western states such as Jammu & Kashmir, Maharashtra, Rajasthan, Uttar Pradesh and Uttaranchal experienced steep declines between 2001 and 2011 in the child sex ratio, which fell from above 900 to below 900 females per 1,000 males.<sup>100</sup> In contrast, many states in the South and East have sex ratios at birth and among young children that are much closer to the levels expected given the biological sex ratio at birth and no differential mortality among girl children and boys.

## Characteristics of Women Seeking Abortion

**National profile.** Information about the characteristics of women seeking abortion is available from nationally representative household surveys. Despite the high level of underreporting likely occurring in these studies, the data provide some indication of women's characteristics. At the national level, data are available from the 1998–1999 NFHS-2<sup>97,101,102</sup> and the 2007–2008 DLHS-3.<sup>103</sup> As mentioned in the introduction, more recent national-level data on abortion are not available: The NFHS-3 did not distinguish between induced and spontaneous abortions, and analyses of the abortion data collected as part of the DLHS-4 (2012–2013) have not yet been completed.

Women seeking abortion in India come from all socioeconomic groups, live in both rural and urban areas, and belong to all age-groups. And because a majority of Indian women reside in rural locations and many are poor or low-income, a large proportion of abortions occur among women with these characteristics. However, when the distribution of women obtaining an abortion is compared with the distribution of all women, many studies find that women who are older, more affluent and from urban locations are more likely than other women to report having had an abortion. Such associations have been found in analyses of the NFHS-2<sup>97,101</sup> and the DLHS-3.<sup>103</sup> For example, using data from the NFHS-2, Agrawal found that the 26% of women residing in urban areas accounted for 48% of all reported abortions, and the 20% of women in the highest wealth bracket accounted for 44% of abortions.<sup>97</sup> Even after controlling for other factors, this study found that more educated women, urban women, and women with greater autonomy or household wealth are more likely than rural and poorer women to report an induced abortion.

These relationships, as well as others related to female education, autonomy and son preferences have been explored in a variety of multivariate analyses of national data. Pallikadavath and Stones found positive associations between abortion and higher education, urban residence and maternal age at subsequent birth.<sup>102</sup> The latter finding suggests the presence of longer intervals between births that precede and follow an abortion and the possible use of abortion as a means of spacing births. Bose and Trent found that women's status and other individual and cultural characteristics were associated with abortion in India, though they found different patterns among these characteristics for women living in the North versus the South.<sup>101</sup> Comparing the characteristics of women having induced abortions in four northern states (Haryana, Punjab, Rajasthan and Uttar Pradesh) and four southern states (Andhra Pradesh, Karnataka, Kerala and Tamil

Nadu), they found women's literacy and standard of living were both positively associated with induced abortion in both regions, but the effects of these characteristics were significantly greater in the North. In the North, son preference had a significant positive association with induced abortion and working in agriculture had a significant negative association with induced abortion; neither was significant in the South. Finally, Ahmed and Ray examined the determinants of abortion, finding associations between induced abortion and education, wealth, age and son preference that were mostly consistent with other studies.<sup>103</sup>

As reported earlier, both the NFHS-2 and DLHS-3 are limited by likely underreporting of abortion, and such underreporting may bias the findings of studies based on these data, especially if certain subgroups of women (e.g., poor or rural women) are more reluctant to report their abortions than others. Unfortunately, it is unknown how many women fail to report their abortions on these national surveys or if certain subgroups of women are more or less likely to do so. There is also some evidence from analysis of the DLHS-3 that some of the reported cases of spontaneous abortion were in fact induced abortions that were misreported; this raises the possibility of bias in the findings reported from these studies.<sup>103</sup>

**State-specific studies.** A number of studies have examined the characteristics of women seeking abortions at the state level or from specific health care facilities within India. Similar to the national findings, the percentage of women in both Madhya Pradesh<sup>50</sup> in 2002 and Rajasthan<sup>104</sup> in 2001 who reported an abortion ever (Madhya Pradesh) or in the past five years (Rajasthan) was significantly higher among women who were more educated, of higher socioeconomic status or caste, or living in urban areas, compared with those with less education, with lower socioeconomic status/caste, or who lived in a rural area. As was true in the national data, abortions occurred among a cross-section of women, but the likelihood of abortion was elevated among certain subgroups of women. For example, in Rajasthan, 36% of abortions were among the 26% of all women with at least some secondary education or higher, but the majority of abortions (64%) were among women with less than a secondary education. Similarly, while 43% of all abortions were reported by the 32% of all women who belong to an upper caste, the actual majority of abortions were reported by lower-caste women (57%).<sup>104</sup> While there are many possible reasons for the disproportionately high rate of abortion among urban, more educated and higher-status women, the authors of the Madhya Pradesh study conclude that a major reason for these differences is lack

of access to abortion among those with social, economic or residential disadvantages.

A recently published review of data from the 2007 DLHS-3 provides information on the characteristics of women reporting abortions in three northern states with poor health and socioeconomic indicators: Bihar, Odisha and Madhya Pradesh.<sup>5</sup> Although the majority of women obtaining abortions in all three states came from rural areas, the proportion was highest in Bihar (91%), compared with Odisha (85%) and Madhya Pradesh (70%). Higher proportions of abortion recipients in Bihar had less than a secondary education (69%), compared with those in Odisha (44%) and Madhya Pradesh (49%). A higher proportion of abortion recipients in both Bihar and Odisha were from households in the two poorest quintiles (63%), compared with 41% in Madhya Pradesh.

Further evidence for the use of abortion by women from all socioeconomic groups comes from analysis of data from facilities that provide abortions. In Bihar, data on 10,000 abortions performed at 41 accredited facilities in 2011–2013 were analyzed as part of an initiative to improve abortion access and facilitate accreditation of private facilities.<sup>105</sup> Most abortions were among women aged 25 or older (80%), women with less than a secondary education (67%), and women from backward or scheduled castes and tribes (63%). Two recent studies report on the demographic characteristics of women receiving abortions from specific urban health care facilities—a tertiary teaching hospital in Karnataka<sup>106</sup> and the Family Planning Clinic at the All India Institute for Medical Sciences, New Delhi.<sup>107</sup> Other studies have looked at the characteristics of women younger than 25 seeking abortion services.<sup>66,108</sup>

**Women seeking second-trimester abortions.** Larger proportions of unmarried women than married women seek second-trimester abortion services.<sup>75,109,110</sup> For example, in Bihar and Jharkhand, 9% of married young women seeking abortion had the procedure during the second trimester, compared with 25% of their unmarried counterparts.<sup>110</sup> Rural women and women who are economically disadvantaged are also disproportionately likely to have second-trimester abortions. In Rajasthan, 41% of abortions among rural women occurred during the second trimester, compared with 26% among urban women.<sup>63</sup> In rural Maharashtra and Rajasthan, 31% of abortions among women classified as low on a standard of living index occurred during the second trimester, compared with 16% among women classified as high on the index.<sup>74</sup>

# Availability of Abortion Services

Given the diverse characteristics of women in India who seek abortion, there is likely a substantial demand for safe abortion services that are geographically accessible and affordable for women from all socioeconomic groups. In this section, we review the evidence regarding what abortion services exist for women in India, the degree to which these services are equitably distributed, women's experience with these services (including with different methods, facility types and providers), women's ability to access care and the barriers that limit their access to safe services.

## Supply of and Demand for Abortion Services

Historically, there has been a significant shortage of facilities approved for abortion provision in India, and the distribution of these facilities has been uneven across states. Despite an increase in the overall number of approved facilities over the years—from 1,877 in 1976 to 9,859 in 2002 to 12,510 in 2010—access to safe abortion remains inadequate, especially in rural areas.<sup>111,112</sup> In her review, Johnston showed that the six states with the highest estimated rates of abortion in 2002 (Assam, Bihar, Madhya Pradesh, Odisha, Uttar Pradesh and West Bengal) were the same states that had the fewest facilities per population, indicating that the populations with the highest need for services were also the ones least likely to have access.<sup>3</sup> The situation in these states has not improved substantially since then. Data from government statistics in 2010 show that there existed only 146 facilities approved for abortion provision in Bihar to serve a population of 23 million women aged 15–49, meaning each approved facility served an average of nearly 160,000 women of reproductive age.<sup>112,179</sup> Uttar Pradesh, India's most populous state with almost 48 million women aged 15–49, had 576 facilities approved for provision of abortion services as of 2010—one for every 83,000 women of reproductive age. These population averages are likely underestimates because they count all public facilities as approved for abortion provision even though many do not actually offer abortion services.

In addition to the population served per site, the geographic distribution of facilities with a concentration

in urban areas means that rural women are even more underserved than implied by the coverage ratio. Most abortion facilities are located in urban areas, yet more than 70% of Indian women live in rural areas.<sup>113</sup> As of 2010, about 60% of registered abortions occurring in India were performed in only six states: Maharashtra (13%), Uttar Pradesh (13%), Assam (11%), West Bengal (10%), Tamil Nadu (9%) and Haryana (4%).<sup>112</sup> Less developed and more populous states often have fewer abortion facilities than those that are smaller and more developed. For example, Maharashtra, with 9% of the total population, had 23% of the total approved facilities in India, while Bihar, with 10% of the population, had only 1% of the approved facilities. The four least developed states—namely Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh, which together account for 40% of India's population—are underserved by public facilities approved for abortion provision. Combined, they have about 12% of all approved facilities.

## Public-Sector Delivery Points

The number of public-sector health facilities available to serve India's growing population has increased over time but has not kept up with population growth and thus remains largely inadequate. Since 2005, the National Rural Health Mission has set out to revitalize the public-sector health system (Box 1, page 22) by increasing funding, facilitating the employment of female Accredited Social Health Activists in every village, decentralizing health planning, strengthening rural hospitals, fostering the use of local health traditions and incorporating mainstream Indian medicine systems into the country's public health system.<sup>16,111,114</sup> Indian Public Health Standards, a set of uniform standards envisaged to improve the quality of health care delivery, were published in 2007 to act as a reference point for public health care infrastructure planning in the states.<sup>115,116</sup> In them, the government suggested that each primary health center should serve a population of 20,000–30,000 and each community health center a population of 80,000–120,000. Overall, the number of functioning facilities has increased between 2005 and 2012: The number of community health centers has increased from 3,346 to 4,833, and the number of primary

health centers has grown from 23,236 to 24,049.<sup>117,118</sup> Yet in 2012, nationally, each primary facility only served an average population of 34,641, and each community facility served 172,375. Even if all primary and community health centers were to provide abortion services (which they likely do not), it is clear that the number of facilities is insufficient to meet the demand for services among the populations they serve.

### Private-Sector Delivery Points

Based on studies from 2002 onwards, it appears that government facilities are not the leading providers of abortion services in India; rather, the majority of women who have undergone abortion report doing so at a private facility.<sup>10,50,119</sup> In the early 2000s, as many as three-quarters of all facilities certified for abortion provision were found in the private sector.<sup>15</sup> According to the qualitative component of the AAPI study, women perceived private-sector providers as better than public facilities in terms of services, equipment and facilities, and treatment of clients

(including maintaining confidentiality).<sup>15,62</sup> Recent state-level data reveal the proportion of abortion services being provided in the private sector has remained fairly constant. As of 2010–2011, 79% of all 334 facilities providing registered abortion services in Bihar were in the private sector, as were 77% of all 167 registered abortion-providing facilities in Jharkhand.<sup>120,121</sup>

Other studies conducted in 2007–2010 in Maharashtra and Rajasthan show the private sector's substantial role in abortion provision.<sup>16,17</sup> In these studies, the proportion of women who received services from different facility types varied by state: Among women who had an abortion in the previous three years, 87% in Maharashtra obtained services from a private-sector doctor, compared with 44% of those in Rajasthan (Table 1). An important qualification is that the sample size on which these results are based is quite small (138 women in Maharashtra and 75 women in Rajasthan). While these two studies provide a rough sense of the relative importance of the public and private sectors, information is not available on this important

## BOX 1. Public-sector health care system infrastructure

### District hospitals

One district hospital serves the population of each district and can be designated as a first referral unit\* offering comprehensive and specialty health care services. These facilities also provide a wide range of technical and administrative support to surrounding primary health care facilities. District hospitals have 101–500 beds and serve 35,000–3,000,000 people, depending on the size of the district. These facilities are approved for abortion provision.

### Subdivisional hospitals

These facilities can serve as first referral units and are the intermediaries between the subcenters, primary health centers and community health centers on one hand and the district hospital on the other. They play an important role in providing obstetric and neonatal care and an array of specialized and emergency services to their district's population. Subdivisional hospitals have 31–100 beds and are intended to serve a population of 500,000–600,000 people. These facilities are approved for abortion provision.

### Community health centers

Staffed with four medical specialists (gynecologist, pediatrician, physician and surgeon) and 21 paramedical and support staff, these facilities are equipped with at least 30 indoor beds, one operating

table, an x-ray machine, a labor room and laboratory facilities. They can be designated as first referral units for neighboring primary health centers and provide facilities for obstetric care and other consultations. These facilities are approved for abortion provision.

### Primary health centers

These facilities are the first contact point between the community and a medical officer. Staffed with a medical officer and 14 paramedical staff, they have 4–6 beds. They serve as referral centers for six subcenters, and their services include integrated curative and preventive health care. These facilities are approved for early abortion provision.

### Subcenters

This most basic facility is staffed by at least one auxiliary nurse midwife or female health worker and one male health worker. Services include interpersonal communication to promote behavior change and basic care for minor ailments. This level facility is not approved for abortion provision.

\*First referral units offer emergency obstetric care (including capability for surgical interventions like caesarean sections) and newborn care and have a blood storage facility operating on a 24-hour basis. Source: reference 118.

aspect of service provision for the country as a whole.

India's private-sector facilities include approved NGOs and privately run clinics and hospitals. Many NGOs, including Janani, Marie Stopes International, Family Planning Association of India, Population Health Services India and Parivar Seva Sanstha (to name a few), provide safe abortion services. NGOs play a particularly important role in the areas most underserved by government facilities. For example, Janani is one of the leading providers of family planning and comprehensive abortion services in India.<sup>108</sup> Its network of Surya family planning clinics in Bihar, Jharkhand, Madhya Pradesh and Uttar Pradesh are all registered to provide legal abortion services. As of 2013, Janani partners with the national government (under the public-private partnership component of the National Rural Health Mission and the Contraceptive Social Marketing Program) to operate 50 clinics and maintain affiliations with 135 private-sector registered franchised facilities and 5,000 other private-sector doctors. Poor women often prefer its clinics to other health facilities because they are perceived to offer reliable, confidential and high-quality services.

### Availability, Sales and Preferences Related to Medical Abortion

Since the 2002 approval of the mifepristone-misoprostol regimen for early termination of pregnancy, the number of medical abortion products available for purchase in the private sector has rapidly expanded, as have sales

of these products. By 2009, at least twenty generic misoprostol products were available, and at least seven companies were marketing a combination pack (200 mg mifepristone and 400 mcg misoprostol). Misoprostol and mifepristone are also included in the latest revision (in 2011) of the National List of Essential Medicines of India; thus, medical abortion drugs should be available at all tertiary health facilities.<sup>122</sup> As significantly, the Indian government's new strategy to address major causes of mortality among women and children integrates reproductive, maternal, newborn, child and adolescent health into the next phase of the National Rural Health Mission (2012–2017) and includes high coverage and high-quality provision of comprehensive abortion care, including medical abortion (mifepristone and misoprostol for women up to seven weeks' gestation and ethacridine lactate for women at 12–20 weeks' gestation) at registered facilities.<sup>19,123,124</sup>

Ipas analyzed worldwide data on sales of all misoprostol-containing drugs to wholesalers, pharmacies and hospitals from 2002 to 2007, identifying trends by region and country.<sup>125</sup> Regionally, Asia had the highest level of misoprostol-only drug sales, and in India specifically, sales increased by 646% during the study period. In India, misoprostol is approved for postpartum hemorrhage, medical termination of pregnancy and cervical ripening, but because most misoprostol pill packages sold in India contain two 200 mcg misoprostol pills—the exact initial dosage to be used, with mifepristone, for first-trimester abortion—it is likely that abortion is the intended use. Additionally,

**TABLE 1. Percentage distribution of women who reported having had an abortion in the past three years, by provider type and method, in two districts of Maharashtra and Rajasthan, 2007–2010**

	Maharashtra	Rajasthan
<b>Provider type</b>		
Public-sector doctor	8	45
Private-sector doctor	87	44
Informal or untrained practitioner*	5	11
<b>Abortion method used</b>		
Surgical	80	86
Medical	12	9
Injection	6	6
Herbs/roots/foreign bodies/homemade remedies	1	0
Ayurvedic medicines	2	0
Total	100	100

\*Includes nurses/auxiliary nurse midwives, chemists and traditional practitioners.

Note: Numbers may not add to total because of rounding. Sources: references 16 and 17.

Asia has the largest selection of brands and the most local manufacturers globally, and misoprostol drugs sold in Asia are among the least expensive in the world.

Indian women increasingly request medical abortion over other methods.<sup>126–128</sup> Studies have identified a range of factors influencing women's preferences for this method: safety and efficacy, level of medicalization (i.e., surgery, hospital admission, use of anesthesia), perceptions of what is natural, perceived pain and adverse effects, time required at the facility, confidentiality, need for multiple clinic visits, cost and likelihood of an internal physical exam by a male doctor.<sup>129,130</sup> A study in rural Tamil Nadu, conducted by Ramachandar and Pelto in 2005, showed that women were fearful of surgical abortion and thus preferred medical abortion.<sup>127</sup> Studies have also compared women's preferences for home or clinic administration of medical abortion.<sup>131,132</sup> Studies show no difference between the two in success rates, complications or satisfaction levels, following sufficient counseling by a trained provider. Evidence suggests that the most common reasons for home-based administration are convenience, desire for fewer clinic visits, and compatibility with work or household duties. However, home-based self-administration of misoprostol is not universally desired or accepted among clients. Many women prefer the interaction with providers, who are seen as offering emotional support and information.<sup>130,132</sup> Mundle et al. assessed the feasibility and acceptability of medical abortion in a primary health center (lower-level facility) in Maharashtra, which was staffed by medical officers who did not provide surgical abortion.<sup>133</sup> Medical officers received two days of training on determining gestational age, providing medical abortions and counseling, assessing completeness of abortion and providing referrals. The results showed complete medical abortions among nearly all of the 150 women enrolled in the study who received 200 mg of mifepristone, returned two days later for 400 mcg misoprostol and returned again twelve days later for abortion confirmation. The 1% of women for whom the abortion was unsuccessful were referred to a community health center for surgical backup. Furthermore, 100% of the women reported satisfaction with their experience, including those with failed medical abortions.



# Barriers to Obtaining Safe Abortion and Postabortion Services

## Health System Factors

**Limited access in the public sector.** Women in India face many barriers to obtaining safe abortion services, including the limited availability of safe services due to the overall lack of trained professionals capable of providing them, unequal distribution of trained professionals both regionally and across urban and rural areas, and misconceptions among qualified providers about which facilities are legally approved to offer abortion services.<sup>16–18</sup> Although public facilities at the primary health center level and higher are intended as main service points, especially for poor and rural women, they often lack the resources to provide abortion services.<sup>16,17,61,134,135</sup> According to the India Facility Survey, as of 2005, 94% of primary health centers and 69% of community health centers did not offer any abortion services.<sup>136</sup> Today, large proportions of these facilities are shown to be ill-equipped to provide comprehensive abortion care: Slightly more than half of primary health centers offer services 24 hours a day or provide referrals for complicated pregnancies, and a minority of

community health centers are staffed with an obstetrician-gynecologist or are equipped for emergency services by having a blood storage facility (Table 2).<sup>10,118</sup> Furthermore, few community-level facilities meet Indian Public Health Standards.

Primary health centers, the lowest-level public facilities approved to provide abortion services, are very basic and very few are equipped to provide abortions. An array of studies conducted over the last decade have found abortion provision at these facilities to be extremely limited. Results from situational analyses, conducted by Population Council and the Center for Operations Research and Training (CORT) and published in 2001, showed that only 27% of the registered primary health centers in Maharashtra were providing services, as were 24% in Uttar Pradesh, 32% in Gujarat and 58% in Tamil Nadu.<sup>137</sup> Another situational analysis published by CORT in 2004 found that in Rajasthan, 65% of community health centers and 21% of primary health centers offered abortion services.<sup>26</sup> Moreover, only 35% of the 105 formal-sector facilities offering abortion services in the sample

**TABLE 2. Proportion of lower-level public facilities with selected characteristics, India**

Characteristic	%
<b>Primary health centers</b>	
Lady medical officer on staff	24
Open 24 hours	53
Offers referral services for complicated pregnancy/delivery*	55
Meets Indian Public Health Standards†	15
<b>Community health centers</b>	
Obstetrician-gynecologist on staff	25
Delivery services offered 24 hours	90
Has operating theater	65
Designated as FRU	52
FRU with functioning blood storage facility‡	9
Meets Indian Public Health Standards	15

\*Among 24-hour facilities. †See Appendix Table A (page 47) for explanation of Indian Public Health Standards. ‡Among community health centers designated as FRUs. *Notes:* FRU=first referral unit. *Sources:* references 10 and 118.

area were public; the proportion was 28% in rural areas. A study conducted by the Consortium for Safe Abortions in India in public-sector facilities in Rajasthan between 2007 and 2010 found that while the majority of primary facilities had at least one medical officer, fewer than 5% had a medical officer certified to provide abortion services.<sup>17</sup> Among the few community health centers that provided abortion services, services were not offered on a regular basis. Facilities in the study provided fewer than 100 abortions per year, and none provided second-trimester services. Evidence from several studies also suggests there may be trained and qualified providers posted at public health facilities who do not provide abortion services due to a lack of awareness of the legality of abortion or a false impression that their facility is not legally approved.<sup>138–140</sup> Since these lower-level facilities are often the only service points for rural or poor women, the gaps that exist in abortion service provision at this level hinder women’s ability to seek abortion services and may also lead women to seek services from unsafe providers.

National data illustrate the shortage of health service providers at community health centers (Table 3).<sup>118</sup> And while there is a sufficient number of allopathic doctors in position at the primary health center level, it is possible that only a minority have training in abortion services or that those who are trained are not providing abortion in these facilities, as demonstrated in past studies.

**Limited access in the private sector.** Deficiencies exist in the private sector, as well. Unlike public facilities, which are automatically approved to provide abortion services, private facilities must obtain government certification, which involves administrative processes that many providers wish to avoid. As a result, private abortion providers often work in facilities that are not registered to provide abortion services and are therefore unable to provide legal abortions.<sup>120,121,134,135</sup> A 2005 assessment in Rajasthan showed differences by sector in training and certification

processes for abortion service provision and found the differences were reflected in a higher proportion of government providers trained in abortion services, relative to private-sector providers.<sup>20</sup> Certain restrictions were found to complicate these processes: A private provider is only eligible to receive training in abortion provision if he or she works at a facility certified to offer abortion services, and yet a private facility can only be certified if there is a trained provider in position. In addition, recommendations from a chief medical and health officer and zonal director are required for a private provider to apply for MTP training and be enrolled at a training institution. Contrastingly, the process for public-sector providers is more straightforward, and government doctors are also more likely to be recommended for training than private providers.

A lack of District Level Committees—the entities responsible for evaluating and registering abortion facilities—has also created barriers for the certification of private facilities in some states.<sup>21,27</sup> In other states, the devolution of abortion provision regulation to the district level has created more opportunity for state governments to interpret and implement the laws according to their own needs and objectives. Local-level authorities can streamline the process of certifying facilities for abortion provision, but they can also apply additional regulations and procedures to the certification of a facility if they so choose, leading to a lack of uniformity in the certification process and inequality in access by region. Maharashtra, for example, effectively limits the coverage of abortion services by requiring that facilities be within five kilometers of a blood bank.<sup>21</sup> Some states, such as Delhi and Haryana, require private facilities to submit the floor plan and architectural layout of the building and parking area as part of registration.

In part because obtaining certification is difficult, many private facilities that provide abortion services are not certified to do so. This makes it impossible to regulate the quality of services and ensure the safety of women using

**TABLE 3. Staffing levels at lower-level public facilities, India, 2012**

	No. of staff required*	No. of staff actually in position	Shortfall in staff
<b>Community health centers</b>			
Obstetrician-gynecologists	4,833	1,615	3,005 (62%)
Physicians	4,833	940	3,667 (76%)
<b>Primary health centers</b>			
Allopathic doctors	24,049	29,984	na

\*According to Indian Public Health Standards, one obstetrician-gynecologist and one physician is required at all community health centers, and one doctor is required at all primary health centers. *Note:* na=not applicable. *Source:* reference 118.

these services. Data from 2004 reveal that in Rajasthan, almost two-thirds (65%) of private-sector facilities providing abortion services were not certified under the MTP Act.<sup>26</sup> In Bihar and Jharkhand, none of the private facilities providing abortion in 2010 were registered by their respective District Level Committee.<sup>120</sup> In fact, as of 2010, 54% of the districts in Jharkhand had not yet formed a District Level Committee capable of registering facilities.<sup>121</sup> A study in Rajasthan showed that even among certified institutions, private facilities providing abortion were scarce, and on average, each certified private facility served 143,000 people.<sup>20</sup> Distribution of facilities was uneven, and most facilities were located in a few districts that accounted for only 38% of the state's population.

**Partnerships between health care sectors.** Partnerships between and within health care sectors (public-private and private-private) may offer a way to improve access to abortion services in India. Given that many public facilities do not provide abortion services and many private facilities are either not registered to do so or are not accessible because of cost and location, the government of India has taken new initiatives to accredit and subsidize private health facilities for sexual and reproductive health services, including abortion. In Bihar, one of the most challenging states in terms of health care services, the state government developed a program in 2011 called Yukti Yojana (“a scheme for solution”), which accredits private facilities and supports them in providing free abortion services to low-income women.<sup>141</sup> A study conducted in 2013 to assess the effectiveness of this scheme over the two years prior found that 49 private facilities were accredited under the program in the 18 pilot districts. Comparing services at facilities before accreditation and six months after accreditation showed increases in the display of abortion-related information, education and communication materials; the availability of all essential drugs and necessary equipment; and the number of facilities offering services seven days a week. By 2013, accredited facilities had provided abortion care services to a reported 10,700 women, 52% of whom had induced abortions and 48% of whom received postabortion care. Seventy-one percent of the clients served were low-income; 88% of clients had abortions that were done using appropriate technologies, such as MVA, EVA or medical abortion; and 87% received postabortion contraceptive counseling and services. Because of its success, this program offers a potential model for other states in India to improve certification of private obstetrician-gynecologists and physicians to deliver safe services to marginalized women.

A partnership between Ipas and the Federation of

Obstetrics and Gynaecological Societies of India established a network of private doctors called the Medical Abortion Provider Network (MAPnet) as a pilot initiative in Maharashtra between 2005 and 2006.<sup>142</sup> The purpose of the network was to improve providers' knowledge and skills related to medical abortion methods, protocol and guidelines; improve providers' strategies for meeting clients' needs for counseling and information; offer providers peer-to-peer networking and mentorship regarding medical abortion; and document and share service-delivery experiences with nonnetwork providers and other stakeholders. After joining, 80% of the 77 providers in the network were performing abortions using preferred technologies (MVA, EVA and medical abortion for first trimester abortions). Relative to before they joined the network, the providers increased their provision of medical abortion and their adherence to related drug and timing protocols. MAPnet continued after the pilot project, and as of 2011, it had 87 members, most of whom were obstetrician-gynecologists currently providing abortion services at private facilities.

The Increasing Access to Safe Abortion Services Program, implemented in 2006 by Ipas and the government of Uttarakhand, is another example of a public-private partnership that has contributed to improving access to abortion services.<sup>138</sup> The first phase of the program was implemented in 2006–2009 and the second phase in 2009–2012. It offered high-quality training in abortion and postabortion care (including contraceptive counseling and services) for doctors and other medical staff at public facilities; improved services offered at delivery sites by ensuring the availability of essential equipment and drugs; and operationalized District Level Committees in some areas to help facilitate the certification of private facilities. An assessment conducted in 2007–2009 found a substantial improvement in the availability and accessibility of trained providers, the availability of essential equipment, and the availability and quality of abortion services in public health facilities. As a result, the public-sector contribution to the total number of induced abortions in Uttarakhand increased from 33% to 48%. Similar baseline assessments of public-sector facilities have been done by the governments of Meghalaya and Chhattisgarh, in partnership with Ipas, with the goal of implementing similar initiatives to improve comprehensive abortion care services in those states.<sup>139,140</sup>

**Financial barriers to safe services.** While efforts have been made in recent years to improve service provision, demand-side barriers prevent many women from obtaining safe abortion services. Namely, the cost of abortion

services remains a concern for many women seeking abortion in India. Data on fees for abortion are available from small studies of providers and households examining health care utilization. They show that though abortion services are technically free of charge at public facilities, women may, in reality, incur both direct costs (i.e., for anesthesia, antibiotics or other medications) and indirect costs, such as transportation costs or loss of earnings.<sup>16,17,61</sup> Private-sector providers set their own prices for abortion services, and therefore direct costs may vary considerably. Costs are reportedly highest among uncertified private-sector providers.

Abortion charges depend on quite a few factors, including a woman's age, marital status and socioeconomic status; the gestational age of the pregnancy; the abortion method and type of anesthesia used; whether the woman agrees to adopt a postabortion contraceptive method; whether the abortion is for sex-selective reasons; the location of the clinic; and whether the provider is certified and working at a registered clinic.<sup>119</sup> Numerous studies have documented that unmarried and younger women are charged more than those who are married or older in both the public and private sectors.<sup>119,143</sup> In a survey of 270 providers conducted in Bihar and Maharashtra in 2009–2010, obstetrician-gynecologists changed the cost of services according to a client's economic condition.<sup>29</sup> A provider would charge 450 rupees (\$10)\* to a woman they perceived as poor and 600 rupees (\$13) to someone who they perceived as better off. While this indicates that providers may use a sliding scale in an attempt to make abortion accessible to a wider range of clients, it also points to nonstandardized abortion charges determined by subjective (usually visual or oral) assessments of clients.

A 2002 study in Bihar found differences in costs depending on gestational age.<sup>119</sup> First-trimester surgical abortion services typically cost 500–1,000 rupees (\$10–20), and second-trimester abortions cost 2,000–3,000 rupees (\$41–62). In Bihar and Maharashtra, between 2009 and 2010, the cost associated with early surgical abortion (up to eight weeks' gestation) was 1,500 rupees (\$34), and abortions performed after eight weeks' gestation were 2,000 rupees (\$45).<sup>29</sup> The same study found the cost of abortion services were also dependent upon the method used. One obstetrician-gynecologist in urban Maharashtra described surgical abortion (including anesthesia and medications) as costing 1,000–1,200 rupees (\$22–27), while medical abortion cost 450 rupees (\$10), plus a consulting

fee of 50 rupees (\$1). Researchers have speculated that some providers may favor the use of costlier surgical procedures to turn a greater profit.

Medical abortions obtained from a chemist without a prescription are generally much more economical than either surgical abortion or medical abortion provided in a public or private facility. A survey of chemists in Bihar and Jharkhand was conducted in 2004 to better understand these providers' role in the provision of medical abortion.<sup>144,145</sup> At the time of the study, the maximum retail price of mifepristone, as indicated by the manufacturers, was 310–325 rupees (about \$7). Forty-eight percent of the chemists in Bihar and 7% in Jharkhand reported selling the drugs at higher than the maximum retail price. Misoprostol, in contrast, was usually available at its retail price of 15–16.5 rupees (about \$0.33). For women who could not afford mifepristone and misoprostol, chemists often offered less expensive Ayurvedic or homeopathic drugs in their place, although they are not considered safe (or effective) abortifacients. Demand was reportedly higher for Ayurvedic and homeopathic drugs than for mifepristone-misoprostol for induced abortion among the study population, at least in part because of their lower prices.

#### ***Regulatory factors affecting access to medical abortion.***

The availability of medical abortion drugs improved significantly between 2002 and 2003 and 2011.<sup>75,146</sup> As a result, the safety of second-trimester abortion services improved over the last decade. However, access to medical abortion has decreased in recent years. When the 2011 census results in India revealed the most skewed child sex ratio to date and thus sparked nationwide alarm, pressure was focused on policymakers and implementing authorities to address sex selection. Because some leaders believed that the skewed child sex ratio would best be addressed by limiting the availability of abortion services altogether, some state and district authorities imposed regulations on abortion providers and chemists.<sup>147,148</sup> In some instances, these regulations may have exceeded the mandate of the laws governing abortion services and drug retailing and have resulted in some providers ceasing to offer legal abortion services, especially in the second trimester. As a result, there is growing concern among civil society organizations, professional associations, doctors and women about the unavailability of medical abortion.

Maharashtra is one state that has seen an increase in abortion-related regulations since the release of the 2011 census results. Reports suggest that some chemists and clinics, in response to increased enforcement of regulations and frequent drug raids by local authorities, have stopped

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\*All conversions from Indian rupees to U.S. dollars and vice versa are based on the exchange rates at the time each study was conducted.

stocking and dispensing medical abortion drugs, severely limiting providers' ability to offer medical abortions and negatively affecting women's access to safe abortion services. In addition, regulations requiring chemists to record client information limit client privacy and confidentiality and have discouraged some women from seeking this service. In 2012, Ipas conducted a study in 215 chemist shops in Maharashtra to explore the effect of the new regulations on the availability of medical abortion.<sup>148</sup> Results showed that medical abortion drugs were available in only 10% of chemist shops; 32% of shops had never stocked these drugs, while 58% reported that they stopped stocking them after the government began enforcing new regulations. The most commonly reported reasons for not stocking the drugs were the increased burden of documentation needed to dispense them (91%) and that the chemist had received threats from a drug inspector or some other authority against stocking them (56%).

In 2014, the New Delhi-based Human Rights Law Network looked at barriers women face in obtaining medical abortion in Maharashtra.<sup>147</sup> Results from surveys of hospitals, obstetrician-gynecologists and chemists in Mumbai and Nagpur showed that medical abortion drugs are largely unavailable at private chemist shops and public hospitals. In Mumbai, chemists had low levels of knowledge of the legal status of medical abortion, and among those who believed the method was legal and were willing to sell the drugs, almost none had medical abortion drugs in stock. More chemists in Nagpur than in Mumbai believed medical abortion was legal, but the majority were hesitant to offer the method, even to clients with a prescription. Despite a government mandate requiring hospitals to stock medical abortion drugs, very few facilities were actually doing so at the time of the study, indicating limited access in both the public and private sectors. As is the case nationally, in Maharashtra, lack of clarity about laws and guidelines and a fear of legal repercussions have led many providers to halt abortion provision and chemists to stop stocking abortion drugs. Due to the state's actions on medical abortion, many chemists are also apparently unwilling to offer emergency contraception, thus limiting options for women at risk for unintended pregnancy and abortion.

## **Providers' Roles in Offering Abortion Services and Information**

**Community intermediaries.** Access to safe services is affected by gaps in knowledge among women and providers. Especially in rural areas, women typically rely heavily on community-level sources, including auxiliary nurse midwives, Accredited Social Health Activists, Anganwadi

workers, traditional birth attendants or dais, and friends and family for information on family planning and abortion services.<sup>149</sup> The Ministry of Health and Family Welfare has been training auxiliary nurse midwives, Accredited Social Health Activists and Anganwadi workers to provide confidential counseling, referrals and postabortion care.<sup>16</sup> Although they are not able to provide legal abortion services, these community-level workers could potentially be used to spread knowledge about safe abortion services and link women to services, including by providing social support as women explore their options for responding to an unwanted pregnancy and offering information and referrals related to safe abortion services and postabortion contraception.<sup>150</sup>

**Certified and uncertified abortion providers.** Abortion providers range from highly trained, qualified and certified doctors to untrained, unqualified or informal practitioners. In a study of formal-sector abortion providers in Bihar and Maharashtra, 70% had been trained in both medical and surgical abortion methods. More than half (53%) practiced at their own clinics, 26% at a public facility (district hospital, medical college, or primary or community health center) and 22% at a private facility (trust, corporate hospital or NGO clinic).<sup>29</sup> Yet, despite the presence of trained providers at a variety of facility types, women in India are often unaware that such providers may be available. An assessment conducted in four rural districts in Maharashtra and Rajasthan in 2007–2010 by the Consortium for Safe Abortions in India found that 19–27% of 15–39-year-old women were unaware that abortion services were available from certified providers at either public- or private-sector facilities in their respective districts.<sup>16,17,61</sup> One-quarter of women from Maharashtra and half of those from Rajasthan did, however, know about providers not certified under the MTP Act, including chemists and nurses. Evidence suggests that this lack of awareness of legal services, in combination with the relatively limited number of certified providers, results in a heavy reliance on abortion providers and facilities operating outside legal parameters.

The Rajasthan study suggested that informal care providers—defined in that study as doctors from non-allopathic systems of medicine, government paramedics, chemists, traditional service providers and other unqualified practitioners—had stepped in to fill the gap in abortion service provision.<sup>143</sup> Studies in the late 1990s in rural Maharashtra and Rajasthan estimated that nearly half of all abortions were carried out by providers who were either not legally recognized as abortion service providers or were performed in facilities not legally approved for abor-

tion provision; a very small proportion were performed by traditional practitioners.<sup>64</sup> Findings from the 2002 AAPI study illustrated the large number of unsafe (traditional or otherwise medically unqualified) abortion providers in India.<sup>15,29</sup> It estimated that these health workers, on average, provided almost one-third as many abortions as those handled by medically qualified (though still not necessarily certified) providers. This study also found that the difference between the certified and noncertified medical facilities was insignificant with regard to technical aspects and infrastructure, such as availability of equipment and instruments, skills and training of personnel, and physical conditions of the facilities. This suggests that some uncertified facilities are providing safe abortion services. Data are lacking on the extent of informal providers' provision of abortion services, as well as on the proportion of illegal formal-sector services that are safe. While a proportion of uncertified providers may be medically capable of providing safe abortion services, many may not be trained or qualified to perform abortions.

**Informal drug sellers.** The availability of abortion medications through chemists is widespread and well-documented. Evidence from several community- and facility-based studies suggests that when faced with an unwanted pregnancy, many women in India choose to first attempt to terminate the pregnancy on their own, often using drugs purchased from a chemist without a prescription.<sup>28,59,63,74,109,144</sup> Easy access to medical abortion from chemists has greatly increased women's access to safe abortion, yet for women with low levels of knowledge about how to use the method—typically rural or otherwise marginalized women—chemists may contribute to an increase in unsafe abortion.<sup>60</sup>

In addition to misoprostol and mifepristone, chemists also sell drugs not proven to be effective at ending pregnancy. Based on data from several states over the last decade, 11–53% of women having an induced abortion at a health facility reported at least one prior attempt to end the current pregnancy; the majority used home remedies or Ayurvedic or allopathic tablets obtained from chemists without prescription.<sup>59,63,74,109,144</sup> A study in Bihar and Jharkhand among women terminating a pregnancy at NGO clinics between 2008 and 2010 documented unsuccessful abortion attempts made prior to visiting a facility.<sup>28</sup> Of the 1,065 women who had made an unsuccessful attempt to terminate their pregnancy, 43% reportedly used an allopathic drug (one-quarter of these women used the approved mifepristone-misoprostol regimen, while the other three-quarters used other allopathic drugs, including high doses of emergency contraception and oral

contraceptive pills, misoprostol only or mifepristone only). Another 35% of women used Ayurvedic or homeopathic drugs prior to coming to the clinic, and 23% could not identify the drugs they had taken.

When purchased from chemists, Ayurvedic, homeopathic and other (nonabortifacient) allopathic drugs cost less than medical abortion: 56–168 rupees (\$1–3), compared with 560–671 rupees (\$10–12).<sup>28</sup> Yet there is little evidence on the safety or effectiveness of these drugs or the quality and accuracy of information provided by chemists. Informal drug sellers often lack knowledge about medical abortion, provide inaccurate information to clients and market ineffectual drugs as abortifacients. A 2005 study in Bihar and Jharkhand found that chemists were selling mifepristone-misoprostol and other drugs without a prescription: Some 51% stocked misoprostol, 35% stocked mifepristone and 75% sold Ayurvedic and homeopathic drugs for abortion.<sup>145</sup> In total, more than 50 brands of Ayurvedic oral preparations marketed to induce abortion were reported. Only 16% of the chemists had correct knowledge of the dosage and regimen for medical abortion, and only half were aware of the legal gestational age limit for medical abortion. Moreover, no chemist in the study had informed clients about the composition or effect of specific drugs, dosage, side effects or follow-up.

**Other health care professionals.** A nationwide study in 2004 found that despite the legal parameters set for abortion provision in India, auxiliary nurse midwives and other uncertified health care workers—many of whom were untrained in abortion provision—were providing abortion services that often led to complications.<sup>119,151</sup> Doctors trained in Ayurveda and homeopathy constitute a large part of the Indian health care system. Nearly 500,000 Ayurvedic physicians were practicing in 2009, compared with more than 800,000 allopathic physicians, of which 27,000 were obstetrician-gynecologists; additionally, more than one million nurses were registered.<sup>111</sup> Yet practitioners trained in Ayurveda, yoga, naturopathy, Unani, Siddha and homeopathy (AYUSH), are not legally permitted to provide abortion directly, nor are they allowed to write prescriptions for allopathic drugs.<sup>28</sup>

Task-shifting—or delegating health care responsibilities to lower-level staff, as appropriate—is a time-tested strategy for addressing human resource shortages and reducing the costs of health care.<sup>151</sup> Given health system constraints, nurses are the main service providers in many primary health centers. Doctors trained in AYUSH are increasingly being absorbed by the national health care system, and are often deployed as medical officers in charge of public health facilities. They are expected to

provide maternal and reproductive health services, such as child delivery and contraceptive services, including insertion of IUDs; however, they are supposed to refer clients needing abortion services to allopathic physicians.<sup>111,152</sup> Yet there is little evidence that existing referral systems function well: Many women in India who are referred from a primary-level institution never reach the referral facility.<sup>153</sup> This highlights the need for better referral systems, as well as for more trained providers at lower-level facilities, which may be some women's only point of contact with the health care system.

Evidence from other countries supports increased task-shifting of abortion provision in India by demonstrating the competence of well-trained health care providers (nurses, midwives and nonallopathic physicians) in the provision of both surgical and medical early termination of pregnancy.<sup>151,154</sup> In the few countries in which practitioners other than allopathic doctors are permitted to perform aspiration abortions, data have shown that safety of and satisfaction with services are comparable to abortions performed by allopathic physicians.<sup>151,155</sup> A systematic review of the safety and effectiveness of terminations provided in the first nine weeks of pregnancy by doctors versus other trained providers summarized findings from five studies in multiple countries.<sup>154</sup> It concluded there was no difference between the two provider types in their prevalence of incomplete or failed abortions.

A few studies in India have contributed to the growing evidence in support of task-shifting in abortion provision. One study in Bihar and Jharkhand comparing nurses and physicians' ability to perform MVA found that, after training, nurses could perform this procedure as safely and effectively as physicians.<sup>152</sup> Furthermore, nurses were as skilled as physicians in assessing gestational age and abortion completion, and women reported satisfaction with the care they received, regardless of the type of provider. Another study in five clinics in Bihar and Jharkhand found that with adequate training, Ayurvedic physicians and nurses can provide medical abortion as safely and effectively as allopathic physicians.<sup>111</sup> Observed failure rates were low and similar for all providers, and women reported high levels of satisfaction with all three types of providers. This study was conducted among NGO clinics whose quality standards may surpass those of public-sector facilities, and therefore the results may not be applicable to other settings in India. A 2000–2008 study in rural Rajasthan, found that among women who presented with abortion complications at nurse midwife-led primary health centers, 75% were successfully treated by a nurse midwife, while the remainder were immediately referred

to higher level facilities.<sup>153</sup> These studies suggest that when provided with an adequate level of training, support and supervision and a comprehensive emergency referral system, competent health care professionals other than allopathic physicians can provide first-trimester abortion services and postabortion care safely and effectively.

**Support for task-shifting of abortion provision.** The idea of expanding abortion provision to providers who are not allopathic physicians is not without controversy. Support from government officials and abortion-providing physicians, and acceptance by women, is necessary. A 2004 survey of health professionals, conducted in 1,346 health facilities in Bihar and Jharkhand, found that 74% of community-based health care workers (auxiliary nurse midwives, lady health visitors, community-level male health workers, nurses and paramedics) showed interest in training for early medical abortion.<sup>18</sup> This study found that males and those working at government facilities were more likely than females and those at private, for-profit facilities to be interested in receiving training. Support among allopathic physicians for the provision of abortion by other health care workers was also explored. Among obstetrician-gynecologists, 34% were supportive of this potential change, and their attitudes about it varied according to their opinions about abortion in general and their personal experiences working with community-based health care workers. A very small proportion (5%) of obstetrician-gynecologists who had supportive attitudes about abortion in general were supportive of abortion provision by other health care workers. A large proportion of obstetrician-gynecologists (82%) who had no experience working with community-based providers were supportive of training them in abortion care, but the proportion was much smaller among those who had worked directly with these providers (11%). More than half (58%) of general physicians supported training community-based health care workers in early medical abortion provision. This study's results are, however, geographically limited and may not reflect current attitudes. Limited recent research suggests a growing acceptability of task-shifting in India<sup>156</sup> and the proposed 2014 amendment to the MTP Act would allow the training and certification of nurses, auxiliary nurse midwives and AYUSH practitioners to legally provide abortion. However, differing opinions on the merits of task-shifting related to abortion provision persist.

## Providers' Knowledge and Attitudes

### ***Lack of training and comprehensive knowledge among providers.***

Insufficient knowledge and training among abortion service providers presents an obstacle to women seeking abortions.<sup>58,157–159</sup> The paucity of abortion training facilities in India could explain this lack among doctors receiving a bachelor of medicine/bachelor of surgery degrees and results in a large number of untrained providers serving abortion-seeking women.<sup>139,140</sup> A 2011 study of the knowledge and attitudes of fifth-year allopathic medical students in Maharashtra found that very few of the nearly 2,000 respondents had received any clinical training in abortion provision.<sup>159</sup> Despite this shortfall, the majority of respondents felt that the education they had received in sexual and reproductive health was sufficient. One-quarter of these medical students considered abortion to be morally wrong, and nearly the same proportion incorrectly believed a woman needs her husband's consent to have an abortion; attitudes toward abortion were associated with many variables, including religious beliefs.<sup>156</sup> Misconceptions about modern contraceptive methods persisted among these respondents: The majority believed that contraceptive pills could cause cancer, and another nearly one in five believed that they cause infertility. These findings indicate a need for medical students to receive better preparation to provide sexual and reproductive health services in general and abortion services in particular.<sup>159</sup>

Outmoded and riskier uterine evacuation techniques are still in use in India today, in part because abortion training in the country was originally focused entirely on D&C procedures.<sup>29,127,144,160</sup> Some obstetrician-gynecologists have reportedly shown reluctance to undergo retraining in MVA or EVA, despite evidence that these methods are safer and updated guidelines calling for their use. In addition, access to safe medical abortion is insufficient in both the public and private sectors in most states, and providers generally lack in-depth knowledge about the uses, advantages and disadvantages of the method.

A 2010 study of 270 government-certified abortion providers (obstetrician-gynecologists and physicians with a bachelor of medicine/bachelor of surgery degree) from Bihar and Maharashtra found that 67% provided medical abortions.<sup>29</sup> In this study, almost half of the abortion providers surveyed felt that medical abortion was safer than surgical abortion, but 54% also indicated (incorrectly) that it was less effective. Further, only 59% of providers knew that medical abortion is indicated for pregnancy termination between seven and nine weeks' gestation, as approved by the MTP Act and government abortion guidelines. Only 39% of physicians providing medical abortion

services used the recommend dosages, and only 56% asked their medical abortion clients to return for a follow-up visit, as required by the government guidelines. Other studies further illustrate the need for improved provider training: In a study of providers in Bihar and Jharkhand, the vast majority (94%) overly restricted the use of medical abortion to the first six weeks of pregnancy.<sup>144,160</sup> And in a small-scale study of providers in a poor, rural area of Tamil Nadu, doctors providing medical abortions had low levels of awareness and knowledge about normal post-abortion bleeding according to gestational age, and the dosage and administration of drugs often varied.<sup>127</sup>

### ***Providers' opinions and willingness to provide medical abortion.***

Medical abortion is not universally provided, even among those qualified to administer it, and its availability often depends in part on providers' opinions about the method. Providers' preferences for prescribing medical abortion vary by residence, type and other provider characteristics.<sup>126,127,144</sup> Providers working in private-sector facilities, for example, are more likely than those in the public sector to administer medical abortion. Doctors' unwillingness to prescribe it has been found to be related to concerns about women's ability to comply with the drug regimen.<sup>127</sup> In-depth interviews with trained providers in government facilities in Bihar and Maharashtra found that providers expressed discomfort about providing medical abortions to poor, uneducated and rural women.<sup>29</sup> Another study assessed the provision of abortion services (including medical abortion and postabortion care) by AYUSH and allopathic physicians, auxiliary nurse midwives and chemists in Bihar and Jharkhand and found that those in rural areas were almost twice as likely to provide medical abortion as those in urban areas.<sup>126</sup> Eighteen percent of AYUSH physicians, 4% of allopathic physicians, 4% of nurse midwives and fewer than 1% of chemists reported having provided the method. However, AYUSH providers, nurse midwives and chemists may have underreported having administered the method in response to laws restricting their provision of abortion.

In this study, providers' most commonly cited reasons for offering medical abortion was the market demand for the service, the procedure's safety and efficacy, the noninvasiveness of the method and the ease of provision compared with surgical methods.<sup>126</sup> A smaller proportion of providers (54%) reported their reason for offering medical abortion was that other providers in the area were doing so. Among those who did not offer medical abortion, reasons included a general lack of interest, concern that there was no surgical backup available, lack of demand, a preference for surgical abortion because of its income-



generating potential, lack of knowledge about medical abortion and skepticism about women's ability to comply with the regimen. The results of this study point toward the subjectivity with which providers make decisions about abortion provision.

***Provider attitudes about unmarried and adolescent women's access to abortion and contraception.*** Providers' attitudes and the types of abortion-related services they offer (including contraceptive counseling and referrals) may differ according to women's marital status and age.<sup>14,158,161</sup> Although husband or guardian consent is not officially required for women to obtain abortion services, women are often denied services if they come to a facility alone.<sup>14</sup> In a 2008 study of providers and young women in West Bengal and Jharkhand, abortion providers in both the public and private sectors reported being more likely to offer counseling, referral and abortion services to married women than to unmarried women.<sup>158</sup> Reflecting the stigma around sexual activity among unmarried women in India, only 31% of all participating providers agreed that all women, whether married or not, should receive information on contraception if they request it.

A study in Kerala that explored health care workers' and managers' perspectives on adolescent reproductive health care needs revealed general support for provision of sexual and reproductive health services for adolescents, but markedly less enthusiasm for specifically expanding the provision of contraceptive or abortion services to this age-group.<sup>161</sup> Around half of the providers and managers felt that because abortion services are legal and available, there is no need for separate abortion services for young women or for making existing services more youth-friendly. Negative attitudes were recorded in West Bengal and Jharkhand, where fewer health providers offered contraceptive and abortion services to unmarried adolescents than to married adolescents.<sup>158</sup> While providers were generally more willing to offer referrals than actual services to unmarried adolescents, the act of withholding abortion services from women on account of their marital status is indicative of the discriminatory attitudes held by providers against unmarried young women. A higher proportion of public than private providers reportedly offered abortion services to young unmarried adolescents; still, only 50% did so.

***Limited access to postabortion contraceptive counseling and services.*** Since almost all women who have an abortion do so because they have had an unintended pregnancy, it is likely that the large majority need contraceptive services after the abortion to reduce repeated unwanted

pregnancies. When a wide range of methods are offered, along with comprehensive contraceptive counseling, on a voluntary basis, women in India are likely to adopt and continue a method after abortion.<sup>162</sup> Data on the provision and quality of contraceptive counseling and services for abortion clients in India is limited. Studies from various settings in India also show that many women (49–96%) want contraceptive methods after an abortion,<sup>64,138,163,164</sup> yet evidence suggests that many women receive inadequate or no postabortion contraceptive counseling or services.<sup>61,150,165</sup> Postabortion family planning counseling and provision are rarely integrated into abortion and postabortion services unless a special effort has been made to train providers in counseling and emphasis has been placed on the importance of this service as part of comprehensive abortion care.<sup>62,138,166</sup>

A qualitative study conducted by Ipas in Uttar Pradesh in 2011 assessed the perspectives of informal and formal abortion providers and their clients on practices and perceived barriers to providing and initiating use of postabortion family planning.<sup>165</sup> It found that contraceptive counseling and services were acceptable and feasible and that some facilities—NGOs and district hospitals—provided these services. Yet, there was no uniformity across provider types in terms of counseling, services or record-keeping, and postabortion contraceptive services were almost nonexistent in the private sector, where most women access abortion services. This study also found other barriers to comprehensive contraceptive counseling and services: a tendency of providers to promote sterilization without offering counseling on other methods, perceptions among private-sector health professionals that the provision of short-term contraceptive methods does not generate enough revenue and a lack of a system for ensuring that counseling services are comprehensive.

Data from the 2005–2006 NFHS-3 indicate that among 5,135 women who had had an abortion in the previous 60 months, 70% did not adopt any contraceptive method within two months after the abortion.<sup>167</sup> Significant differences were found between states and regions, with nonuse at two months as high as 75% in the northern and southern regions, compared with 51% in the Northeast. Women in the higher wealth strata and those living in urban centers were more likely than poorer and rural women to adopt a method, especially a reversible method. Women who were poor, less educated or rural were less likely to adopt a method after having had an abortion and more likely to discontinue use within the first seven months of use, compared with wealthier, more educated or urban women.

The prevalence of postabortion contraceptive counseling and adoption also differs by the abortion method used. Studies have shown that the lowest prevalence can be observed among medical abortion clients. While standard comprehensive abortion care guidelines suggest that postabortion contraception be offered to medical abortion clients upon a return visit, a major share of women who have had a successful medical abortion do not return for a follow-up visit.<sup>150,168</sup> Concurrent adoption of contraception is more common among women having a surgical abortion—a procedure they can elect to pair with sterilization or IUD placement—than among those undergoing medical abortion, who would have to adopt a method at a follow-up visit.<sup>169</sup> A study conducted in four high-volume NGO clinics in Bihar and Jharkhand from 2009 to 2010 illustrate this difference: At one month after an abortion, 58% of participants who had had a medical abortion and 86% of those who had had an MVA procedure had adopted a contraceptive method.<sup>162</sup>

However, even among women who experience surgical abortion, access to contraceptive counseling and services is dependent upon the provider, some of whom are reluctant to provide contraceptive methods immediately after a procedure due to personal bias or fear of infection.<sup>165</sup> A qualitative study conducted in rural Maharashtra highlights the difference between married adolescent women and married adult women in postabortion contraceptive counseling and uptake. Among adolescents aged 20 and younger, 48% received information on contraceptive options and 37% adopted a method, while among adults, the proportions were 59% and 57%, indicating a need for improved comprehensive postabortion contraceptive counseling on a range of methods, regardless of the woman's age.<sup>64</sup> In Kerala, a minority of health care workers were of the opinion that contraceptives, including emergency contraception, should be easily accessible for adolescents, while nearly half thought that awareness-

raising efforts to reduce risky behaviors among adolescents are sufficient.<sup>161</sup>

## Women's Perspectives

**Perceptions of quality.** A woman's perceptions of the quality of care available from abortion service providers and facilities offering abortion influences her decision-making in terms of where and from whom she seeks services, and thus plays an enabling or restrictive role in her access to safe services. Several studies have found that certain characteristics of abortion providers and aspects of services are important to women in India and may influence their provider or facility preferences and their perception of the quality of care they receive.<sup>16,29,62</sup> These characteristics include cost of the abortion, distance to a facility, providers' gender, the privacy and confidentiality of services, whether providers request husbands' consent, availability of contraceptive counseling and choice of methods, use of recommended procedures or medicines, providers' skill level and whether facilities are well-equipped.

Population Council studies conducted in 2010 in Rajasthan and Maharashtra found that among women who had had an abortion in the past three years, a minority of women (49% in Rajasthan and 27% in Maharashtra) expressed being "very satisfied" with their provider (Table 4).<sup>16,17</sup> Fewer than half of women in either state reported that their providers discussed postabortion contraception with them, and the vast majority—95% in Maharashtra and 87% in Rajasthan—were required to obtain their husband's consent prior to the abortion.

Older or married women's perceptions of the quality of care offered at health care facilities, particularly those involving abortion services, differ compared with those of younger or unmarried women. According to a study published in 2011 using data from Population Council's Abortion Knowledge, Attitudes and Practices survey

**TABLE 4. Proportion of women having an abortion in the previous three years who reported positive quality of care with regard to abortion services, Maharashtra and Rajasthan, 2010**

Quality of care measure	% responding in the affirmative	
	Maharashtra	Rajasthan
Provider offered sufficient privacy	85	87
Provider discussed postabortion contraception	40	48
Provider did not require husband's consent for abortion	5	13
Provider did not force the woman to accept contraception as a condition of abortion	93	82
"Very satisfied" with provider	27	49

Sources: references 16 and 17.

conducted in Rajasthan in 2001, among married women, the most important consideration in selecting a provider was whether a husband's consent is required, followed by safety, speed of service, how well-equipped the facility is and courteousness of the staff.<sup>170</sup> Among younger and unmarried women—groups that bear the brunt of abortion-related stigma in India—the most common priorities were confidentiality of services and the discreetness of facility's location. Perceived lack of privacy and confidentiality is widely recognized as a barrier that discourages women from seeking safe abortion services and puts them at risk of unsafe abortion and related complications.<sup>16,17,63,150,171</sup>

For both married and unmarried women, the availability of a female doctor, perceived treatment of women by providers and cleanliness of facilities are important factors influencing perceptions of care and willingness to seek services.<sup>17,23,104</sup> Many facilities are staffed exclusively by male doctors, particularly in the public sector, and this may be an important social and cultural barrier that inhibits some women from seeking abortion services at public-sector health facilities.<sup>104</sup> In the 2010 Rajasthan study, just 14 of 69 primary health centers and seven of 11 community health facilities had a female doctor.<sup>17</sup> Cleanliness was also an important factor that women in the Rajasthan study took into consideration when choosing an abortion service provider—both because unsanitary conditions could spread diseases but also because they create an unpleasant environment. In one small study in rural Tamil Nadu, conducted in 2001–2002, women seeking abortion reported that unqualified and unsafe providers were working out of unsanitary private clinics in congested marketplaces.<sup>23</sup> Women also described government facilities (especially those below the district hospital level) as unclean and reported that staff were unfriendly and sometimes abusive. Women in the study preferred large private facilities that were well-equipped and staffed with qualified personnel and that provided a wide array of reproductive health services, despite the fact that the higher cost of these facilities meant that many women had to take out loans to pay for services.

**Lack of awareness of abortion laws.** As described above, the intense public focus on sex-selective abortion in India over recent years has led to the widespread misperception that all abortions are illegal.<sup>172</sup> A 2007–2008 study of young unmarried abortion-seeking women found that prior to their current pregnancies, 78% believed that abortion was legal only for married women.<sup>108</sup> Many women who knew that abortion was legal were not aware of the gestational age limit for legal abortions and thus sought services late, missing opportunities for safe

abortion care. A 2011 study in Rajasthan further highlights the effect that lack of awareness about laws can have on abortion-seeking behaviors.<sup>104</sup> In rural areas, where many women mistakenly believed that a husband's consent is required for abortion, the greater the proportion of women in the community who believed husbands' consent was required, the less likely women in the community were to terminate a pregnancy.

In addition to knowledge and awareness of laws, knowledge and awareness of legal providers is varies among women in India: Many believe that any health worker is a safe and legal abortion provider, regardless of specialized abortion training or certification; while another significant proportion believe that abortion in any form is completely illegal, regardless of provider.<sup>173</sup> A substantial number of women in Madhya Pradesh in 2007 relied on uncertified providers or sought services from friends, family or other informal providers. In part due to misperceptions of the legality of abortion and lack of awareness about safe methods, many attempted to self-induce abortion with medicines or homemade concoctions.<sup>58</sup> This practice of self-induced abortion, in many cases using unsafe or ineffectual drugs suggested by untrained individuals, often leads to complications.<sup>50,58,61</sup>

Awareness about the legality of abortion and availability of safe services may be particularly low among young and unmarried women and may contribute to the incidence of unsafe abortion and unwanted births among this population.<sup>11,174</sup> In 2012, Ipas published results of a household-based survey conducted in Jharkhand with nearly 1,400 married and unmarried women aged 15–24 showing that 95% were unaware that abortion is generally legal.<sup>175</sup>

Other data on young and unmarried women's awareness of abortion laws come from small-scale studies. Results from a study of unmarried young women with unwanted pregnancies beyond 20 weeks' gestation who were trying to obtain late-term abortions at the Mahatma Gandhi Institute of Medical Sciences in Sevagram showed that a majority of the study participants—mostly rural women with poor access to contraceptive methods—were not knowledgeable about abortion laws or where to access an abortion provider and none of them accessed services in time.<sup>174</sup> Seventy-eight percent of them were unaware that abortion was prohibited beyond 20 weeks' gestation. Other reasons cited for not seeking formal abortion services by 20 weeks were the high costs of private-sector procedures and delays associated with having unsuccessfully attempted abortion using medications procured from informal and unqualified providers. No women in the study were able to obtain an abortion,

and therefore they had to carry their pregnancies to term; most of them abandoned the baby after delivery. Similar lack of knowledge about abortion restrictions among young Indian women has been documented in detail elsewhere.<sup>66,109,110,176</sup>

***Stigma and the need for confidential services.*** Even when safe services are available and women are aware of them, the stigma surrounding abortion in India likely affects women's abortion-seeking behavior. In a 2007 study of women seeking postabortion care (following both spontaneous and induced abortions) in 10 government hospitals and medical colleges in Madhya Pradesh, the majority of those who had sought induced abortion had relied on unsafe providers or induced abortion themselves, primarily in response to fears of social stigma associated with pregnancy termination.<sup>157</sup> Because nonmarital pregnancy itself is highly stigmatized and childbirth outside of marriage is uncommon, some studies have found that abortion is considered more acceptable for unmarried women than for married women.<sup>173</sup>

Results from a study of abortion-seeking women aged 15–24 in Bihar and Jharkhand in 2007–2008 show that compared with married young women, those who were unmarried were more likely to travel long distances for an abortion and thus to experience delays in obtaining the procedure.<sup>66,108,110</sup> These unmarried young women experienced an average lag time of one month between recognizing the pregnancy and obtaining an abortion at a certified facility. Delays in seeking a formal procedure commonly resulted from women having first unsuccessfully attempted to terminate their pregnancies by soliciting services from a chemist, nurse or other uncertified provider. Confidentiality was cited by unmarried young women as the primary consideration in their choice of facility at which to seek abortion. In part due to stigma around abortion, women may engage in dangerous behaviors such as turning to village practitioners who are less qualified than formal health providers to provide abortion, but may be perceived as more able to maintain confidentiality.<sup>60</sup>

Unsuccessful abortion attempts may reflect women's fear of disclosure, as well as their inability to afford abortion offered in the formal sector, coupled with a lack of awareness of provider qualifications and appropriate methods of abortion. Some young women may be afraid to speak to their parents about their pregnancy and thus have little or no social support system in place, which has been shown to be an enabling factor for women seeking abortion in India.<sup>174</sup>

# Discussion

Over the last decade in India, important advances have been made toward improving the availability and accessibility of safe abortion services; at the same time, other developments have countered those achievements, introducing new barriers to care. And while the literature reveals a clear and compelling story about the ways abortion is experienced by some Indian women—those who live in communities and states where research has been conducted—there remain large parts of the country where little is known about the numbers, types or consequences of abortions. In this section, we summarize some of the key issues that have emerged, highlight gaps in knowledge and discuss recommendations for improving access to safe abortion services in India. In doing so, it is important to remember that each topic has myriad facets that cannot easily be summarized; instead, we provide a few examples from the literature that illustrate certain points.

## The Supply of Safe Abortion Services

Although medical termination of pregnancy has been legal in India since 1971, some of the original policies regulating service provision proved to be onerous and restrictive, and as a result, the availability of safe abortion services has been limited. Since 2000, a number of policy changes have been implemented and new training and service delivery guidelines have been introduced that have the potential to increase the availability, accessibility and safety of induced abortion services. For example,

- certification of abortion facilities was decentralized to the district level;
- primary health centers were allowed to provide abortions up to eight weeks' gestation;
- medical abortion was approved as a legal method for terminating early pregnancies (up to seven weeks' gestation);\*
- efforts were made to ensure the availability of appropriate MVA equipment at public facilities and to promote the use of such technologies over less safe methods, such as D&C; and
- in some states, health-sector partnerships have been established to create new models of service delivery.

The impact of these efforts to expand delivery of safe abortion services has been dampened by difficulties in execution and by the implementation of policies that have had opposing impacts. Operationally, encouraging the formation of District Level Committees to evaluate and provide registration of abortion facilities has been slow, and facilitating the expansion of abortion services into lower-level facilities has been uneven, leaving many districts and states with few public facilities that provide abortion services. At the same time, policy efforts to curb the use of prenatal sex determination and sex-selective abortion have created barriers to abortion service provision generally. In some areas, providers have stopped offering abortion services altogether, especially second-trimester services, and chemists have stopped stocking medical abortion drugs, out of fear that they will be prosecuted for providing sex-selective abortions, even if they are not knowingly doing so.

In terms of the net impact of these efforts on service availability, there is evidence that the overall number of approved abortion facilities has increased over the past decade—from fewer than 10,000 in 2002 to more than 12,000 in 2010. However, the annual number of procedures performed and recorded in registered facilities actually fell during that period, from more than 700,000 to fewer than 650,000, indicating either that these providers were performing fewer procedures or that the reporting of procedures has worsened. Because recorded procedures performed in registered facilities are only a very small portion of all abortions estimated to occur in India, these numbers really do not reveal much beyond that fact that some effort has been made to increase the number of registered facilities.

Existing evidence shows favorable changes in the safety of abortion services. Mortality due to complications from abortion appears to have dropped significantly over the decade, following the same pattern as maternal mortality in general, which has fallen 28–40%, depending on

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\*The 2010 Comprehensive Abortion Care guidelines mention medical abortion for up to nine weeks' gestation, but the MTP Act has not been amended to reflect this.

the estimates used. Two policy efforts may have contributed to improvements in abortion safety:

- The approval and widespread availability of medical abortion has provided women with a much safer alternative to other forms of self-induced abortion used in the past; and
- the development and efforts to implement new guidelines for the provision of safe services (including the use of MVA, one of the safest and least invasive methods of abortion), along with the widespread distribution of MVA equipment to public-sector providers, may have contributed to fewer abortions leading to complications.

However, data from small-scale studies indicate that Indian women still face complications from unsafe abortion procedures.<sup>58,59,157,177</sup> And despite reductions in levels of maternal mortality overall and in the number of maternal deaths attributable to unsafe abortion, the proportion of maternal mortality attributable to abortion-related complications has remained constant over the last decade.

## The Demand for Safe Abortion Services

Like women all over the world, women in India may find themselves pregnant at a time when they feel incapable of continuing the pregnancy and thus seek out abortion—whether because of a desire to limit the size of their family or space births, their or their family’s health or economic condition, their physical or emotional well-being, or other factors related to the pregnancy. Some abortions are to unmarried women who are faced with the social unacceptability of nonmarital childbearing in India, and others are to women who became pregnant under violent circumstances, such as rape or incest, or who are in a relationship with an abusive partner. A minority of abortions are performed specifically to prevent the birth of a female fetus.

Abortion, like most aspects of sexuality, is a taboo topic and rarely discussed. So, despite the legality of abortion in India and its provision by public facilities, most women are unaware that legal abortion services exist. At the same time, widespread media coverage and public information campaigns highlighting the illegal status of sex-determining ultrasounds and sex-selective abortions have led many women and some providers to believe that all abortions have been banned. Some community-based studies suggest that up to 85% of men and women incorrectly believe that abortion is completely illegal.<sup>33,62,172</sup> This has created access barriers for women both because they themselves are afraid to seek services they think are illegal and because providers may be unwilling to offer

abortion services, especially during the second trimester. In this environment, it is not surprising that many women rely on chemists or other uncertified providers in their community when first attempting to terminate a pregnancy.

The impact of high demand for abortion and limited information about safe services is that many—and in some places most—women seeking abortion make at least one unsuccessful attempt to end their pregnancy before the termination is successful. In many cases, the first attempt involves using home remedies or homeopathic or Ayurvedic drugs that simply do nothing; in other cases, incorrect dosages or misleading instructions on how to use medical abortion drugs obtained from chemists may lead to a potentially dangerous incomplete abortion. In addition to putting women at risk for complications, repeated unsuccessful attempts to induce abortion often create delays in seeking care from a certified or safe provider. Women may thus be at additional risk for complications associated with later-term abortion, or they may be denied an abortion because many providers do not offer second-trimester services.

Looking forward, there are a number of specific areas where changes in policy or service provision could improve the availability of safe abortion services in India.

## Improving the Quality of Abortion and Postabortion Care

The provision of quality legal abortion services is hindered by a shortage of adequately trained and certified providers, pervasive infrastructure problems, poor treatment of clients, and a lack of counseling related to abortion and contraceptive use. The disparities between groups of women in their adoption of postabortion contraception suggest an unmet need for contraceptive counseling and methods among the most vulnerable women. While many providers are not armed with accurate information or adequate skills to provide abortion and contraceptive services, including counseling, to women who seek them, many others believe that it is not their responsibility. Improving training in comprehensive abortion and postabortion in medical schools and offering it to a wide array of practicing providers care will be crucial to reducing the shortage of qualified providers, dispelling myths and eliminating gaps in providers’ knowledge, and improving the safety of abortion services.

Ensuring that all abortion providers offer contraceptive care and improving their knowledge of the provision of contraceptive methods, including emergency contraception, is another important step toward improving the reproductive health of women in India. Comprehensive

contraceptive counseling can help prevent unintended pregnancies that lead to abortions and should include information on when fertility returns after a birth or abortion; discussion of the full range of contraceptive methods and their characteristics, effectiveness and side effects; an assessment of a woman's characteristics, contraceptive needs and goals; and, if applicable, information about resupply.<sup>166,169</sup> It is important that abortion services be seen not in isolation, but as part of a constellation of care tailored to the sexual and reproductive health needs of reproductive-age women.

### **Improving the Provision of Safe Medical Abortion**

Although many women are able to seek medical abortion services from certified providers, others live in areas with no such providers or face other difficulties accessing certified facilities; these barriers highlight the need to consider new ways of providing medical abortion services.<sup>130,131</sup> Chemists, drug sellers and other informal providers are major sources of medical abortion in India, yet the reliability, effectiveness and safety of the drugs they dispense are not well-documented. The system regulating the informal sale of abortifacients could be adjusted to ensure that approved abortion drugs are available and that women are receiving legitimate and quality services; and to ensure that the high demand for medical abortion among women in India is not exploited by drug sellers and chemists offering ineffective or unsafe methods to women who may not otherwise be able to afford legal abortion services.

### **Addressing Vulnerabilities Among Young and Unmarried Women**

Young and unmarried women represent a subset of the population in India that is particularly vulnerable with regard to their sexual and reproductive health care needs. A more comprehensive understanding of the specific challenges faced by young and unmarried women within the context of abortion is needed. While policies are generally designed to be inclusive of young people, there is often limited awareness among young women about health-promoting behaviors and service availability. In addition, most communities and providers offer little support to young women in seeking safe abortion services, and as a result, these women often experience delays in obtaining services or turn to unsafe providers. Efforts to raise awareness around the needs of young and unmarried women—including their need for contraceptive services—and to reduce the stigma around sexual activity, unintended pregnancy and abortion should be prioritized.

### **Building Capacity**

Expanding the base of facilities and health professionals that provide legal abortion services is another avenue for improving the safety of abortion in India. One possible step would be to assess the feasibility of training Ayurvedic, homeopathic and other nonallopathic health professionals, as well as nurses and midwives, in the provision of abortion using safe and legal methods. Task-shifting of certain health service delivery responsibilities to nonallopathic or community-based health professionals has already occurred throughout India.<sup>152</sup> Training and ensuring adequate support and supervision of AYUSH providers, nurses and midwives in first-trimester vacuum aspiration and medical abortion procedures would greatly increase the number of qualified providers and could potentially improve all women's access to safe abortion. More specifically, it would address the needs of rural and young women, groups that tend to be highly affected by the lack of early abortion services at lower-level, community-based health facilities.

### **Policy Considerations**

The 2014 proposed amendment to the MTP Act addresses some of the inadequacies of current policies on abortion service provision and its passage and implementation should be carefully considered. This amendment proposes to

- clarify that contraceptive failure is a condition for legal abortion for both married and unmarried women;
- increase the gestational age limit for legal abortion to 24 weeks (per WHO guidelines<sup>178</sup>);
- expand the pool of providers who are legally able to be trained in and perform abortion services, especially medical abortion services; and
- clarify that the use of prenatal diagnostic technology in order to detect fetal abnormalities is legal.

Clarification of or an amendment to the Pre-Conception and Pre-Natal Diagnostic Techniques Act—which prohibits the misuse of antenatal diagnostic tests, the advertising of such technologies for the purpose of sex determination and revealing the sex of a fetus to expectant parents—could also be considered to ensure that women and providers are aware that the law does not restrict abortion in general.

### **Further Research**

This review of the available research related to abortion in India reveals a number of research gaps. First, specific data are needed for each state and by rural/urban location within states on the total number of abortions performed,

the proportion of public or private facilities at each level that provide abortion services, and the number of providers in those facilities who provide such services. In addition, little is known about trends in the availability and accessibility of abortion services in uncertified private-sector facilities and how that care may have changed in light of recent policy developments. Similarly, little is known about the extent to which medical abortion—distributed through both formal and informal means—has contributed to the overall abortion rate. Data on these supply-side issues are urgently needed to more fully understand how abortion services are administered in India and to guide future policy efforts around improving the availability and accessibility of safe services.

Other research needs include investigating women's perspectives and issues related to the demand for abortion services. For example, it is important to understand the pathways through which women seek and obtain medical abortion services and how women's situations and their characteristics affect their likelihood of having an abortion once they have experienced an unintended pregnancy, as well as their likelihood of being able to access safe services. Data on these issues can be used to design information and education campaigns that will help women access the services they need.

Finally, while much has been accomplished to increase access to safe abortion services for women in India, there is still much work to be done. As reflected in multiple reproductive health indices cited in the background section of this report, inequities persist and have disproportionate negative effects on women in the central, northern and eastern regions, rural women, those who are socially and economically disadvantaged, young or unmarried. Early marriage remains common in India; women and girls continue to face gender discrimination, including (but not limited to) sex-selective practices, and access to sexual and reproductive health services, including safe abortion, is limited for the majority of the population. Addressing the root causes of gender discrimination and son preference is critically important and should be pursued hand in hand with efforts to improve access to safe services and dispel ignorance and misinformation about the legality of abortion. Improving women's access to information and services and understanding of their rights and entitlements will facilitate greater control over their reproductive health decisions, thereby promoting healthier outcomes.



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**Appendix Table A. Recommended number of health care personnel per lower-level public facility, as defined by Indian Public Health Standards**

Personnel type	Recommended no. per facility
<b>Primary health center</b>	
Medical officer (at least one of which is female)	3
AYUSH practitioner	1
Account manager	1
Pharmacist	2
Nurse midwife (staff nurse)	5
Health worker (female)	1
Health educator	1
Clerk	2
Laboratory technician	2
<b>Community health center</b>	
Block health officer	—
General surgeon	1
Physician	1
Obstetrician-gynecologist	1
Pediatrician	1
Anesthetist	1
Public health manager	1
Eye surgeon	1
Dental surgeon	1
General duty medical officer	6
AYUSH specialist	1
General duty medical officer of AYUSH	1
Staff nurse	19
Public health nurse	1
Auxiliary nurse midwife	1
Pharmacist	3
AYUSH pharmacist	1
Laboratory technician	3
Radiographer	2

Notes: AYUSH=Ayurveda, yoga, naturopathy, Unani, Siddha and homeopathy. Only obstetrician-gynecologists or MBBS doctors with special abortion training are allowed to provide abortion services in India. Source: reference 115 and 116.



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