id21 health focus • August 2007

unsafe abortion

research findings for development policymakers and practitioners

In this issue

id21 focus reports on research from research institutes, programmes or projects (particularly in developing countries) who want to disseminate their research to a wider audience with support from id21. An occasional series, each issue will focus on one topic.

If you would like to share your research findings in this way please email **editor@ids.ac.uk** with a short proposal.

This issue of ***id21 health focus*** was produced in collaboration with the Realising Rights Research Programme Consortium and the William and Flora Hewlett Foundation.

realising rights

THE WILLIAM AND FLORA HEWLETT FOUNDATION

communicating development research id21

www.id21.org

The high cost of unsafe abortion

High school students in Bucharest, Romania, examine a condom advice leaflet and other contraceptive educational materials during a talk on sexual health.
Peter Barker (Panos Pictures), 2006

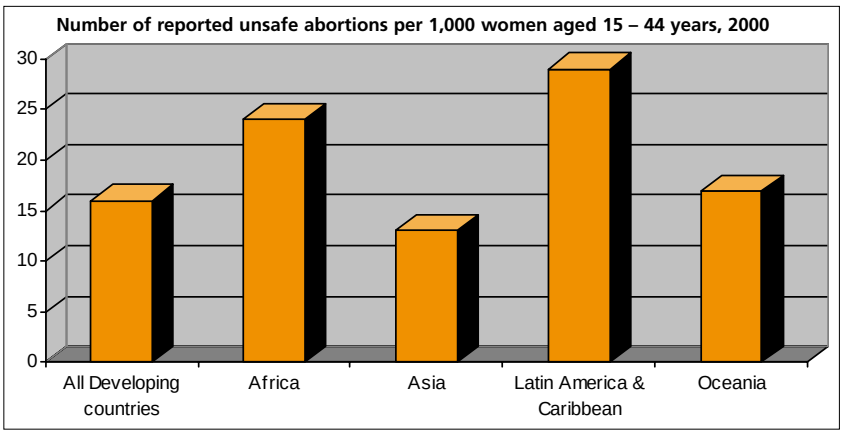
Every eight minutes a woman dies somewhere in a developing country due to complications from an unsafe abortion. She most likely had little money or support to obtain safe services. She probably first tried to induce a termination herself. Failing that she would have turned to an unskilled, but relatively inexpensive, provider.

The cost of unsafe abortion-related ill-health and death was the subject of a technical meeting held at the Institute of Development Studies (UK) on 18 and 19 April 2007. It was funded by the Hewlett Foundation and brought together experts on unsafe abortion and economists specialising in costing methods. The meeting reviewed recent work estimating the cost of unsafe abortion to the health sector. Participants also discussed the economic costs to health systems, individuals and households, and the links between unsafe abortion and poverty. This issue of *id21 health focus* highlights the findings reviewed at the meeting and points to important lessons for decision-makers.

Unsafe abortion carried out by individuals lacking the necessary skills and/or in unhygienic conditions, is a major global public health problem. The practice occurs where abortion is legally restricted, and where access to safe services is inadequate although the law may broadly permit the procedure. Unsafe abortion causes death and ill health in women, and burdens households, health systems and society.

Each year, there are an estimated 19 million unsafe abortions worldwide, most in low-income countries. About 5.2 million of these women are hospitalised for serious complications, while an unknown but possibly equal number of women suffer similarly serious complications but cannot obtain treatment. As a result, around 68,000 women die each year, making unsafe abortion a significant cause of maternal mortality. This number has remained unchanged since 1990.

In 2000, the consequences of unsafe abortion were greater in Africa than in Asia and Latin America. In Africa, 709 women die per 100,000 unsafe abortions, compared to 324 in Asia and 100 in Latin America. Nearly half of all deaths due to unsafe abortion occur in Africa, although Africa accounts for only 13 percent of all women of reproductive age in developing countries.



Abortion service provision is changing

In recent years, countries such as Nepal have responded by liberalising their abortion law. When accompanied by expanded access to safe services, as in South Africa, this greatly reduces complications and deaths from unsafe abortion. Another

continued at the foot of page 2 ▶

The health dangers of unsafe abortion

Induced abortion is a safe medical procedure when carried out by skilled practitioners in hygienic environments.

In places with restrictive abortion laws, untrained providers, unsanitary conditions and limited access to high quality abortion services, women are much more likely to experience immediate complications, long-term disabilities or sometimes death. The harm caused by unsafe abortion practices is largely preventable.

Immediate complications from unsafe abortions include severe bleeding, uterine perforation, tearing of the cervix, severe damage to the genitals and abdomen, internal infection of the abdomen and blood poisoning. Medium and long-term complications range from reproductive tract infections (RTI) and pelvic inflammatory disease (PID) to chronic pain and infertility: 20 to 30 percent of unsafe abortions may lead to RTI, and of these, 20 to 40 percent result in PID and infertility. Late complications include increased risk of ectopic pregnancy, miscarriage or premature delivery in subsequent pregnancies.

South Africa liberalised its abortion law in 1996 and authorised trained midwives to perform induced first trimester abortion in public health facilities. Deaths from abortion complications decreased by 91 percent from 1994 to 2001. These changes provide an incentive for reforms in other countries.

Factors that influence the severity of complications and health outcomes include:

- Serious complications are much more likely when unsafe abortion occurs in late pregnancy. Studies in public hospitals in Kenya and South Africa found that over one third of patients seeking treatment for abortion complications presented after a second trimester abortion, when complication rates are higher than in the first trimester.
- Abortions induced by traditional practitioners or self-induced by women pose the greatest risk. However, women's increasing use of misoprostol – a prostaglandin (an 'abortion pill') available in pharmacies – is associated with lower rates of complications. Misoprostol is mainly used in Latin America, but use is expanding in other regions.
- Delays in reaching care after an unsafe abortion contribute to increased complications and high mortality.

Lessons for policy include:

- Trained midwives are as safe and effective as physicians in providing first trimester induced abortion with manual vacuum aspiration.
- Medical abortion is a recommended alternative to first trimester abortion.
- For abortions after 12 weeks, preferred options include dilation and evacuation, mifepristone, followed by repeated doses of a prostaglandin, or prostaglandins alone.
- Services offered at the lowest level of the health care system and close to women's homes offer the best prospects for rapid diagnosis, treatment and referral of abortion complications.
- Women seeking treatment for complications need to receive rapid, high quality care upon arrival at a health facility.

Janie Benson
Ipas, PO Box 5027, Chapel Hill, NC 27514, USA
bensonj@ipas.org

Marcel Vekemans
International Planned Parenthood Federation, Central Office, 4 Newham's Row, London, SE1 3UZ, UK
mvekemans@ippf.org

See also
'Unsafe Abortion: The Preventable Pandemic', *The Lancet* 368, pages 908-919, by David A. Grimes, Janie Benson, Susheela Singh, Mariana Romero, Bela Ganatra, Friday E. Okonofua and Iqbal H. Shah, 2006
www.thelancet.com/journals/lancet/article/PIIS0140673606694816/fulltext

continued from page 1

promising trend is the increased use of new drugs such as mifepristone and misoprostol – the 'abortion pill' – in very early pregnancy. These are an effective alternative to surgery and further reduce the risk and severity of complications.

Key policy lessons that emerged from the workshop include:

- Women need better access to contraceptive information and services to reduce unintended pregnancies and abortion (unsafe and safe).
- Where the law broadly permits abortion, safe services need to be expanded so that women do not need to resort to unsafe methods.
- Where the law is highly restricted, access to services for permitted criteria should be provided. Advocacy should highlight the unacceptable cost of unsafe abortion and the benefits of expanding the criteria for legal abortion.
- The quality and coverage of post-abortion care in developing countries need urgent improvement.

Susheela Singh
Guttmacher Institute, 120 Wall Street, New York, NY, 10005, USA
T +1 212 248 1111 (ext 2264)
ssingh@guttmacher.org

Iqbal H. Shah
UNDP/UNFPA/WHO/World Bank Special Programme in Human Reproduction, World Health Organization, 1211 Geneva 27, Switzerland
T +41 22 7913332
shahi@who.int

Hilary Standing
Realising Rights Research Programme Consortium, Institute of Development Studies, University of Sussex, Brighton, BN1 9RE, UK
H.Standing@ids.ac.uk

See also
Unsafe Abortion: Global and Regional Estimates of the Incidence of Unsafe Abortion and Associated Mortality in 2000, Geneva: World Health Organization, 2004
www.who.int/reproductive-health/publications/unsafe_abortion_estimates_04/estimates.pdf
Sharing Responsibilities: Women Society and Abortion Worldwide, New York: The Alan Guttmacher Institute, 1999
www.guttmacher.org/pubs/sharing.pdf

Unsafe abortion costs in Mexico City

Until 2007, when first trimester abortion was legalised in Mexico City, abortion was restricted in Mexico. Even in cases when abortion was legal, few states established effective care systems. Women often found illegal abortion services more accessible.

To inform policy decisions on abortion services, researchers documented the economic costs to the health system of caring for women who undergo unsafe abortion. They compared the costs of treating abortion complications (as a substitute for costs of unsafe abortion) with the costs of performing safe abortions (in legal public or illegal private settings) in Mexico City.

Costs were estimated for three hospitals providing post-abortion care and some legal abortions, and one private clinic providing safe but illegal abortion services. Direct costs included personnel, drugs, medical supplies and equipment. Indirect costs included patient travel, child care and lost wages.

Using surveys with hospital staff and patients, as well as a review of facility records, researchers estimated the total cost per woman treated with manual vacuum aspiration (MVA), dilation and curettage (D&C) or medical abortion (MA) using misoprostol.

- At the public hospitals, the average cost per woman of MVA was US$111 and the average cost of D&C was US$143, whilst at the private clinic, the average cost of MVA was US$53 and the average cost of MA was US$79. Operating costs at the private clinic were significantly lower than at the public hospitals.
- The average cost of treating abortion complications at the public hospitals ranged from US$601 to over US$2,100 depending on severity.
- Increasing access to MVA and MA services for early abortion reduces Mexico City government costs by 62 percent, with a potential saving of up to US$1.6 million per year.

Using MVA can reduce the costs of post-abortion care which would benefit Mexico's health system and women who have an unplanned pregnancy. Improving access to safe abortion methods at smaller public and private facilities is likely to result in significant cost savings to the health system, by lowering the incidence of complications and moving services out of hospitals into less costly outpatient settings.

Carol Levin
PATH, 1455 NW Leary Way, Seattle, WA 98107, USA
clevin@path.org

Daniel Grossman
Ibis Reproductive Health, 17 Dunster Street, Suite 201, Cambridge, MA 02138, USA
dgrossman@ibisreproductivehealth.org

Sandra G. Garcia
Population Council, Escondida 110, Col. Villa Coyoacán, Deleg. Coyoacán, C.P. 04000, México, D.F.
sgarcia@popcouncil.org.mx

See also
'Estimating Costs of Post-Abortion Services at Dr. Aurelio Valdivieso General Hospital, Oaxaca, Mexico', by Carlos Brambila, Ana Langer, Cecilia García-Barrios and Angela Heimburger, in *Post-Abortion Care: Lessons From Operations Research*, New York: Population Council, edited by Dale Huntington and Nancy J. Piet-Pelon, 1999

The economic impact of unsafe abortion

The costs of treating complications arising from unsafe abortion are a burden on health systems in developing countries. They divert scarce health resources when safe, cost-effective alternatives are available.

Alternatives to unsafe abortion, such as contraception or safe abortion services (where legal), are cost-effective.

Abortion is a sensitive subject so data on most aspects of unsafe abortion are limited. The research used two methods to develop estimates. Firstly, an extensive literature search found 28 small-scale studies on post-abortion costs per case. These studies did not measure all costs, which should include direct costs (such as drugs, supplies and personnel) and indirect costs (such as overheads and capital). In practice, some costs were often excluded and the cost components included were not always identified. But it was possible from these to produce a range of probable costs.

The second approach broke down all possible post-abortion treatments into their constituent inputs (such as the quantity of antibiotics used and the quantity of gynecologist's time used). It covered all costs of the ideal treatments that women should receive, which may differ across countries.

The most important findings are:

- From cost-per-case surveys, the mean per-patient cost for post-abortion care lies between US$96 and US$131 (2005 US dollars). The global cost to health systems ranges from US$509 million to US$676 million.
- Using the second costing approach, global health system costs lie between US$677 million and US$1.08 billion.
- Regionally, Africa and Asia each have a 42 percent share of the total global cost, while Latin America and the Caribbean's share is around 14 percent.
- Per-patient treatment costs are substantially higher in southern, eastern and northern Africa.

The key policy implications are:

- Health systems in low-income countries spend large sums treating complications from unsafe abortion despite the existence of cost-effective alternatives.
- These studies offer a conservative estimate of total costs to already overburdened developing country health systems. The economic impact of unsafe abortion is several times larger than estimated health system costs.

Further, millions of women with serious post-abortion complications are not treated. This means that the costs to households and national economies of lost productivity due to abortion-related injury and death are considerable. There are also substantial costs in terms of orphaning of other children. More empirical research is urgently needed to measure these significant economic and social costs.

Michael Vlassoff
michaelvlassoff@hotmail.com

See also
Economic Impact of Abortion-Related Morbidity and Mortality: Modeling Worldwide Estimates, paper commissioned by the Hewlett Foundation, by Michael Vlassoff, April 2006
www.eldis.org/go/topics/resource-guides/health&id=32275&type=Document

Saving women's lives

Calling for a giant leap in international abortion policy

While the public health impact of unsafe abortion has long been recognised, little has been done to tackle the strategic and policy barriers to saving women's lives.

The World Health Assembly identified unsafe abortion as a serious public health problem as early as 1967. Later the 1994 International Conference on Population and Development (ICPD) highlighted the concept of reproductive rights and established goals and targets, including universal access to reproductive health (services) by 2015.

The ICPD Programme of Action called for all parties to deal with the health impact of unsafe abortion and improve family planning services. It noted that abortion should be safe when it is legal, whilst in all cases, women should have access to quality services to manage complications from abortion. To help to avoid repeat abortion, post-abortion counselling, education and family planning services should be offered.

In June-July 1999, the Special Session of the United Nations General Assembly urged health systems to train and equip health professionals to provide safe abortion and post-abortion care where legal.

In 2004, the World Health Assembly approved the Reproductive Health Strategy of the World Health Organization (WHO) noting that unsafe abortion must be dealt with as part of the Millennium Development Goal on improving maternal health.

In September 2006, the Special Session of the African Union Conference of Ministers of Health held in Maputo, agreed on a Plan of Action to:

- enact policies and legal frameworks to reduce the incidence of unsafe abortion
- prepare and implement national action plans to reduce the incidence of unwanted pregnancies and unsafe abortion
- provide safe abortion services to the fullest extent of the law
- educate communities on available safe abortion services as allowed by national laws
- train health providers in preventing and managing unsafe abortion.

Community Health Workers in Sarlahi, Nepal. They keep track of all families in their 'ward' and alert Area Coordinators (AC) when there has been a birth. The AC then comes and checks/weighs the baby and mother.
Jessica Fleming, PATH, 2004

Putting plans into action

Unsafe abortion is generally accepted as being an important and preventable cause of maternal death. It is agreed that safe abortion services should be provided to the full extent of the law and that post-abortion care should be provided everywhere. Expansion of access to family planning services for prevention of unsafe abortion is universally supported. However, reducing legal restrictions on access to safe abortion services remains a highly contentious issue.

It is paradoxical to identify reducing maternal mortality as a priority but fail to put in place effective interventions to prevent unwanted births.

Iqbal H. Shah
UNDP/UNFPA/WHO/World Bank Special Programme in Human Reproduction, World Health Organization, 1211 Geneva 27, Switzerland
T +41 22 7913332
shahi@who.int

The author alone is responsible for the views expressed in this article. The views do not necessarily represent the decisions or the stated policy of the WHO.

See also
Universal Access to Comprehensive Sexual and Reproductive Health Services in Africa: Maputo Plan of Action for the Operationalisation of the Continental Policy Framework for Sexual and Reproductive Health and Rights 2007-2010, Addis Ababa: African Union, 2006
www.unfpa.org/publications/docs/maputo.pdf
Reproductive Health Strategy to Accelerate Progress Towards the Attainment of International Development Goals and Targets, Geneva: World Health Organization, 2004
www.who.int/reproductive-health/publications/strategy.pdf

Reducing abortion costs to health systems

Strategies to reduce health system costs of providing abortion and post-abortion care while simultaneously improving quality of care are well documented but infrequently applied.

These strategies include:
- using vacuum aspiration to remove tissue from the uterus rather than cervix dilation and scraping the uterine lining with a curette
- providing light sedation rather than general anesthesia
- using outpatient facilities rather than operating theatres
- employing mid-level providers instead of specialists to provide care.

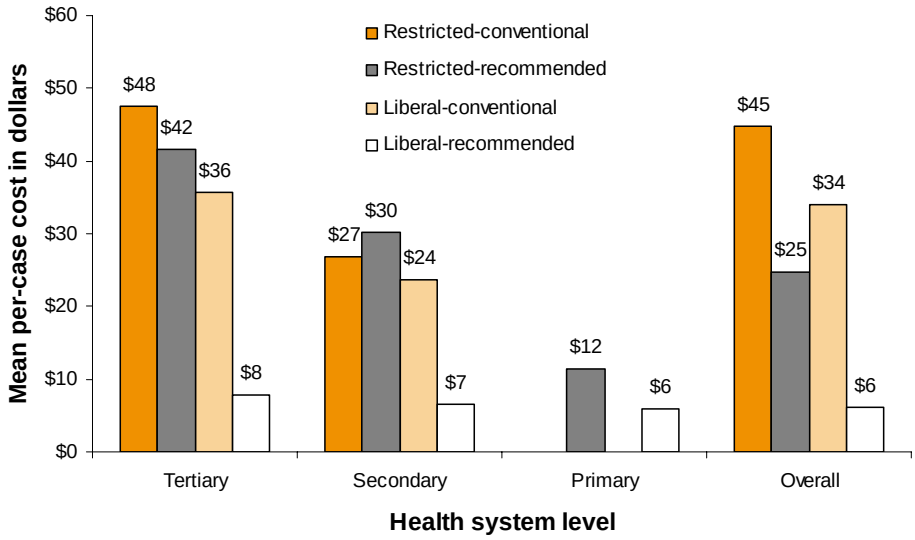
Savings, a new Excel spreadsheet-based tool developed at Ipas (an international non-governmental organisation), allows users to design and estimate the costs to the health system of providing different strategies of abortion and post-abortion care. For example, Savings users can estimate the costs of the current system of abortion and post-abortion care service delivery in a country and compare these with estimates of the costs of implementing the WHO recommended approach to abortion and post-abortion care.

In the preliminary application of Savings, Ipas generated per case costs for four hypothetical policy and service delivery scenarios using available cost data primarily from Uganda. Two types of legal settings are assumed:
- A restrictive abortion law or policy – abortion is permitted only to save a woman's life.
- A liberal abortion law or policy – first-trimester abortion is available on request.

Within each type of legal setting, Ipas compared a recommended approach to providing abortion services using decentralised services and technically superior interventions with a conventional approach relying on care centralised at higher levels of the health system and more costly interventions (such as dilation and curettage performed by specialist physicians).

The mean per case cost of abortion care ranged from US$45 where heavy restrictions were placed on elective abortion and a conventional approach to service delivery was used, to US$6 within the liberal legal setting using recommended interventions (see Table 1).

Table 1: Mean per case cost of abortion care by health system level and scenario (US$)



Using recommended technical interventions substantially reduced costs regardless of the legal setting. The greatest reduction in costs (86 percent) occurred from using recommended interventions within a liberal legal setting rather than using conventional interventions within a restricted setting.

Savings workshops are planned in which policymakers and others will use the model at a country level to develop estimates of costs to the national health system of different strategies of abortion and/or post-abortion care service delivery.

The model could also include data on regional and developing world estimates of the costs to health systems of current strategies in abortion care and the difference in costs following a shift to WHO recommended strategies.

We would expect this exercise to provide compelling evidence to support a shift to safer, more accessible and less costly abortion and post-abortion care services to save women's health and lives.

Heidi Bart Johnston
ICDDR,B, GPO Box 128, Dhaka 1000, Bangladesh
hjohnston@icddrb.org

Janie Benson and **Maria Gallo**
Ipas, PO Box 5027, Chapel Hill, NC 27514, USA
bensonj@ipas.org

See also
'Reducing the Costs to Health Systems of Unsafe Abortion: a Comparison of Four Strategies', *Journal of Family Planning and Reproductive Health Care* 33(4), by Heidi Bart Johnston, Maria F. Gallo and Janie Benson, 2007

useful web links

Guttmacher Institute
www.guttmacher.org

Ibis Reproductive Health
www.ibisreproductivehealth.org

ICDDR,B
www.icddrb.org

Institute of Development Studies, UK
www.ids.ac.uk

Ipas
www.ipas.org

International Planned Parenthood Federation
www.ippf.org

PATH
www.path.org

Population Council
www.popcouncil.org

Realising Rights Research Programme Consortium
www.realising-rights.org

UNDP/UNFPA/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction
www.who.int/reproductive-health/hrp

id21 focus is an occasional publication and is online at **www.id21.org/focus**. Please feel free to photocopy and distribute them to your colleagues. We encourage you to quote freely from any article, providing the source (id21 focus) and author are acknowledged. id21's website, **www.id21.org**, offers free access to over 4,000 research highlights on development policy issues. To receive email updates, email **id21news@ids.ac.uk** with the words 'subscribe id21news'

id21
Institute of Development Studies
University of Sussex, Brighton BN1 9RE, UK
T +44 (0)1273 678787 F +44 (0)1273 877335
Email id21@ids.ac.uk

id21 is hosted by IDS and is supported by the Department for International Development. The views expressed in *id21 focus* do not necessarily reflect those of DfID, IDS or any other contributing institution. IDS is a Charitable Company No.877338 limited by guarantee and registered in England. ISSN 1460-4205 © Institute of Development Studies 2007

Editor: **Tom Barker**
Senior Editor: **Louise Daniel**
Editorial and technical support: **Hilary Standing, Samantha Reddin, id21 team**
Design: **Robert Wheeler**

Keywords: abortion complications, abortion law, economic costs, first trimester abortion, health policy, health systems costs, maternal health, maternal mortality, post-abortion care, unsafe abortion, women's health