Management of Unintended and Abnormal Pregnancy

Comprehensive Abortion Care

Edited by

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A John Wiley & Sons, Ltd., Publication

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This book is dedicated to family planning and abortion providers throughout the world whose expertise, courage, and commitment make such a difference in women's lives.

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This edition first published 2009, © 2009 by Blackwell Publishing Ltd

Blackwell Publishing was acquired by John Wiley & Sons in February 2007. Blackwell's publishing program has been merged with Wiley's global Scientific, Technical and Medical business to form Wiley-Blackwell.

Registered office: John Wiley & Sons Ltd, The Atrium, Southern Gate, Chichester, West Sussex, PO19 8SQ, UK

Editorial offices: 9600 Garsington Road, Oxford, OX4 2DQ, UK
The Atrium, Southern Gate, Chichester, West Sussex, PO19 8SQ, UK
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ISBN: 978-1-4051-7696-5

A catalogue record for this book is available from the British Library.

Set in 9/12pt Meridien by Aptara® Inc., New Delhi, India
Printed and bound in the UK by TJ International

1 2009

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Foreword

Allan Rosenfield MD

No topic engenders more heated controversy in the USA and elsewhere in the world than induced abortion, and this conflict is not likely to be resolved in the foreseeable future. Those who feel that life begins at fertilization or implantation, and that abortion at any stage of development is the equivalent of murder, will not compromise their strong views. Similarly, those who defend a woman's right to control her body and to decide whether to continue or terminate a pregnancy will not moderate their strong views. Other than supporting better programs to prevent unwanted pregnancies (and even here, a subset of those opposed to abortion also objects to all modern forms of contraception), no real common ground exists between these opposing points of view, despite many attempts to search for some means of communication between the two.

Notwithstanding prevailing religious, moral, or cultural attitudes toward abortion, women who do not wish to be pregnant for whatever reason will attempt to terminate the pregnancy, regardless of the risks involved [1]. Worldwide, approximately 42 million abortions occur annually, and 20 million or more are performed under unsafe, usually illegal, circumstances [2]. Furthermore, the World Health Organization estimates that between 65,000 and 70,000 women die each year from unsafe abortion, and 5 million more suffer from complications of hazardous or botched abortions, most taking place in the developing world and primarily in those countries in which abortion is illegal [2].

In the USA in the late 1980s, data from the National Survey of Family Growth (NSFG) showed that nearly 60% of all pregnancies were unintended at the time of fertilization [3]. Thus, over 3 million pregnancies per year were unintended and 45% of these pregnancies, or 1.4 million, ended in abortion. Approximately half of all unintended pregnancies in the USA still end in abortion, resulting in approximately 1.2 million induced abortions each year. Moreover, the most recent NSFG data from 2002 demonstrated a notable increase in the proportion of births to women who wanted no more children (approximately 14% as compared to 9% in the 1995 data) [4]. According to Finer and Henshaw, "between 1994 and 2001, the rate of unintended pregnancy declined among adolescents, college graduates, and the wealthiest women, but increased among poor and less educated women" [5]. Thus, women with the least resources bear a disproportionate burden of unintended pregnancy and its consequences. Although many assume that teenagers have the majority of abortions in the USA, they actually account for less than one-fifth of all abortions, the remainder taking place among women over age 20.

In close to half of those women experiencing an unintended pregnancy, the woman or her partner regularly used a contraceptive method, but for a variety of reasons, it was not used on that occasion or it failed. Similarly, approximately 54% of US women who had an abortion in 2000–2001 had been using a contraceptive method during the month they conceived [6]. Despite the relatively large number of highly effective reversible contraceptive methods on the market, none meets the needs of all couples. The most effective ones (intrauterine devices, injectables, and implants, which have failure rates essentially equal to a sterilization procedure) all have drawbacks or are associated with misperceptions that limit their use. Oral contraceptives, the most widely used reversible method of contraception, carry failure rates of 6 to 8% in actual practice. The advent of emergency contraception is an important advance, providing an option for those women who have unexpected mid-cycle intercourse.

Clearly, a need for abortion services in the USA and worldwide will continue. Nonetheless, those who provide abortion care are subject to harassment and violence, as well as subtle condemnation from many of their medical colleagues. Since 1993 in North America seven people have been murdered in connection with their work at reproductive health clinics, and five more were shot and wounded, some in their homes.

Over the past decade, training of obstetrics and gynecology residents has increased due to various advocacy effects and to guidelines established in 1996 by the Accreditation Council for Graduate Medical Education (ACGME) that direct ob-gyn residency programs to include experience with induced abortion [7]. A recent survey, however, indicates that only about half of the obstetrics and gynecology residency programs in the USA offer abortion training as a routine component of their curricula. Compared to residents in programs that offer only optional training, those in programs

with routine training are more likely to learn a variety of abortion techniques and to perform a greater number of procedures [8]. Given the "graying" of experienced abortion providers in the USA, continued efforts to enhance training opportunities for a range of practitioners will be crucial to ensuring that women have the means of exercising their right to safe abortion care.

Due to myriad factors, including the shortage of abortion providers and state and federal restrictions on abortion, many areas of the USA lack abortion services. As a result, many women travel considerable distances in order to obtain abortions. In some states, services are severely limited, and a few dedicated clinicians travel by plane to different clinic settings on a regular, repeating schedule. This situation is extraordinary in a country in which abortion is legal and in which over 40,000 obstetrician-gynecologists practice.

Access to safe abortion services is an urgent need in the developing world as well, particularly in countries throughout Asia, Africa, and Latin America, where an estimated 68,000 deaths occur each year due to unsafe abortion procedures. Many more women (20 to 50% of those undergoing unsafe abortion) suffer from life-threatening complications [9]. All too often, those who survive are permanently scarred by these procedures that take place in hazardous and unsanitary conditions.

Globally, many developing world nations are characterized by limited resources, few physicians, and almost no obstetricians. In these areas where need is greatest, abortion service providers and their patients are unfairly stigmatized and subjected to violence and coercion. These threats to reproductive freedom are exacerbated by the persistence of laws banning abortion procedures throughout much of the developing world. Unfortunately, laws denying reproductive freedom are not unique to developing countries, as evidenced by the recent US Supreme Court decision upholding a ban on certain second-trimester procedures [10].

Violence against women is another area of serious global concern, affecting one in three women and girls worldwide. In sub-Saharan Africa, Asia, and Latin America, teenage women are at particular risk; they are often subject to forced sexual intercourse, which can result in unwanted pregnancies and the transmission of sexually transmitted infections and HIV/AIDS. Many women who are subject to forced sex seek abortion in order to avoid carrying resulting pregnancies to term. Women confronted by these circumstances all too often lack the resources to access safe abortion services, or they face a legal system in which abortion is denied. Women are subsequently forced to self-induce or seek out unsafe and illegal abortion providers, placing their lives at serious risk.

Global advocacy efforts must focus on changing laws and formulating national policies that respect reproductive freedom and a woman's right to choose as a matter of basic human rights. In rural areas where access to services is scarce and few obstetricians are available, training community health workers in manual vacuum aspiration and early medical abortion is critical. Even in the case of India, where abortion services are generally legal, the lack of trained personnel remains a critical public health challenge.

If we are to attempt to increase the availability of abortion services, we need an up-to-date and comprehensive guide for clinicians who will be providing medical or surgical abortion services. This publication is an outstanding response to this need. It is edited by a group of committed physicians, all of whom have extensive experience in the provision of abortion services. The opening chapter offers a rich historical review and an analysis of the role of mainstream medicine in abortion care. Chapter 2 introduces a new and critical addition to the revised text, providing a comprehensive overview of the global public health implications of unsafe abortion. Chapters 3 and 4 address fundamental public health, legal, and policy-related issues associated with abortion provision in the USA. The book is then divided into sections on preprocedure care; abortion methods and techniques, which includes five chapters covering all aspects of medical and surgical abortion procedures; postprocedure care; management of abnormal pregnancies; and abortion service delivery.

Chairs and residency program directors in obstetrics and gynecology and family medicine, as well as other leaders in the field, are increasingly recognizing the need to increase the training of residents in family planning and abortion care. Moreover, where the law allows, efforts are under way to enhance training and utilization of nonphysician clinicians in early abortion provision. This new and revised text can have a truly significant impact on training, providing clinicians and educators with the means, clearly and simply presented, to develop effective training opportunities for diverse practitioners. In addition, new chapters on the global restrictions and implications of abortion broaden this critical subject matter to include an often-overlooked dimension of women's health and rights in resource-poor countries. I hope that those in charge of residency programs and other health profession educators, both domestically and globally, will review and use this most important text as they strive to prepare future generations of providers to meet the health care needs of women.

References

1 Rosenfield A. Abortion and women's reproductive health. *Int J Gynaecol Obstet* 1994; **46**: 173–179.

2 Sedgh G, Henshaw SK, Singh S, Åhman E, Shah I. Induced abortion: estimated rates and trends worldwide. *Lancet* 2007; **370**: 1338–1345.

3 Forrest JD. Epidemiology of unintended pregnancy and contraceptive use. *Am J Obstet Gynecol* 1994; **170**: 1485–1489.

4 Chandra A, Martinez GM, Mosher WD, Abma JC, Jones J. Fertility, family planning, and reproductive health of U.S. women:

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5 Finer L, Henshaw SK. Disparities in rates of unintended pregnancy in the United States, 1994 and 2001. *Perspect Sex Reprod Health* 2006; **38**: 90–96.

6 Jones RK, Darroch JE, Henshaw SK. Contraceptive use among U.S. women having abortions in 2000–2001. *Perspect Sex Reprod Health* 2002; **34**: 294–303.

7 Accreditation Council for Graduate Medical Education [Online]. Chicago: Accreditation Council for Graduate Medical Education; 2008. Obstetrics/Gynecology Program Requirements; 2008 Jan [cited 2008 Sep 25]. Available from: URL:http://www.acgme.org/acWebsite/RRC_220/220_prIndex.asp

8 Eastwood KL, Kacmar JE, Steinauer J, Weitzen S, Boardman LA. Abortion training in United States obstetrics and gynecology residency programs. *Obstet Gynecol* 2006; **108**: 303–308.

9 Grimes DA, Benson J, Singh S et al. Unsafe abortion: the preventable pandemic. *Lancet* 2006; **368**: 1908–1919.

10 Partial-Birth Abortion Ban Act of 2003. 18 U.S.C. §1513 (2003).

Foreword

Malcolm Potts, MB, BChir, PhD, FRCOG

Think outside the box, or perhaps more accurately, inside the pouch. Let us suppose that the big-brained, technically competent mammal ruling the globe was not a hairless primate but a marsupial. No laws on abortion would exist. The female who wanted to end an early pregnancy would look into her pouch and simply remove an unintended early embryo. Alternatively, perhaps more plausibly, suppose that rhubarb were a totally effective abortifacient without side effects. Then every farm since the dawn of civilization and every contemporary window box would grow the plant, and women would make an appropriate brew whenever they decided against continuing an early pregnancy.

Worldwide women do attempt to terminate their own pregnancies with mechanical or chemical means, but commonly at great danger of perforation and infection. In part the laws, guidelines, attitudes, and controversy that surround abortion derive from the fact that a woman who wishes to end a pregnancy must seek the assistance of a second party, a health professional who is appropriately trained in safe abortion techniques. Although there is still a long way to go, technology is moving closer to putting the abortion decision where it belongs – in the hands of the woman.

Management of Unintended and Abnormal Pregnancy: Comprehensive Abortion Care achieves two goals. First, it spells out the scale of safe and unsafe abortion, both in the USA and globally. Second, it reviews the best surgical and medical practices for managing ectopic and other abnormal pregnancies, for inducing a safe abortion, or treating the complications of abortion. In each case, it does so in a humane, sensitive, woman-centered context. The editors and many of the authors also produced *A Clinician's Guide to Medical and Surgical Abortion* [1], published in 1999. A comparison of the two books reveals an important overarching theme, namely that best practices have moved much nearer to the ultimate goal of enabling a woman to decide, safely and responsibly, if and when to terminate an unintended pregnancy.

In the preface to *A Clinician's Guide*, I expressed fear about the rising mean age of US physicians providing abortion care. Today, although the problem has not totally disappeared, a new generation of abortion providers has emerged. This change is due in large part to the Kenneth J. Ryan Residency Training Program in Abortion and Family Planning, which provides support for residency training in these areas, and the Fellowship in Family Planning, which is producing a new cadre of physician leaders with clinical and research expertise in contraception and abortion. The older generation of providers in North America and Western Europe was largely male, often motivated to provide safe abortion by the hypocrisy, exploitation, pain, death, and damage they had witnessed when abortion was illegal. Most new providers are women. Fortunately, they know the central role abortion plays in the autonomy of women without ever having to care for a patient with a fulminating infection following an attempt to induce an abortion by pushing a stick through the cervix, or having had to reanastomose a small intestine that had been pulled through a uterine perforation sustained during a clandestine abortion. This new cohort of abortion providers simply respects the decisions of those they have the privilege to care for; shares objective information about the risks and benefits of the various options available; and then, if requested, completes a safe abortion with skill and the least discomfort possible. The intelligent marsupial will of course remain a fantasy, but step by step, we are approaching a reality in which a woman can terminate a pregnancy in the most straightforward way possible.

Manual vacuum aspiration continues to be an exceptionally safe and simple way of performing a first-trimester abortion. Ten years ago, medical abortion was still a novelty; but as this book documents, a large and compelling evidence base now exists on the effectiveness and safety of mifepristone and misoprostol for inducing an early abortion, and on the use of misoprostol alone for treating incomplete abortion or fetal demise. Both mifepristone and misoprostol are now off patent, making high-quality generic products increasingly available in many developing countries. In low-resource settings, misoprostol also has a life-saving potential in the treatment and prevention of postpartum hemorrhage and its availability is bound to increase. An effective abortifacient may not be growing in every window box, but it is becoming closer to reality.

Do technological simplifications trump all ethical considerations surrounding abortion? Personally, I do not think so. As a physician who has provided abortions, but also as a one-time research embryologist, I am awed by the development

of the early embryo yet impressed by the frequency of developmental errors. If, as is pharmacologically plausible, someone invented a pill to prevent spontaneous abortion, then 15 to 30% of all term deliveries would involve severe and often fatal anomalies. In many such cases, spontaneous abortion is a natural healing process. In a similar way, the option of a safe induced abortion can change the future life course of a 17-year-old student in Chicago with an unintended pregnancy, or ameliorate a social inequity when a family in Addis Ababa, Ethiopia, who can just afford to keep two children in school, would have collapsed into poverty if they had had a third child.

Most countries still view abortion as a medical procedure where the provider, not the woman, is the ultimate decision-maker, as did the reform of the British abortion law in 1967, which requires two doctors to agree that a woman needs an abortion. Politically, the British legislation has proved less controversial than the 1973 US Supreme Court ruling in *Roe v. Wade*, but it is still a patriarchal position. Philosophically, *Roe v. Wade* is a more profound judgment because it gives the woman a right to decide on an abortion based upon her Constitutional right to privacy. The US Supreme Court did not say abortion is right or wrong. What it did assert is that a law "need not resolve the difficult question of when life begins. When those trained in the respective disciplines of medicine, philosophy, and theology are unable to arrive at any consensus, the judiciary, at this point in the development of man's knowledge, is not in a position to speculate as to the answer" [2]. Dignitatis humanae (1965) stated that the "right to religious freedom has its foundation in the very dignity of the human person" [3]. Bernard Haring, who has been called "the foremost Catholic moral theologian of the 20th century," wrote "The moment of ensoulment . . . does not belong to the data of revelation" [4]. If, "the moment of ensoulment" is indeed a matter of faith, then religious freedom must encompass different interpretations of abortion. In short, in any society that separates church and state, the status of the embryo-fetus is a matter of personal, usually religious assertion; and like other religious assertions, it must remain a matter for tolerance. Logically, any pluralistic society built on religious tolerance must permit safe abortion.

Access to safe abortion is as essential to modern living as the internal combustion engine or silicon chip. No woman can be free until she can control her fertility. Lowering maternal mortality without safe abortion is impossible. No society has achieved replacement-level fertility without the use of abortion. In short, women's medical, social, and family health depends on having access to safe abortion.

We are not marsupials and rhubarb is not an abortifacient. As *Management of Unintended and Abnormal Pregnancy: Comprehensive Abortion Care* illustrates, however, medical and surgical abortion techniques are getting simpler, provider attitudes are less patriarchal, and the locus of decision-making is passing more and more to the pregnant woman. If we were to seek a metric to measure the health of any civilization and its respect for women, given the frequency of induced abortion and the scale of suffering when it is not legal, then perhaps access to safe abortion could prove a robust and practical measure of a truly civilized society.

References

1 Paul M, Lichtenberg ES, Borgatta L, Grimes DA, Stubblefield PG, eds. *A Clinician's Guide to Medical and Surgical Abortion*. Churchill Livingstone, New York, 1999.

2 410 U.S. at 159 (1973).

3 Pope Paul VI. Declaration of Religious Freedom - Dignitatis humanae. On the right of the person and of communities to social and civil freedom in matters religious. Second Vatican Council, 1965 Dec 7.

4 Ford NM. *When did I begin? Conception and the Human Individual in History, Philosophy, and Science*. Cambridge University Press, Cambridge (MA), 1988.

Preface

Maureen Paul MD, MPH

Tremendous advances have occurred since the publication of the National Abortion Federation's (NAF) first textbook on abortion care in 1999 [1]. Contraceptive methods have expanded to include new delivery systems and highly effective long-acting methods. The increasing dissemination of mifepristone and misoprostol offers women new safe and effective early abortion options, as well as improved regimens for cervical preparation, second-trimester induction abortion, and management of spontaneous abortion. The resurgence of manual vacuum aspiration provides a simple and cost-effective means of inducing abortion or treating incomplete abortion in ambulatory facilities ranging from modern emergency departments to low-resource settings. Technologies for pregnancy termination have extended into other areas of women's health as well, such as the multifetal pregnancy reduction techniques used to improve outcomes in women undergoing infertility therapy. In addition, innovative educational initiatives launched over the last decade are honing a new generation of academic leaders in family planning and abortion and expanding the types of practitioners involved in abortion care.

Notwithstanding these impressive strides, the past decade also has brought numerous challenges. Notably, little progress has been made in reducing rates of unintended pregnancy. More than one-third of the 205 million pregnancies that occur annually worldwide are unintended [2], as are nearly half of all pregnancies in the USA [3]. In contrast to the trend toward liberalization of abortion laws worldwide [4], women's reproductive rights in the USA have suffered major setbacks in recent years. The clinic protesters of the 1990s have been joined by pharmacists who refuse to dispense birth control or emergency contraception, the US Supreme Court justices who upheld a federal ban on certain abortion procedures without regard for women's health, pseudo-scientists who allege that abortion causes long-lasting psychological trauma despite incontrovertible evidence to the contrary, and a conservative White House administration that has left a legacy of hostility to women's rights that will take many years to undo. Indeed, these countercurrents embody one of the great moral contradictions of our time: that is, while we have simple, safe, and effective technologies to provide women with the means to control their fertility, millions of women across the globe lack access to family planning services and one woman continues to die every 8 minutes from an unsafe abortion.

Reflecting this breadth of progress and challenge, *Management of Unintended and Abnormal Pregnancy: Comprehensive Abortion Care* is not simply an update of the previous textbook, but essentially a new work with an expanded purpose. Divided into six sections, the textbook addresses unintended pregnancy and abortion from historical, legal, public health, clinical, and quality care perspectives. Although much of the book focuses on medical practice in the USA, it also features an expanded roster of international contributors and new chapters on the global health challenge of unsafe abortion and abortion provision in low-resource settings. A dedicated section on management of abnormal pregnancy includes chapters on pregnancy loss, ectopic pregnancy, gestational trophoblastic disease, multifetal pregnancy reduction, and pregnancy termination for maternal or fetal indications. Each chapter is written by eminent experts in women's health with the goal of providing information that is both evidence-based and clinically practical.

This book is written for every practitioner who provides health care to women of reproductive age and for those educators who teach others to do so. May it honor and assist the courageous work of family planning and abortion providers around the world who strive to meet the needs of women, often against great odds. May it inform the practice of clinicians who do not provide abortions themselves, but who play critical roles in counseling and referring women with unintended or abnormal pregnancies. May it serve as an important resource to the growing number of residency programs that are integrating family planning and abortion care into their curricula. And in the words of our cherished colleague, the late Dr. Felicia Stewart, may it "tell why as well as how" [5] to the thousands of young students in the health professions who never knew firsthand the horrific consequences of illegal, unsafe abortion.

Producing this book was a massive collaborative undertaking, and I have many people to thank. First and foremost, NAF under the leadership of Vicki Saporta launched this project and provided steadfast support during the many months of its development. I appreciate the guidance of the

editors at John Wiley & Sons who were consistently professional, gracious, and helpful. This book would not have been possible without the tireless dedication of my five coeditors and the 50 chapter contributors whose unparalleled expertise fill its pages. I am deeply indebted to the leadership of Melissa Fowler and the NAF team who spent hour upon hour preparing the manuscript for submission: Lisa Brown, Bill Falls, Tanya Holland, Andrea Irwin, Jen Mraz, Laura Galloway, Beth Kruse, Ashley Washington, Dawn Fowler, Hannah Spector, Sophia Axtman, Heron Greenesmith, Sarah Runels, and Melissa Sepe. In addition, Melissa Werner from NAF assembled the informative appendix with photographic assistance from David Keough of Boston University, Dr. Konia Trouton of Vancouver Island Women's Clinic, and Rosemary Codding and her staff at Falls Church Health Care Center, LLC. Lisa Penalver's talent and artistry are once again reflected in several of the medical illustrations throughout the book. A number of experts provided insightful review and commentary including Talcott Camp of the American Civil Liberties Union Reproductive Freedom Project and Cathy Mahoney and Jennifer Blasdell of NAF. I acknowledge and appreciate the foundation that anonymously gave generous support for this book project, and I thank all of my colleagues at Planned Parenthood of New York City who so willingly covered for me during my "textbook days" away from the office. Finally and perhaps most profoundly, I thank and honor the women who entrust their health to our care every day and whose experiences form the heart and soul of this book.

References

1 Paul M, Lichtenberg ES, Borgatta L, Grimes DA, Stubblefield P. (eds.) *A Clinician's Guide to Medical and Surgical Abortion*. Churchill Livingstone, New York, 1999.

2 Guttmacher Institute [Online]. New York: Gutmacher Institute; 2008. Facts on induced abortion worldwide; Oct 2008 [cited 2008 Nov 12]. Available from: URL:http://www.guttmacher.org/pubs/fb_IAW.html

3 Finer LB, Henshaw SK. Disparities in rates of unintended pregnancy in the United States, 1994 and 2001. *Perspect Sex Reprod Health* 2006; **38**: 90–96.

4 Boland R, Katzive L. Developments in laws on induced abortion: 1998–2007. *Int Fam Plan Perspect* 2008; **34**: 110–120.

5 Stewart FH, Darney PD. Abortion: teaching why as well as how. Perspect Sex Repord Health 2003; **35**:37–39.

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CHAPTER 1

Abortion and medicine: A sociopolitical history

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LEARNING POINTS

- Abortion was apparently widely practiced in the ancient world, with mention of the procedure in some of the earliest known medical textbooks.
- Physicians, as well as lay advocates, have always played an active role in social movement activity concerning abortion, sometimes promoting legal abortion, and less often, opposing it.
- Today about two-thirds of the world's women live in societies where abortion is legal, but the bare fact of legality per se masks considerable differences among countries as to the availability of abortion services and the social climate in which they exist.
- Compared to other advanced industrialized societies, the contemporary USA is the extreme example of a society in which an antiabortion movement arose in response to legalization and ultimately managed to become a leading force in domestic politics.
- Currently, the movement for safe, legal, and accessible abortion has assumed a transnational character, with joint activities of physicians from both developing and developed countries having an important impact.

Introduction

"(T)here is every indication that abortion is an absolutely universal phenomenon, and that it is impossible even to construct an imaginary social system in which no woman would ever feel at least compelled to abort [1]." So concluded an anthropologist after an exhaustive review of materials from 350 ancient and preindustrial societies.

Beyond the stark fact of its universality, abortion throughout history exhibits a number of other distinctive features. First is the willingness on the part of women seeking abortion and those aiding them to defy laws and social convention; in every society that has forbidden abortion, a culture of illegal provision has emerged. Second, to a far greater degree than is the case with most other medical procedures, the status of abortion has been inextricably bound up with larger social and political factors, such as changes in women's political power or in the population objectives of a society. Finally, the mere fact of legality does not necessarily imply universal access to abortion services. Crucial factors in the availability of abortion include the structure of health care services, and especially the willingness of the medical profession to provide abortion.

With these points in mind, this chapter presents a brief historical overview of abortion provision, including the role of social movements among physicians and other clinicians in both facilitating and impeding the availability of abortion services.

Abortion in the past

Throughout recorded history, populations have risen and declined in ways that cannot be attributed solely to natural events such as plagues or famines. For example, a marked decline in population occurred in the early Roman Empire, despite prosperity and an apparently ample food supply [2]. Such events suggest that individuals in past societies vigorously sought to regulate their fertility; they did so by use of abortion and contraception, and also by practices of child abandonment and infanticide [3].

To give some sense of the ubiquity of abortion in the premodern world, consider the following: Specific information about abortion appears in one of the earliest known medical texts, attributed to the Chinese emperor Shen Nung (2737

Management of Unintended and Abnormal Pregnancy, 1st edition. By M Paul, ES Lichtenberg, L Borgatta, DA Grimes, PG Stubblefield, MD Creinin
 ISBN: 9781405176965.

to 2696 BC); the Ebers Papyrus of Egypt (1550 to 1500 BC) contains several references to abortion and contraception; during the Roman Empire numerous writers mention abortion, including the satirist Juvenal who wrote about "our skilled abortionists"; and the writings of the 10th-century Persian physician Al-Rasi include instructions for performing an abortion through instrumentation [2, 4].

Most interesting, perhaps, is the reinterpretation that some scholars have given to the famed Hippocratic Oath (400 BC), which has long been used by abortion opponents to argue that the so-called Father of Medicine opposed abortion. These scholars argue that the passage commonly translated as "Neither will I give a woman means to procure an abortion" is rendered more correctly as "Neither will I give a suppository (also translated as 'pessary') to cause an abortion." According to this view, Hippocrates was urging a ban on one form of abortion that he considered dangerous to women, but was not condemning the practice generally. Indeed works ascribed to Hippocrates describe a graduated set of dilators that could be used for abortions, as well as prescriptions for abortifacients [2, 5].

The rise of the Christian era brought more public regulation of sexual life, including increased condemnation of abortion. Open discussion of abortion techniques lessened, as did direct abortion provision by physicians. Until the 18th century, therefore, abortion and contraception became largely contained within a women's culture. Midwives in particular became key providers of abortion and family planning services, for which they were periodically persecuted as "witches [2, 6]."

Despite shifting opinion about abortion and organized medicine's reluctance to engage with the issue, early monotheistic traditions did not hold the strong, unified position against abortion that is now associated with the contemporary Roman Catholic church. While early Islamic teachings prohibited abortion after the soul enters the fetus, religious scholars disagreed about when this event occurred, with estimates ranging from 40 to 120 days after conception [7]. Early Christian thought was divided as to whether abortion of an early "unformed fetus" actually constituted murder [5]. The Catholic church tacitly permitted earlier abortions, and it did not take a highly active role in antiabortion campaigns until the 19th century.

In Europe and the USA, the 17th through the 19th centuries were an especially interesting period in abortion history. On one hand, advances in gynecology, such as the discovery (or more correctly, rediscovery) of dilators and curettes, meant that physicians could offer safer and more effective abortions. On the other hand, the conservatism of the medical profession regarding reproductive issues prevented widespread discussion and dissemination of abortion techniques. As three longtime scholars of abortion have noted, "The combination of medicine with anything concerning sex appears to have a particularly paralytic effect upon human resourcefulness. This has been especially true in the field of abortion... [8]."

At the same time that the medical profession responded ambivalently to patients' requests for abortions, a widespread culture of abortion provision by others flourished. Abortion providers, including midwives, homeopaths, and other self-designated healers, as well as some physicians, advertised freely of their willingness to help with "female problems" and of potions and pills that would "bring on the menses [5, 9]." This commercial provision of abortion remained largely unregulated by law until the 19th century. Under the prevailing standard, abortions performed before "quickening" were not regulated at all, and attempts to police later abortions were minimal. In England, it was only during Queen Victoria's reign that the Offences against the Person Act of 1861 passed, which made surgical abortion at any stage of pregnancy a criminal act [7]. In the USA, a vigorous antiabortion campaign was launched around 1850, and by the 1870s, all states had criminalized abortion.

Notwithstanding involvement on the part of Catholic and Protestant clergy and others, physicians were the leading force in the campaign to criminalize abortion in the USA. The American Medical Association (AMA), founded in 1847, argued that abortion was both immoral and dangerous, given the incompetence of many practitioners at that time. According to a number of scholars, the AMA's drive against abortion formed part of a larger and ultimately successful strategy that sought to put "regular" or university-trained physicians in a position of professional dominance over the wide range of "irregular" clinicians who practiced freely during the first half of the 19th century [5, 9].

What followed was a "century of criminalization" characterized by a widespread culture of illegal abortion provision. Thousands of women died or sustained serious injuries at the hands of the infamous "back alley butchers" of that period, and encountering these victims in hospital emergency rooms became a nearly universal experience for US medical residents [10]. However, safe abortions were available to some women, performed by highly skilled laypersons [11] and physicians with successful mainstream practices who were motivated primarily by the desperate situations of their patients. These "physicians of conscience" were instrumental in convincing their medical colleagues of the necessity to decriminalize abortion. By 1970, the AMA reversed its earlier stance and called for the legalization of abortion [10].

This overview of the history of abortion suggests several themes. Besides the omnipresence of the desire for abortion, the record of very early understanding of abortion techniques and actual abortion provision by some sectors of the medical profession are striking. This knowledge, however, was willfully forgotten as abortion became socially controversial and the medical profession avoided the issue for the most part. Consequently, until quite recently in the developed world (and continuing today in many developing

nations), two parallel streams of abortion provision emerged: a minimalist one, by physicians, only to selected patients under narrowly specified conditions, and a broader extralegal one, in which a variety of providers with widely ranging skill levels offered abortion services.

What is less clear to contemporary scholars is the degree of safety and effectiveness of abortion provision before the widespread legalization that started in the latter half of the 20th century. Ample documentation attests to the many injuries and deaths that occurred before legalization in the USA and elsewhere, and that continues today where abortion remains illegal. However, given the historical record that points to the persistent search for abortions in all cultures and at all times, without death records to match this volume of abortion, some observers suggest that many illegal abortions were relatively safe, although probably painful and unpleasant [2, 3, 6]. What remains indisputable is the greatly improved safety record once abortion is legalized. In the USA, abortion-related mortality declined dramatically after nationwide legalization, eventually reaching 0.6 deaths per 100,000 procedures between 1979 and 1985, "more than 10 times lower than the 9.1 maternal deaths per 100,000 live births between 1979 and 1986 [12]."

New technologies, new organizational forms

Around the period of legalization in the USA, technological advances in the field of abortion care facilitated new models of abortion delivery. Specifically, development of the vacuum aspirator, cervical anesthesia methods, and the Karman cannula all improved the safety of abortion and permitted its provision in nonhospital settings.

The vacuum aspirator, introduced to US physicians in 1968 at a landmark conference on abortion sponsored by the Association for the Study of Abortion, lessened blood loss and lowered the risk of uterine perforation compared to the older method of dilation and sharp curettage [13, 14]. Cervical anesthesia techniques allowed clinicians to manage procedural pain using local injections rather than the more risky general anesthesia. The Karman cannula, invented by a California psychologist who had been involved in illegal abortion provision in the 1960s, was composed of plastic rather than metal. This soft flexible cannula facilitated provision of early abortion using local anesthesia and made perforation less likely [8]. The widespread adoption of the Karman cannula represents a vivid example of a larger phenomenon: the extent to which, as abortion services rapidly expanded after legalization, the medical profession was compelled to seek the advice of a number of illegal abortionists, both lay and physician [10].

Taken together, these innovations in abortion methods catalyzed the creation of the freestanding abortion clinic, which was pioneered in the USA. Washington, DC, and New York City had liberalized their abortion laws several years before the *Roe v. Wade* decision, and clinics in these cities attracted women from all over the country. These clinics were able to offer safe outpatient abortion services at lower cost, and often in a more supportive manner, than hospital-based facilities. The creation of the role of the "abortion counselor"—someone specifically trained to discuss the abortion decision with the patient, explain the procedure, and support her throughout the process—was a distinctive contribution of this early period in legal abortion [15]. These clinics also were instrumental in pioneering a model of ambulatory surgery that became widely adopted by the medical profession.

Freestanding clinics remain the dominant form of abortion delivery in the USA, while in Europe and Canada, abortions are more evenly spread between clinics and hospitals. Notwithstanding the many benefits of the freestanding clinic model, it also has contributed to the marginalization of abortion services from mainstream medicine in the USA and left clinics more vulnerable to attacks from antiabortion extremists. In contrast, those European countries where abortions are delivered as part of national health care systems have experienced less difficulty in finding providers and far less antiabortion activity at service sites.

Medical abortion (Chapter 9) is another technological innovation that has permitted new categories of abortion providers to emerge in many parts of the world. Mifepristone, approved in France in 1988 but not in the USA until 2000, is gradually taking hold and bringing a number of primary care practitioners to abortion care. In 2005, a national survey of US abortion providers by the Guttmacher Institute revealed that medical methods comprised 21% of abortions provided at 8 weeks' gestation or less [16]. Midlevel clinicians (also referred to as advanced practice clinicians) deliver mifepristone medical abortion services in many states in the USA and in certain developing countries where abortion is legal, such as South Africa. Finally, misoprostol, the drug commonly used in conjunction with mifepristone for early medical abortion, has received increasing attention within the medical community for its ability to terminate a pregnancy when used alone. Evidence suggests that access to misoprostol has reduced morbidity and mortality from illegal abortions in the developing world (Chapters 2 and 22) [17].

Abortion in sociopolitical context

By the early 1950s only a handful of countries had legalized abortion; however, in the last half of the 20th century, an "abortion revolution" of sorts occurred. As a result, nearly three-fourths of the world's women now live in countries where abortion is legal either in all circumstances (up to a certain point in pregnancy) or when specific medical or social conditions are present [18]. Major forces leading to this liberalization included recognition of the health

costs of illegal abortion, with the medical profession often acting as key advocates for legalization; the rising status of women, and especially the entry of women into the paid labor force, which led feminist groups to mobilize on behalf of abortion and improved contraceptive services; and, to a lesser degree, various countries' explicit interests in limiting population growth.

However, the bare fact of legality per se masks considerable differences among countries as to the availability of abortion services and the social climate in which they exist. The contemporary USA is the extreme example of a society in which an antiabortion movement arose in response to legalization and ultimately managed to become a leading force in domestic politics. However, abortion remains controversial in many other countries as well, with periodic attempts by both abortion rights supporters and their opponents to modify existing arrangements.

Europe and North America

Nearly all the countries of Western Europe that did not already have liberal abortion laws underwent progressive abortion reform in the 1970s and 1980s. Following unification of East and West Germany in the early 1990s, Germany became the one case of a European Community (EC) member that adopted more restrictive laws than had existed previously [19]. In the contemporary EC, Ireland and Poland represent the only countries that do not permit abortion, presenting baffling issues about how to reconcile their strict antiabortion policies with the more liberal policies of the others. Although EC member countries are free to devise their own abortion policies, they theoretically give free access to citizens who wish to travel to other member nations. The conflict between these two principles has emerged periodically, as exemplified by several notorious cases in which the Irish government attempted to prevent women in dire circumstances from traveling to England for an abortion. In a 2007 case, "Miss D.," a 17-year-old carrying a fetus with anencephaly, had her passport confiscated in order to prevent such travel. After numerous court hearings (and litigation estimated to cost 1 million euros), she was finally permitted to go to England [20].

In general, Western Europe has had a quite stable abortion environment. In contrast to the situation in the USA, access to abortion-providing facilities in Western European countries (with a few exceptions) is substantially easier, with most offering subsidized abortions for health indications and many for elective abortions as well. Moreover, abortion provision in these countries is largely free from the extremes of violence and controversy that have characterized abortion care in the USA. Such differences testify to the important role that national health care systems play in assuring access to abortion care. The European and US comparison also reveals that the centrality of abortion in US political culture is almost unique among advanced Western democracies.

Eastern Europe

In 1920, Russia was the first country in the world to legalize abortion (although it reversed its stance in 1936 and then later reestablished legalization). By the 1950s, all the countries of Eastern Europe had legalized abortion. This reform occurred primarily because of the various regimes' needs for women to enter the paid labor force, rather than as a response to women's demands for reproductive freedom or concerns about the consequences of illegal abortion. In the absence of adequate contraception in most Eastern bloc countries, abortion became an accepted method of fertility control, and abortion rates were among the highest in the world [21].

After the fall of communism in 1990, a number of Eastern European countries experienced pressures to reevaluate abortion policies. Contributing factors included the renewed power of the Catholic church in some cases, as well as the association of abortion with the discredited policies of the old Communist regimes and the corresponding "sentimental perceptions of a pre-Communist world where home and family were paramount [19]." Hungary and Slovakia restricted their abortion policies somewhat, and they continue to have conflicts about this issue. However, the most dramatic reversal took place in Poland, which moved from a policy of abortion on demand to one that permitted abortion only in cases of severe fetal malformation or serious threat to the life or health of the pregnant woman [21]. The new legislation, strongly advocated by the Catholic church, called for imprisonment of doctors who performed unauthorized abortions. Not surprisingly, as pointed out in a recent publication by a reproductive rights group in Poland tellingly titled *Contemporary Women's Hell: Polish Women's Stories* [22], women in that country have an extraordinarily difficult time obtaining a legal abortion. The group estimates that only about 150 legal abortions take place in the country each year. "This is mainly because doctors do not want to take responsibility for consenting to a legal abortion. Women are sent from one doctor to another, referred for tests that are not legally required, and misinformed about their health...For doctors...such women represent problems that need to be eliminated as quickly as possible [22]."

As is typical in all societies that restrict abortion, Polish women who can afford it travel to clinics in other countries or find doctors within Poland who are willing to provide illegal abortions (often costing as much as US $1,000) [22]. Those without such resources often resort to attempts at self-abortion; abandonment of newborns in maternity hospitals; illegal adoptions; and in some instances, according to press reports, infanticide [23].

Although Poland has the most visible antiabortion movement in Eastern Europe, the former Soviet Union also has experienced a backlash against abortion and family planning efforts. At the same time, abortion supporters (both medical and lay) in Poland and various republics of the former

Soviet Union are part of the global reproductive rights movement, from which they gain resources and the support of colleagues. The Polish publication cited earlier, for example, was translated and printed with financial aid from Ipas and the International Women's Health Coalition, organizations that are based in the USA but whose focus is international. Similarly, various US foundations have funded training programs in medical abortion and manual vacuum aspiration for physicians in various parts of the former Soviet Union.

Canada

Historically, Canada's abortion reform centered largely on the activities of one individual, Henry Morgentaler, a physician who has repeatedly challenged that country's abortion laws since 1968. Morgentaler's crusade culminated in the 1988 Canadian Supreme Court decision, *R. v. Morgentaler*, which removed abortion from Canada's criminal code [24, 25]. However, abortion policies still differ considerably from province to province, with various restrictions put forward by antiabortion legislators and some provinces (especially in the Maritimes) having a shortage of providers. Although in no way approaching the level of US antiabortion activity, Canada has experienced several incidents of violence directed against abortion providers, as well as destructive acts at clinic sites. Canada has not yet approved mifepristone, but methotrexate regimens are used for early medical abortion.

USA

The 1973 *Roe v. Wade* decision that legalized abortion throughout the USA resulted in large part from mobilization among the medical community and feminist groups [26]. This ruling quickly gave rise to an antiabortion movement, which in its degree of political power and its willingness to engage in violence and intimidation makes the US abortion situation unique. As of 2007, some seven members of the abortion-providing community (physicians, receptionists, a volunteer, and an off-duty police officer employed as a clinic security guard) have been murdered, and thousands of others have been harassed at their workplaces and homes [27]. Due to stiffened federal penalties for antiabortion violence and disruption established during the Clinton presidency in the 1990s, these incidents have diminished in number, if not in seriousness.

During the two presidential terms of George W. Bush (2000–2008), the climate for legal abortion in the USA worsened considerably. Acting on the recommendations of religious right leaders, the President appointed two new conservative justices to the US Supreme Court. In 2007 these two justices provided the margin needed in *Gonzales v. Carhart* to uphold the federal Partial-Birth Abortion Ban Act of 2003, the first ever federal ban on certain abortion procedures. The actions of Congress and the Court were unprecedented in their willingness to ignore the best judgment of the medical community: the American College of Obstetricians and Gynecologists (ACOG), the National Abortion Federation, and Planned Parenthood Federation of America all had decried the ban, arguing that banned procedures were the safest option in certain circumstances [28]. Adding to the dismay of abortion rights supporters, the majority in this case for the first time found constitutional an abortion restriction that did not have an exception for women's health. The federal ban adds to the massive number of restrictions that already exist at the state level to curtail women's access to abortion, especially for the most vulnerable (Chapter 4).

The Bush presidency also brought the spread of abortion politics to other issues, as the religious right gained enormous political leverage within the administration. Attacks on stem cell research, promotion of discredited "abstinence only" sex education programs, and cutbacks in contraceptive funding, both domestically and internationally, were only some of the steps taken by President Bush to satisfy his right-wing base. The Bush administration was noteworthy as well for making inappropriate, ideologically driven appointments to important governmental posts. For example, the credentials of the physician selected as head of all government-funded contraceptive programs included his service as medical director of an agency that declared birth control to be "degrading"; similarly, prospective appointees for both domestic positions on scientific panels and assignments to the Coalition Provision Authority in Iraq were vetted on the basis of their opinions of *Roe v. Wade* [29].

Enhanced mobilization among health care providers associated with the religious right also occurred during the Bush years. Groups such as the Christian Medical and Dental Associations, Pharmacists for Life, and "pro-life" caucuses within ACOG and other medical associations worked in various ways to impede access to abortion and contraception. A number of individual pharmacists and some pharmaceutical chains, for example, have refused to fill prescriptions for emergency contraception; some pharmacists have even refused to fill prescriptions for regular oral contraceptives, on the alleged grounds that these medications constitute abortifacients [30]. Moreover, the large number of mergers between Catholic and secular hospitals that have occurred in the USA has compromised delivery of abortion care and other reproductive health services, such as family planning, sterilization, and assisted reproduction [31, 32].

The abortion rights medical community in the USA has mobilized as well, particularly since the mid-1990s, in reaction to growing evidence of an abortion provider shortage and the unacceptable level of violence occurring at clinics. The formation of Medical Students for Choice (MSFC) in 1994 represents a particularly important development. The group has chapters on most US medical school campuses, as well as physician activists in more than 200 residency programs in obstetrics and gynecology and other fields (Backus, personal communication, 2008). One of the group's first activities was to successfully help pressure the Accreditation

Council for Graduate Medical Education (ACGME) and the Council on Resident Education in Obstetrics and Gynecology to mandate abortion training in obstetrics and gynecology residency programs (with opt-out provisions for those with religious or moral objections) [33]. This positive step was nullified in part by the US Congress when, in an unprecedented intrusion into medical affairs, it stipulated that those residency programs that failed to conform to this standard would not lose federal funding. Nonetheless, the revised ACGME guidelines have substantially increased abortion training in the USA [34, 35].

Other health care professionals, particularly primary care practitioners, have spearheaded efforts to expand abortion training and access. Family practice and other primary care physicians have organized to increase abortion training opportunities [36] and legitimatize abortion provision within primary care medical institutions. Groups similar to MSFC have emerged among advanced practice clinicians (nurse practitioners, nurse midwives, and physician assistants) committed to safe and legal abortion care. Not all of these health professionals will necessarily become abortion providers themselves, but one can reasonably assume that they will be supportive of their colleagues who do (Fig. 1.1).

The establishment of the Kenneth J. Ryan Residency Training Program and the Fellowship in Family Planning (see Appendix) also has been pivotal in assuring the vibrancy of the abortion provider community in the USA. By offering technical and financial assistance, the Ryan Program helps obstetrics and gynecology and family medicine residency programs integrate abortion training into their curricula. The Fellowship in Family Planning, established in 1991 at the University of California at San Francisco, offers postgraduate training (including clinical and research experience, as well as an international component) to physicians who are committed to abortion and contraceptive work. Numerous graduates from this fellowship have assumed positions as faculty and directors of family planning divisions in leading medical institutions, thereby increasing the visibility of abortion in US medical culture [37].

Figure 1.1 Efforts to increase abortion training opportunities and legitimatize abortion provision within primary care medical institutions and the emergence of groups like Medical Students for Choice (MSFC) have been pivotal in assuring the vibrancy of the abortion provider community in the USA.

Professional organizations such as the Association of Reproductive Health Professionals and Physicians for Reproductive Choice and Health, comprised of both individuals who provide abortion and those who do not, also have been important advocates for safe and accessible abortion. Both groups have argued forcefully that reproductive health practice and policy must be based on scientific evidence, not on personal or religious beliefs. The National Abortion Federation, the professional association of abortion providers in the USA and Canada, establishes evidence-based guidelines for abortion care and offers its members continuing medical education as well as opportunities for community building (Fig. 1.2) (Appendix).

Developing countries

Except in a few countries such as China and India, most women in the developing world do not have access to legal abortions, although changes are under way in a number of places. In some situations of formal illegality, women can still obtain safe abortions, as in certain large cities of Latin America or in the menstrual regulation clinics in Bangladesh, Malaysia, and Indonesia. Nonetheless, some 65,000 to 70,000 women die each year from unsafe abortion, primarily in developing countries, and thousands of others are seriously injured (Chapter 2).

Two United Nations (UN) conferences, the International Conference on Population and Development held in Cairo in 1994 and the Fourth World Conference on Women held in Beijing in 1995, were noteworthy for the centrality of debates over abortion and reproductive rights. In spite of vigorous opposition from the Vatican and a few Catholic and Muslim nations, a coalition of feminists from both developed and developing countries managed to push the final conference documents in a far more progressive direction than had previously been the case. Language was approved that acknowledged the right of women to control their fertility and that called for greatly expanded family planning services. The documents also recognized that abortions take place, whether legal or not; that in those countries in which it is legal, abortion should be safe; and that women who have unsafe abortions should not be prosecuted and should have access to adequate health care services to manage

Figure 1.2 Members of the National Abortion Federation, the professional association of abortion providers in the USA and Canada, benefit from continuing medical education as well as opportunities for community building.

complications [38, 39]. The Cairo and Beijing conferences did not create any mechanisms for implementing these recommendations, and the 10-year follow-up discussions at the UN brought similar political cleavages [40]; nonetheless, these conferences established a critical precedent in the international community by situating abortion and reproductive health in the context of basic human rights.

In the decade that has passed since these two crucial meetings, a number of countries in the developing world have liberalized their abortion policies, including Nepal, Colombia, and various Caribbean nations, as well as Mexico City. In the summer of 2007 leaders of ten African nations, including the Vice-President of Kenya, called for the legalization of abortion as a response to unacceptably high mortality rates among African women from unsafe abortion [41]. At the same time, however, other countries have regressed in their abortion policies. Nicaragua and El Salvador, for example, have instituted strict policies prohibiting abortion, even to save a woman's life [42, 43].

Conclusion

In considering the contemporary status of abortion, we can speak of a "cup half full, half empty" quality to this highly controversial issue. On the negative side, too many women still suffer injury or death from unsafe abortion, and too many women are forced to carry unwanted pregnancies to term. Too many abortion providers face unacceptable threats of violence and intimidation, as well as restrictive legislation that may include criminal penalties. On the positive side, some countries where abortion has been previously illegal are starting to liberalize their laws. Recent developments in abortion care, such as medical abortion and the return of manual vacuum aspiration, have made abortion care safer in various developing countries and have enlarged the pool of abortion providers in developed countries, including the USA.

The history of the relationship of abortion and the medical profession reveals an inescapable connection between abortion provision and social movement activity on both sides of the issue. This connection will only intensify in the foreseeable future. Clinicians who support abortion rights, along with their lay allies from the reproductive justice movements, will continue to mobilize in various ways to establish or expand abortion care, while antiabortion activists will attempt to thwart them at every turn.

More so than in the past, however, the activities of these social movements within medicine are assuming a transnational character. As patients, medications, and Internet information have crossed borders, abortion-related activism has globalized as well. Physicians affiliated with the US-based antiabortion movement engage in numerous international campaigns against abortion and contraception. One recent campaign, for example, warned of the coming "demographic winter" of too many Muslim births and not enough Caucasian ones in European countries [44].

Within pro-choice medical circles, groups such as the International Federation of Professional Abortion and Contraception Associates and the International Federation of Gynecologists and Obstetricians focus on the medical aspects of abortion care, and International Planned Parenthood Federation has long worked on issues of access as well. Global Doctors for Choice (GDC) is a particularly promising recent addition to these international efforts on behalf of safe and legal abortion. A loose confederation of physicians in various countries, GDC activities integrate medicine and advocacy directed at governmental bodies, transnational policy makers, and organized medical institutions. In a number of countries where abortion is contested or remains illegal, GDC-affiliated physicians have engaged in various advocacy efforts: they testified on human rights issues at international tribunals (Ireland); participated in coalitions that organized successfully for liberalized abortion laws (Mexico City; Portugal); and worked on innovative ways to reduce

mortality from unsafe abortion (e.g., the "harm reduction model" pioneered by doctors in Uruguay) (Chavkin, personal communication, 2008). Many of the physicians who participate in these transnational movements speak of gaining a sense of community and solidarity with colleagues worldwide, which is no small benefit for those who work in such a contested area of medicine.

In sum, significant obstacles to abortion access, safety, and services persist in many parts of the world. Nonetheless, the steadfast commitment of pro-choice physicians and other clinicians offers hope that the goal of normalizing abortion as part of women's reproductive health care is gradually drawing closer.

References

1 Devereux G. A typological study of abortion in 350 primitive, ancient and pre-industrial societies. In: Rosen H, ed. *Therapeutic Abortion*. Julian Press, New York, 1954: 98.

2 Riddle JM. *Contraception and Abortion from the Ancient World to the Renaissance*. Harvard University, Cambridge (MA), 1992.

3 Petchesky R. *Abortion and Women's Choice: The State, Sexuality and Reproductive Freedom*. Northeastern University, Boston, 1990, 48–50.

4 Himes NE. *Medical History of Contraception*. Gamut Press, New York, 1936.

5 Luker K. *Abortion and the Politics of Motherhood*. University of California, Berkeley, 1984.

6 Gordon L. *The Moral Property of Women: A History of Birth Control Politics in America*. University of Illinois, Urbana, 2002.

7 David H. Abortion policies. In: Hodgson JE, ed. *Abortion and Sterilization: Medical and Social Aspects*. Academic Press, London, 1981: 1–38.

8 Potts M, Diggory P, Peel J. *Abortion*. Cambridge University, Cambridge (MA), 1977.

9 Mohr J. *Abortion in America: The Origins and Evolution of National Policy, 1800–1900*. Oxford University, New York, 1978.

10 Joffe C. *Doctors of Conscience: The Struggle to Provide Abortion Before and After Roe v. Wade*. Beacon Press, Boston, 1995.

11 Solinger R. *The Abortionist: A Woman Against the Law*. Free Press, New York, 1994.

12 American Medical Association, Council on Scientific Affairs. Induced termination of pregnancy before and after *Roe v. Wade*: trends in the mortality and morbidity of women. *JAMA* 1992; **268**: 3231–3239.

13 Novac F. Experience with suction curettage. In: Hall R, ed. *Abortion in a Changing World*. Colombia University, New York, 1970: 74–84.

14 World Health Organization. *Safe Abortion: Technical and Policy Guidance for Health Systems*. World Health Organization, Geneva, 2003.

15 Joffe C. *The Regulation of Sexuality: Experiences of Family Planning Workers*. Temple University, Philadelphia, 1986.

16 Jones R, Zolna M, Henshaw S, Finer L. Abortion in the United States: incidence and access to services, 2005. *Perspect Sex Reprod Health* 2008; **40**: 6–16.

17 Harper C, Blanchard K, Grossman D, Henderson J, Darney P. Reducing maternal mortality due to elective abortion: potential impact of misoprostol in low-resource settings. *Int J Gynaecol Obstet* 2007; **98**, 66–69.

18 Boland R, Katzive L. Developments in laws on induced abortion: 1998–2007. *Int Fam Plann Perspect* 2008; **34**, 110–120.

19 Githens M. Reproductive rights and the struggle with change in Eastern Europe. In: Githens M, Stetson DM, eds. *Abortion Politics: Public Policy in Cross-Cultural Perspective*. Routledge, New York, 1996: 55–70.

20 Abortion Review [Online]. 2007 May 24 [cited 2008 6 August]; Warwick, UK: British Pregnancy Advisory Service. Ireland's Miss D: a bizarre dispute. Available from: URL: http://www.abortionreview.org/index.php/site/article/186/

21 Gal S, Kligman G. *Reproducing Gender: Politics, Publics and Everyday Life After Socialism*. Princeton University, Princeton (NJ), 2000.

22 Polish Federation for Women and Family Planning. *Contemporary Women's Hell: Polish Women's Stories*. Polish Federation for Women and Family Planning, Warsaw, 2005.

23 David HP, Titkow A. Abortion and women's rights in Poland, 1994. *Stud Fam Plann* 1994; **25**: 239–242.

24 Morgentaler H. My struggle for abortion rights in Canada. *Relig Humanism* 1992; **26**: 159–175.

25 Morton F. Morgentaler v. Borowski*: Abortion, the Charter, and the Courts*. McClelland and Stewart, Toronto, 1992.

26 Joffe C, Weitz T, Stacey C. Uneasy allies: pro-choice physicians, feminist health activists and the struggle for abortion rights. In: Brown P, Zavestocki S, eds. *Social Movements in Health*. Blackwell, Oxford, 2005: 94–115.

27 National Abortion Federation [Online]. 2008 Mar 31 [cited 2008 August 8]; Washington (DC): National Abortion Federation; 2008. NAF violence and disruption statistics: incidents of violence and disruption against abortion providers in the U.S. and Canada. Available from: URL: http://www.prochoice.org/pubs_research/publications/downloads/about_abortion/violence_statistics.pdf

28 Joffe C. The abortion procedure ban: Bush's gift to his base. *Dissent* Fall 2007; 57–61.

29 DiMauro D, Joffe C. The religious right and the reshaping of sexual policy: an examination of reproductive rights and sexuality education. *Sexuality Research and Social Policy* 2007; **4**: 67–92.

30 Stein R. Health workers' choice debated. *Washington Post*, 2006 January 30: Sect. A:1.

31 Donovan P. Hospital mergers and reproductive health care. *Fam Plann Perspect* 1996; **28**: 281–284.

32 Uttley L, Pawelko R. No strings attached: Public funding of religiously sponsored hospitals in the United States [Online]. New York: The Merger Watch Project; 2002 [cited 2008 June 2]. Available from: URL: http://www.mergerwatch.org/pdfs/bp_no_strings.pdf

33 Joffe C, Anderson P, Steinauer J. The crisis in abortion provision and pro-choice medical activism in the 1990s. In: Solinger R, ed. *Abortion Wars: A Half-Century of Struggle, 1950–2000*. University of California, Berkeley, 1998: 320–334.

34 Foster A, van Dis J, Steinauer J. Educational and legislative initiatives affecting residency training in abortion. *JAMA* 2003; **290**: 1777–1778.

35 Eastwood KL, Kacmar JE, Steinauer J, Weitzen S, Boardman LA. Abortion training in United States obstetrics and gynecology residency programs. *Obstet Gynecol* 2006; **108**: 303–308.

36 Dehlendorf C, Brahmi D, Engel D, Grumbach K, Joffe C, Gold M. Integrating abortion training into family medicine residency programs. *Fam Med* 2007; **39**: 337–342.

37 Fellowship in Family Planning [Online]. San Francisco: Fellowship in Family Planning [cited 2008 Aug 6]. Available from: URL: http://www.familyplanningfellowship.org/

38 United Nations Population Fund. *Programme of Action Adopted at the International Conference on Population and Development, Cairo, 5–13 September 1994*. United Nations Population Fund, New York, 1995.

39 World Conference on Women. The Beijing declaration and the platform for action on women and health. *Popul Dev Rev* 1995; **21**: 907–913.

40 International Women's Health Coalition [Online]. New York: International Women's Health Coalition; 2004. Beijing at 10; 2005 [cited 2008 Aug 6] Available from: URL: http://www.iwhc.org/index.php?option=com_content&task=view&id=3385&Itemid=824

41 Barasa L. Kenya: Awori roots for safe abortion. *The Nation* [Online]. 2007 Jun 27 [cited 2008 Aug 6]. Available from: URL: http://allafrica.com/stories/200706270082.html

42 McKinley J. Nicaragua eliminates last exception to strict antiabortion law. *New York Times* [Online]. 2006 Nov 20 [cited 2008 Jun 2]; Available from: URL: http://www.nytimes.com/2006/11/20/world/americas/20nicaragua.html.

43 Hitt J. Pro-life nation. *New York Times Magazine* [Online]. 2006 Apr 9 [cited 2008 Aug 6]. Available from: URL: http://www.nytimes.com/2006/04/09/magazine/09abortion.html

44 Joyce K. Wanted: more white babies. *The Nation* [Online]. 2008 Mar 3 [cited 2008 Aug 6]. Available from: URL: http://www.thenation.com/doc/20080303/joyce_video

2

CHAPTER 2

Unsafe abortion: The global public health challenge

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LEARNING POINTS

- The World Health Organization defines unsafe abortion as a procedure for terminating an unintended pregnancy either by individuals without the necessary skills or in an environment that does not conform to the minimum medical standards, or both.
- Each year approximately 20 million unsafe abortions occur, primarily in developing countries, and they account for 20% of all pregnancy-related deaths and disabilities.
- A woman's likelihood of having an induced abortion is almost the same whether she lives in a developed country or a developing country. The main difference is safety: abortion is primarily safe in the former and mostly unsafe in the latter.
- Legal restrictions do not eliminate abortion; instead, they make abortions clandestine and unsafe.
- Most induced abortions follow unwanted or unintended pregnancies, which in turn often result from non-use of contraception; method or user-failure of contraception; rape; or such contextual factors as poor access to quality services and gender norms that deprive women of the right to make decisions about their sexual and reproductive health.
- Unsafe abortion and related deaths and suffering are entirely preventable.

Introduction

Each year throughout the world, approximately 205 million women become pregnant and some 133 million of them deliver live-born infants [1]. Among the remaining 72 million pregnancies, 30 million end in stillbirth or spontaneous abortion and 42 million end in induced abortion. An estimated 22 million induced abortions occur within the national legal systems; another 20 million take place outside this context and by unsafe methods or in suboptimal or unsafe circumstances.

When faced with unwanted or unintended pregnancies, women resort to induced abortion irrespective of legal restrictions. In contrast to other medical conditions, ideologies and laws restrict access to safe abortion services, especially in developing countries and among the poorest of poor countries. Information on the incidence of induced abortion, whether legal and safe or illegal and unsafe, is crucial for identifying policy and programmatic needs aimed at reducing unintended pregnancy and addressing its consequences. Understanding the magnitude of unsafe abortion and related mortality and morbidity is critical to addressing this major yet much neglected public health problem.

This chapter focuses on induced unsafe abortions, which carry greater risks than those performed under legal conditions. It provides the latest estimates of the magnitude of the problem including rates, trends, and differentials in unsafe abortion. The links between contraceptive prevalence, unmet need for family planning, and unsafe abortion are described, as well as the mortality and morbidity as a result of unsafe abortion. The chapter concentrates on developing countries, where 97% of unsafe abortions and nearly all related deaths occur. Finally, the chapter describes the international discourse on addressing unsafe abortion.

Definitions and context

The World Health Organization (WHO) defines *unsafe abortion* as a procedure for terminating an unintended pregnancy either by individuals without the necessary skills or in an environment that does not conform to the minimum medical standards, or both [2]. With the advent and expanding use of early medical abortion, this definition may need to be

Management of Unintended and Abnormal Pregnancy, 1st edition. By M Paul, ES Lichtenberg, L Borgatta, DA Grimes, PG Stubblefield, MD Creinin
 ISBN: 9781405176965.

modified to incorporate standards appropriate to these less technical methods of pregnancy termination.

Induced abortions may take place within or outside of the prevailing legal framework. When performed within the legal framework, the safety of the procedure depends on the requirements of the law and the resources and medical skills available. In countries that lack human and technical resources, abortions may not be sufficiently safe by international standards although they meet the legal and medical requirements of the country. Legal authorization is, therefore, a necessary but insufficient remedy for unsafe abortion.

Induced abortions outside of the legal framework are frequently performed by unqualified and unskilled providers, or are self-induced; such abortions often take place in unhygienic conditions and involve dangerous methods or incorrect administration of medications. Even when performed by a medical practitioner, a clandestine abortion generally carries additional risk: medical backup is not immediately available in an emergency; the woman may not receive appropriate postabortion attention and care; and, if complications occur, the woman may hesitate to seek care. The risk of unsafe abortion differs by the skills of the provider and the methods used, but it is also linked to the de facto application of the law [3].

More than 60% of the world's population lives in countries where induced abortion is allowed for a wide range of reasons [3]. Nevertheless, some of these countries have a high incidence of unsafe abortion. Current estimates indicate that only 38% of women aged 15 to 44 years live in countries where abortion is legally available and where no evidence of unsafe abortion exists. A number of countries allow abortion on broad grounds, but unsafe abortions still occur outside the legal framework. Abortion has been, for example, legal on request in India since 1972; however, many women are unaware that safe and legal abortion is available. Even those who know of its legality may not have access to safe abortion because of poor quality of services and/or economic and social constraints. Reports also suggest that unsafe abortions may be increasing in several of the newly independent states, formerly part of Russia, as a result of increased fees and fewer services for legal abortions.

Global and regional levels and trends of induced abortion

In 2003, about 3% of all women of reproductive age worldwide had an induced abortion. Overall, the number of induced abortions declined from 46 million in 1995 to 42 million in 2003 (Table 2.1). Most of the decline occurred in developed countries (10.0 million to 6.6 million), with little change evident in developing countries (35.5 million to 35 million).

Induced abortion rates are, however, surprisingly similar across regions (Table 2.1). A woman's likelihood of having an induced abortion is almost the same whether she lives in a developed country (26 per 1,000) or a developing country (29 per 1,000). The main difference is safety: abortion is primarily safe in the former and mostly unsafe in the latter. Latin America, which has some of the world's most restrictive induced abortion laws, has the highest abortion rate (31 per 1,000), but other regions have similar rates: Africa and Asia (29), Europe (28) and North America (21), and Oceania (17).

Induced abortion rates vary by subregion, however (Table 2.2). Eastern Africa and South-East Asia show a rate of 39 per 1,000 women, while other subregions in Africa and Asia

Table 2.1 Global and regional estimated number of all (safe and unsafe) induced abortions and abortion rates, 2003 and 1995.

	Number of abortions (millions)		Induced abortion rate[a]	
	2003	**1995**	**2003**	**1995**
World	41.6	45.6	29	35
Developed countries[b]	6.6	10.0	26	39
Excluding Eastern Europe	*3.5*	*3.8*	*19*	*20*
Developing countries[b]	35.0	35.5	29	34
Excluding China	*26.4*	*24.9*	*30*	*33*
Africa	5.6	5.0	29	33
Asia	25.9	26.8	29	33
Europe	4.3	7.7	28	48
Latin America	4.1	4.2	31	37
North America	1.5	1.5	21	22
Oceania	0.1	0.1	17	21

[a] Induced abortions per 1,000 women aged 15 to 44 years.

[b] Developed regions were defined to include Europe, North America, Australia, Japan, and New Zealand; all others were classified as developing. Australia, Japan, and New Zealand are nevertheless included in their respective regions.

Table 2.2 Estimated number of safe and unsafe induced abortions and abortion rates by region and subregion, 2003[a].

Region and Subregion	Number of abortions (millions)			Abortion rate[b]		
	Total	Safe	Unsafe	Total	Safe	Unsafe
World	41.6	21.9	19.7	29	15	14
Developed countries[a]	6.6	6.1	0.5	26	24	2
Developing countries	35.0	15.8	19.2	29	13	16
Africa	5.6	0.1	5.5	29	∧∧	29
Eastern Africa	2.3	∧	2.3	39	∧∧	39
Middle Africa	0.6	∧	0.6	26	∧∧	26
Northern Africa	1.0	∧	1.0	22	∧∧	22
Southern Africa	0.3	0.1	0.2	24	5	18
Western Africa	1.5	∧	1.5	27	∧∧	28
Asia[a]	25.6	15.8	9.8	29	18	11
Eastern Asia[a]	9.7	9.7	∧	29	29	∧∧
South-Central Asia	9.6	3.3	6.3	27	9	18
South-East Asia	5.2	2.1	3.1	39	16	23
Western Asia	1.2	0.8	0.4	24	16	8
Europe	4.3	3.9	0.5	28	25	3
Eastern Europe	3.0	2.7	0.4	44	39	5
Northern Europe	0.3	0.3	∧	17	17	∧∧
Southern Europe	0.6	0.5	0.1	18	15	3
Western Europe	0.4	0.4	∧	12	12	∧∧
Latin America and the Caribbean	4.1	0.2	3.9	31	1	29
Caribbean	0.3	0.2	0.1	35	19	16
Central America	0.9	∧	0.9	25	∧∧	25
South America	2.9	∧	2.9	33	∧∧	33
North America	1.5	1.5	∧	21	21	∧∧
Oceania[a]	0.02	∧	0.02	11	∧∧	11

[a] Japan, Australia, and New Zealand have been excluded from the regional estimates, but are included in the total for developed countries. Numbers, rates, and ratios of Asia, Eastern Asia, and Oceania therefore show results only including developing countries of those regions. The calculations of these regions differ from Table 2.1.

[b] Abortions per 1,000 women aged 15 to 44 years.

∧ Less than 0.05.

∧∧ Less than 0.5.

exhibit rates between 22 and 28 per 1,000. The Caribbean and South America subregions have high rates of 35 and 33 per 1,000. However, the highest abortion rate of all subregions remains in Eastern Europe (44 per 1,000), while the lowest rate is found in the other subregions of Europe (12 to 18 per 1,000). In Europe, most induced abortions are safe and legal and the abortion incidence has been low for decades. The abortion rate has fallen substantially in recent years in Eastern Europe, as contraceptives have become increasingly available. Nevertheless, women continue to rely on induced abortion to regulate fertility to a greater extent in this region than elsewhere.

The distinction among regions becomes more marked when one compares the incidence and proportion of safe and unsafe abortions. In 2003, 48% of all abortions worldwide were unsafe, and more than 97% of these unsafe abortions occurred in developing countries. In Africa and Latin America abortions are almost exclusively unsafe; so are almost 40% of abortions in Asia. Unsafe abortion is rare in Europe. Legal restrictions on abortions have little effect on women's propensity to terminate an unintended pregnancy. Restrictions do, however, lead to clandestine abortions, which, in turn, injure and kill many women.

Estimating unsafe abortions

Since 1990, WHO has been collecting data and estimating the incidence of unsafe abortion [4–7] (Box A). However, estimating the magnitude of unsafe abortion is complex for several reasons. Induced abortion is generally stigmatized and frequently censured by religious teaching or ideologies, which makes women reluctant to admit to having had an induced abortion. Surveys show that underreporting occurs even where abortion is legal [8–12]. This problem is exacerbated in settings where induced abortion is restricted