Examining the Cost of Providing Medical Abortion in Vietnam

Research Report

August 2006

PATH
2nd Floor, Hanoi Towers
49 Hai Ba Trung St., Hanoi, Vietnam
Tel: 84-4-9362215 Fax: 84-4-9362216
vietnam@path.org
www.path.org

Reproductive Health Department
Ministry of Health
138A Giang Vo, Hanoi
Vietnam

Reproductive Health Department
Ministry of Health
Viet Nam

PATH
A catalyst for global health

Examining the Cost of Providing Medical Abortion in Vietnam

Research Report

August 2006

PATH
2nd Floor, Hanoi Towers
49 Hai Ba Trung St., Hanoi, Vietnam
Tel: 84-4-9362215 Fax: 84-4-9362216
vietnam@path.org
www.path.org

Reproductive Health Department
Ministry of Health
138A Giang Vo, Hanoi
Vietnam

Acknowledgements

This report is the result of a partnership between PATH and the Reproductive Health Department of the Vietnam Ministry of Health to provide cost-related information to decision-makers regarding the provision and pricing of legal, medical abortion at different levels of the health service delivery system in Vietnam.

The dedication and hard work of numerous people was instrumental to the success of this study. The study team included PATH Vietnam staff, Dr. Luu Thi Thanh Huong and Ms. Michelle Gardner; and Reproductive Health Department of the Ministry of Health staff, Dr. Nguyen Duy Khe, Dr. Nguyen Duc Vinh, and Dr. Tran Hoang Nam. The study acknowledges the technical input provided by health economist Dr. Carol Levin and PATH safe abortion project advisor Ms. Lorelei Goodyear. Additional contributions came from Dr. Hoang Van Minh of the Community Health Training and Consulting Network in Vietnam, who oversaw the cost data collection and entry, calculated unit costs, and contributed to the project analysis.

The study gratefully thanks and acknowledges the support of the directors and colleagues from the eleven facilities studied: National Obstetric and Gynecological Hospital, Tu Du Hospital, Binh Duong Obstetric and Gynecological Semi-private Hospital, Binh Duong Reproductive Health Care Center, Thuan An District Hospital, Da Nang General Hospital, Da Nang Reproductive Health Care Center, Hai Chau District Hospital, Hai Duong General Hospital, Hai Duong Reproductive Health Care Center, and Kim Thanh District Hospital.

This report was made possible by generous grant funding from the Wallace Alexander Gerbode Foundation, the William and Flora Hewlett Foundation, and an anonymous donor.

Table of contents

List of tables

Acronyms

D&C	Dilation and curettage
D&E	Dilation and evacuation
EVA	Electric vacuum aspiration
MA	Medical abortion
MOH	Ministry of Health
MVA	Manual vacuum aspiration
Ob/Gyn	Obstetric and gynecological
RHC	Reproductive health care
US$	United States dollar
VND	Vietnam dong
WHO	World Health Organization

Executive summary

Abortion is a widely available and extensively utilized legal medical procedure in Vietnam. However, there are still a number of serious concerns related to the quality of care associated with available abortion services, such as clinical practices, a woman's right to privacy, and the choice of available abortion methods. Recent clinical trials and policy interest in the introduction of medical abortion in Vietnam are important steps in addressing some of these issues. The Vietnam Ministry of Health's (MOH) National Standards and Guidelines for Reproductive Health Care Services supports the provision of medical abortion at tertiary- and provincial-level facilities.1 As the standards and guidelines are revised in 2006–2007, there is interest in supporting the provision of medical abortion at district hospitals.

Current experience indicates limited provision of medical abortion. One of the reasons for this is that health services managers lack an understanding of the costs and benefits of this method. Compared to surgical or vacuum aspiration approaches, the fees charged for medical abortion are significantly higher. Currently, medical abortion is only available as part of routine service provided by a limited number of facilities in Vietnam. The price of medical abortion reportedly differs considerably between these facilities.

The MOH and PATH collaborated on a comparative analysis of the financial and economic costs to the health system of providing different abortion procedures (medical abortion, manual vacuum aspiration [MVA], and dilation and curettage [D&C]) at tertiary hospitals, provincial hospitals, reproductive health care (RHC) centers, and district hospitals. The study was conducted in 11 health facilities in north, central, and south Vietnam from October 2005 to July 2006. The data were collected using a semi-quantitative rapid approach on both the financial and economic costs of providing services. The most important cost components for this evaluation included the direct costs of labor (staff time for service delivery and supervision), drugs and supplies, and equipment.

The actual costs of providing medical abortion, D&C, and MVA were assessed for each level of the health system that provides the methods. There are some differences in abortion costs between levels of the health system, but the greater cost difference is between the provision of surgical abortion compared to medical abortion at any given level of the health system. For example, at provincial hospitals, a medical abortion costs 134,400 Vietnam dong (VND) compared with 70,400 VND for MVA and 94,900 VND for D&C.

An analysis of the major components contributing to the costs of different abortion services indicates that drugs and supplies are the major contributors for all types of abortions at all types of facilities. For medical abortion services, drugs and supplies contribute up to 83 percent of the total cost. A sensitivity analysis was conducted to assess the impact of a reduction in the cost of medical abortion drugs (mifepristone and misoprostol). If the drug costs could be reduced by 25 percent, the cost of providing medical abortion would be about the same as that for MVA at the national level. However, the cost of the drugs would have to decrease by 75 percent to provide medical abortion at the same cost as MVA at provincial hospitals and RHC centers.

Another significant contributing factor to the cost of medical abortion is the routine use of ultrasound, despite there being no such requirement in the national standards and guidelines. A sensitivity analysis was conducted to assess the impact on cost of reducing the number or eliminating the use of ultrasounds. Compared to current practices, without ultrasound,

medical abortion would cost 10, 8, and 18 percent less to perform at national, provincial, and RHC facilities respectively.

According to the national standards and guidelines, medical abortion cannot currently be provided at district hospitals. However, there is interest in expanding access by allowing these facilities to provide the method. A virtual analysis found that each medical abortion would cost 136,600 VND at district hospitals, based on estimates of personnel time, ultrasound use, and drug regimen costs from RHC centers. This is less costly than medical abortion at tertiary hospitals and RHC centers.

The findings of this study support a number of important recommendations:

- Efforts should be made to lower the price of the medical abortion drug regimen to facilities, which would require negotiating with major pharmaceutical companies providing the drugs in Vietnam.

- Physicians should be encouraged to reduce the use of ultrasound imaging to reduce costs to the health system and the client. To inform and determine a strategy for reducing the use of ultrasound, further study into the reasons for the use of multiple ultrasounds is needed.

- User fees urgently need to be reassessed to ensure that women have affordable choices for abortion care. Providing medical abortion services at a lower cost without additional cost to the facilities creates a more accessible method for many clients.

- Data from this study show that providing medical abortion at the district level is less costly than at many higher-level facilities. Provision of medical abortion at the district level should be considered for inclusion in future revisions of the National Standards and Guidelines for Reproductive Health Care Services.

1. Introduction and rationale

The overall objective of the study was to provide cost-related information to decision-makers regarding the provision and pricing of medical abortion at different levels of the health service delivery system. The specific study objectives were:

- Estimating and comparing the costs of providing medical abortion, dilation and curettage (D&C), and vacuum aspiration at tertiary, provincial, and district levels in selected health facilities in Vietnam.

- Using cost estimates to help develop a pricing strategy for the provision of medical abortion at different levels of the health service delivery system.

- Providing cost data to inform the discussion about expanding the availability of medical abortion beyond the tertiary and provincial levels.

During the early 1990s, over 1,000,000 abortion cases were reported each year, which translates to an average of 2.5 induced abortions in a woman's reproductive life.2 In recent years, the number of abortions has declined, but abortion rates in Vietnam remain among the highest in the world. Approximately 500,000 to 600,000 abortions are reported in the public sector each year. Although reported contraceptive prevalence is high (79 percent),3 several factors generate a need for abortion services: contraceptive options are limited, modern contraceptive methods are improperly used, and reliance on withdrawal or periodic abstinence may contribute to high contraceptive failure rates.4 Married women account for most of the abortions performed each year, but the number of young, unmarried women seeking abortions has grown in recent years.5

Surgical abortion services using manual vacuum aspiration (MVA) and D&C are widely available in Vietnam. Early abortion services are available at all four levels of the health care system (tertiary, provincial, district, and commune), which is important, since most pregnancy terminations occur early in Vietnam (60 percent within the first six weeks and 80 percent within the first eight weeks).6 Second trimester services can be obtained at tertiary- and provincial-level facilities. Approved physicians, assistant obstetric and gynecological (Ob/Gyn) physicians, and trained midwives can perform surgical abortion. In 2003, the average cost of an early abortion was between 30,000 and 150,000 Vietnam dong (VND) (US$2 to 10).2 At some facilities, the fee includes the cost of the procedure as well as other services, such as a pregnancy test, other laboratory tests, pain control medication, and antibiotics. While at other health facilities, the fee only covers the abortion procedure.7

In comparison to MVA and D&C, access to medical abortion (mifepristone plus misoprostol) is limited. Medical abortion is approved only for use at tertiary and provincial hospitals and must be provided by Ob/Gyn doctors trained in medical abortion. Medical abortion is only provided for pregnancies up to seven weeks duration, and only for women living within a 30-minute access to the hospital. Table 1 shows the levels at which abortion services can be provided according to the national policy.1

Table 1. National policy on levels at which abortion services can be provided.

Abortion service	Level of facility			
	Tertiary hospital	Provincial hospital	District hospital	Commune health center
Medical abortion	Up to 7 weeks	Up to 7 weeks	-	-
Vacuum aspiration	6–12 weeks	6–12 weeks	6–12 weeks	6 weeks
D&C	8–12 weeks	8–12 weeks	8–12 weeks	-
D&E	13–18 weeks	13–18 weeks	-	-

D&E = Dilation and evacuation

Current guidelines state that D&C should be used only when vacuum aspiration is not available, although many facilities continue to provide D&C even though MVA is available. Not all district hospitals and commune health centers are able to provide MVA facilities because of lack of training. In addition, although medical abortion can be provided at tertiary and provincial hospitals, many facilities are not providing this method.

The safety and efficacy of using mifepristone and misoprostol for inducing abortion is well-documented—medical abortion is among the World Health Organization's (WHO) recommended methods for first trimester abortions.8 One study in Vietnam demonstrated the efficacy of medical abortion, with a 96 percent success rate, as well as acceptance of and high satisfaction associated with the method.9

Similarly, an assessment of the challenges of introducing medical abortion in Vietnam conducted by the MOH, WHO, and Ipas concluded that introducing medical abortion into Vietnam is highly acceptable to doctors and women alike.2 Doctors who participated in medical abortion clinical trials felt the medical abortion method was easier and less risky for women than surgical abortion. Women who had a medical abortion noted that compared to surgical methods, medical abortion was more natural, less likely to interrupt their daily lives, less painful, and less risky for future fertility.

These studies showed that medical abortion is a safe, effective, and acceptable alternative to surgical abortion in Vietnam. Providing safe choices to manage unwanted pregnancy is important in meeting the reproductive health needs of women in Vietnam. Just as one contraceptive method does not optimally serve the needs of all women, having only one method of abortion does not adequately serve all needs related to the termination of unwanted pregnancy. The Vietnamese government showed its concern for this issue by allowing the introduction of medical abortion at tertiary- and provincial-level hospitals, although the actual introduction of this method has been limited. To truly provide all Vietnamese women with the choices they need to manage unwanted pregnancy, medical abortion services need to be expanded.

The MOH's current National Standards and Guidelines for Reproductive Health Care Services are due for revision in 2006–2007, and there is interest in encouraging wider availability of medical abortion at the tertiary and provincial levels, and possibly in allowing

district-level facilities to provide this method. The MOH is interested in the results of this costs study to possibly set pricing in locations where medical abortion is currently available and to allow other tertiary and provincial hospital managers to make informed decisions about offering the method. Having more information available on the cost of providing medical abortion would be valuable to the MOH in determining whether lower-level facilities could provide the service.

2. Methods

2.1. Study sites

This study was conducted between October 2005 and July 2006 in Vietnam. Background information and cost data were collected from a purposive sample of facilities. Eleven health facilities located in different geographic regions were selected to represent the range of abortion services provided as well as the various health system levels. These facilities included two tertiary hospitals, three provincial hospitals, three reproductive health care (RHC) centers, and three district hospitals. These facilities provide a relatively large number of women with Ob/Gyn services, with a range of 1,808 to over 570,000 client visits per year (Table 2).

Table 2. Annual number of patient visits for the selected facilities in 2004.

Facility	Total clients	Ob/Gyn clients	Births	Abortions
Tertiary hospitals				
National Ob/Gyn Hospital	124,570	124,570	13,509	5,379
Tu Du Hospital	571,000	571,000	32,648	31,499
Provincial hospitals				
Hai Duong General Hospital	51,000	11,966	3,093	375
Da Nang General Hospital	211,308	24,644	5,572	122
Binh Duong Semi-private Ob/Gyn Hospital	24,467	24,467	1,731	1,678
RHC centers				
Hai Duong RHC Center	9,014	9,014	0	1,232
Da Nang RHC Center	49,029	49,029	0	6,359
Binh Duong RHC Center	8,766	5,503	531	576
District hospitals				
Kim Thanh District Hospital	25,016	6,700	478	202
Hai Chau District Hospital	21,000	4,138	2,872	444

Thuan An District Hospital	7,300	1,808	685	666

Appendix A summarizes the key characteristics of the study facilities that are most likely to affect the costs of providing abortion services.

2.2. Data collection methods

The rapid assessment method used to collect cost data combined two approaches for obtaining information from facility staff and administrative records: expenditure and ingredient. The expenditure approach relied on accessing existing budgetary data or other records from a broad range of sources in Vietnam, including participating facilities, MOH departments, and the Ministry of Finance. Unfortunately, these sources—and budget expenses in general—did not provide all the needed information. Obtaining a cost breakdown for the types of resources used by a facility was often difficult. To capture this missing information, an ingredient approach was used that described the specific abortion procedure—D&C, MVA, or medical abortion—and listed each of the different types of inputs used (labor, drugs and clinical supplies, laboratory supplies, and medical instruments and equipment). The types of inputs by activity and the quantity and cost of each input were collected based on interviews with providers at each facility.

This rapid approach relied on key informant and group interviews with health care providers directly involved in abortion care. To obtain this information from hospital administrators and health care providers of these services (primarily doctors and nurses working in the gynecological wards of public hospitals or staff from the RHC centers), a questionnaire was developed and modified from data collection tools provided by the Mother-Baby Package Costing Spreadsheet.10 No observational data were used; however, in some cases, health care providers reviewed patient records to gather general information on drugs and supplies used for abortion procedures. In addition, whenever possible, a visual inspection of the surgical or procedure room was conducted to create an inventory of supplies and equipment used for providing abortion services.

Data were collected on both the financial and economic costs of providing services. Financial costs included the actual expenditures for all inputs and resources used to deliver the service. However, resources often used to provide services were not fully captured in budget expense reports (e.g., donated drugs, devices, or other supplies or supplies provided at a large discount). The economic costs reflected the value of using resources that could be productively used elsewhere and supplemented the expense report data that were available from financial records.

3. Cost definitions and estimation

The cost components analyzed for this study included the following fixed and recurrent direct costs used in the hospital or clinic for an abortion procedure: personnel, drugs, disposable supplies, medical instruments, and equipment (hospital, surgical, and imaging). The viewpoint of this analysis is from the health system perspective. The estimates presented in this analysis represent the opportunity cost of all resources used in providing an abortion service. To avoid double-counting these medical inputs, patients' out-of-pocket medical expenditures (such as user fees or drugs) were not estimated. All costs are presented in 2006 Vietnam dong (VND) and United States dollars (US$), and descriptions of the cost categories and the method for estimating costs are listed below.

3.1. Labor costs

This study examined labor costs that included the service time of doctors and nurses in the direct provision of care as well as the indirect time spent by other staff serving clients. Labor costs were calculated by prorating average salaries and benefits (by each type of provider) for the time spent in minutes providing care to the client. Information on time spent in each activity before, during, and after an abortion procedure was collected through interviews with hospital personnel directly involved in a patient's care. Hospital personnel estimated the percent of indirect support staff time spent on all abortion-related patient care activities. The salary and benefit data were obtained from the administrative records of each hospital. The opportunity cost of health care provider time was estimated based on annual salary rates obtained from government salary scales.

3.2. Drug and disposable supply costs

Data on the quantity and price of drugs for abortion services were collected from each facility for three main categories of medication: analgesics, antibiotics, and anesthetics (local and general). Depending on the facility, cost information was obtained from either the hospital pharmacy or clinic invoices. Unit prices were derived and combined with dosages according to the facility's treatment protocol to calculate a cost per patient. In cases in which unit prices were unavailable, an average price was estimated using multiple information sources.

3.3. Laboratory tests

Information on the types of laboratory tests required for abortion services was collected through interviews with abortion providers and from a review of medical records. Data on all the inputs used for each laboratory test were gathered by interviewing the laboratory health personnel and observing the process, supplies, and equipment used for each laboratory test. The prices for all inputs were obtained from financial reports.

3.4. Medical instrument and equipment costs

The period of use for each medical instrument varies. Medical instruments can generally be used over one year or used a certain number of times within the year, or—similar to other types of hospital equipment—they may be used over many years. The average annual cost of both medical instruments and equipment included calculations of depreciation and alternative uses of capital.

A discount rate of 3 percent was used to depreciate instruments and equipment. An annual estimate was derived from information on the useful years of life for the capital good, obtained from hospital administrators. When information on the useful years of life was not available, estimates based on typical use were assumed. The annualized cost of the capital good was then divided by the number of uses per year to arrive at an annualized cost per use. The number of uses per year varied by hospital and clinic, depending on the number of cases in which the instruments and equipment were needed for procedures. Variations in capital costs across the facilities may reflect economies of scale for larger facilities, in which more expensive equipment, such as ultrasound and surgical equipment, is used to capacity each year. The total annualized cost of medical instruments and equipment used per client is estimated separately for each type of procedure (D&C, MVA, or medical abortion).

3.5. Operating expenses and hospitalization costs

Because of the difficulty in attributing operating costs to abortion services, operating costs are not included in the analysis. Operating costs should include items such as utilities (water,

electricity, gas), bio-waste disposal, laundry service, meal service, grounds maintenance, telecommunications, and fuel for and maintenance of hospital vehicles. Their omission may underestimate the costs associated with the provision of surgical abortion compared to medical abortion services, since surgical procedures generally require more overhead costs associated with longer inpatient or outpatient visits.

3.6. Estimating costs

The total (direct and indirect) costs were estimated per client for receiving D&C, MVA, or medical abortion. These costs are the sum of labor, drugs and disposable supplies, medical instruments, and equipment.

4. Available abortion services

In 2004, the number of abortions performed in the health facilities participating in this study ranged from 122 to 31,499. The most common method used for first trimester abortions was MVA. Medical abortion accounted for an average of 15 percent of the total abortions recorded in the tertiary and provincial health facilities (Table 3).

Table 3. Annual number of abortions for the selected facilities in 2004.

Facility	MVA	D&C	Medical	Other	Total
Tertiary hospitals					
National Ob/Gyn Hospital	4,828	0	460	91	5,379
Tu Du Hospital	28,891	0	1,524	1,084	31,499
Provincial hospitals					
Hai Duong General Hospital	89	200	0	86	375
Da Nang General Hospital	0	16	0	106	122
Binh Duong Semi-private Ob/Gyn Hospital	197	497	841	143	1,678
RHC centers					
Hai Duong RHC Center	695	504	33	0	1,232
Da Nang RHC Center	4,504	1,705	150	0	6,359
Binh Duong RHC Center	130	220	226	0	576
District hospitals					
Kim Thanh District Hospital	178	24	0	0	202
Hai Chau District Hospital	148	296	0	0	444
Thuan An District Hospital	643	23	0	0	666

For pregnancy termination up to eight weeks, all the facilities used MVA. For pregnancy termination between 8 and 12 weeks, vacuum aspiration with double valve syringe was used at the tertiary hospitals and at some provincial hospitals. Despite the current policy urging MVA instead of D&C for all abortions up to 12 weeks, sharp curettage in combination with MVA with single valve syringe was used in almost all of the provincial and district hospitals. Providers reported they did not feel adequately skilled using the double valve syringe, so they used sharp curettage in combination with single valve syringe to ensure that the abortion was completed. One provincial hospital performed medical abortions between 10 and 12 weeks gestation with only misoprostol followed by D&C to ensure complete termination of pregnancy. Table 4 shows the abortion method used at each facility by duration of pregnancy.

Table 4. Abortion method(s) used at each of the participating facilities.

Facility	6–8 weeks gestation		8–12 weeks gestation
	< 7 weeks	7–8 weeks	
Tertiary hospitals			
National Ob/Gyn Hospital	MVA/MA	MVA	MVA
Tu Du Hospital	MVA/EVA/MA	MVA	MVA
Provincial hospitals			
Hai Duong General Hospital	MVA	MVA	Sharp curettage with MVA
Da Nang General Hospital	Not performed	Not performed	Misoprostol followed by D&C
Binh Duong Semi-private Ob/Gyn Hospital	MVA/MA	MVA	MVA
RHC centers			
Hai Duong RHC Center	MVA/MA	MVA	Sharp curettage with MVA
Da Nang RHC Center	MVA/MA	MVA	Sharp curettage with MVA
Binh Duong RHC Center	MVA/MA	MVA	Sharp curettage with MVA
District hospitals			
Kim Thanh District Hospital	MVA	MVA	Sharp curettage with MVA
Hai Chau District Hospital	MVA	MVA	Sharp curettage with MVA

Thuan An District Hospital	MVA	MVA	Sharp curettage with MVA

EVA = Electric vacuum aspiration
MA = Medical abortion

The sequence of providing abortion services was different for each health facility studied. For example, some health facilities required clients to pay for and receive an ultrasound prior to examination. In other facilities, a client received an exam before any laboratory tests were prescribed.

Although a pregnancy quick test is the only compulsory test for an abortion according to the National Standards and Guidelines for Reproductive Health Care Services, in practice, a variety of extra tests and procedures are used routinely for abortion patients in most facilities. Nearly all health facilities require women to have an ultrasound before the abortion procedure. Often, one ultrasound is required before surgical abortion, and many facilities require women to undergo two ultrasound tests for a medical abortion. The first ultrasound is done before the medical abortion, to confirm the pregnancy and rule out an ectopic pregnancy, and the second is done during the follow-up visit to confirm the abortion was successfully completed. In one facility, three ultrasounds are required for medical abortion (the first performed before the medical abortion, the second one performed after one week, and the third given two weeks after the medical abortion). In addition, many of the study facilities require that women receive a coagulation test before a surgical abortion procedure. In addition to ultrasound and coagulation tests, some facilities require other laboratory tests, such as a comprehensive blood test, an HIV test, and a hepatitis B quick test.

All health facilities use local anesthetics (para-cervical block) in combination with oral analgesia for MVA and D&C procedures, as recommended by the national standards and guidelines. The two tertiary hospitals provide additional services for any client needing a “no pain” abortion using general anesthesia. For this service, an anesthetist is required to be present for the entire abortion procedure. However, according to the abortion providers, very few clients request this service.

Although it is not standard protocol per the national standards and guidelines, home administration of misoprostol for medical abortion is the normal practice in tertiary and provincial facilities in the study. Providers feel that home administration of misoprostol is safe when women receive careful explanation about the process of a normal medical abortion and what signs to look for if there is a complication or additional treatment is needed. The facilities often give clients a hot-line telephone number to call for a quick response to their questions and concerns. In some health facilities, medical abortion clients also receive instruction sheets or informational material about the medical abortion procedure and home follow-up instructions.

All of the health facilities schedule follow-up appointments with clients after both surgical and medical abortion procedures. During the follow-up visit for surgical abortion procedures, women receive a gynecological exam and family planning counseling. For medical abortion, women are required to receive an ultrasound to confirm the abortion was successfully completed. According to health center staff, medical abortion clients return for this visit more frequently than surgical abortion clients.

5. Results

5.1. Cost of providing medical abortion, D&C, and MVA

The cost of providing abortion services varies by the level of service and the procedure type, ranging from 60,000 to 150,000 VND. Table 5 presents data on the average cost of providing abortions at different types of public-sector facilities in Vietnam. For MVA, the average cost per woman treated ranges from less than 65,000 VND at the district hospitals to approximately 70,000 VND at the provincial hospitals and RHC centers, to over 110,000 VND at tertiary hospitals in Hanoi and Ho Chi Minh City. The provision of MVA is less expensive than D&C, especially at provincial and district hospitals. The provision of surgical abortion is roughly equivalent in cost to MVA and D&C at RHC facilities.

Although there are some differences in the costs of providing abortions between levels of the health system, the greatest cost differences are for surgical abortion compared to medical abortion. The cost of medical abortion is higher because of the price of the drug regimen, as well as the more frequent use of imaging diagnostics (ultrasound). The cost of medical abortion ranges from 134,000 VND per woman at provincial hospitals to nearly 150,000 VND at RHC centers. The cost of providing medical abortion is slightly more than double the cost of providing MVA at RHC centers.

The next section looks at the cost breakdown for each type of procedure at each health service delivery level.

Table 5. Total average cost of providing abortion services by level of facility and type of abortion.

Facility and type of procedure	'000 VND	US$
Tertiary hospitals		
MVA	111.4	7.01
Medical abortion	145.8	9.17
Provincial hospitals		
MVA	70.4	4.43
D&C	94.9	5.97
Medical abortion	134.4	8.45
RHC centers		
MVA	71.2	4.47
D&C	73.0	4.59
Medical abortion	149.2	9.38
District hospitals		

MVA	64.2	4.04
D&C	72.6	4.56

5.2. Cost profiles

The general allocation of total costs to staff time, drugs and supplies, and equipment varies by type of procedure and level of service. The variation in costs for procedures by facilities can be better understood by looking at the cost breakdown by category (Table 6). In general, drugs and supplies comprise the largest share of total resources used to provide abortion services at all levels. There are slight variations in the cost profiles depending on the procedure; the differences are greatest between surgical methods and medical abortion. MVA services produce the largest share of labor costs compared to D&C and medical abortion. Equipment cost shares are highest for D&C, and drug cost shares are highest for medical abortion. Appendix B shows this data in a number of graphical presentations.

In each facility that provides both MVA and D&C, costs are remarkably similar, with little difference in cost shares across the categories of labor, drugs, and supplies and equipment. Meanwhile, the drug costs are 70 to 83 percent of total costs at the national, provincial, and RHC facilities providing medical abortion. The differences in average costs and cost shares are mostly a result of the differences in protocol around the provision of surgical and medical abortion, and not a function of differences in the unit costs of resources used.

Table 6. Cost profile by type of procedure, type of facility, and cost category (2006 '000 VND).

Facility and type of procedure	Labor	Drugs and supplies	Equipment
Tertiary hospitals			
MVA	35.8 (32%)	70.5 (63%)	5.2 (5%)
Medical abortion	25.3 (17%)	110.2 (76%)	10.2 (7%)
Provincial hospitals			
MVA	21.6 (31%)	41.8 (59%)	7.0 (10%)
D&C	21.2 (22%)	59.6 (63%)	14.2 (15%)
Medical abortion	20.2 (15%)	111.3 (83%)	3.0 (2%)
RHC centers			
MVA	24.9 (35%)	33.9 (48%)	12.3 (17%)
D&C	26.6 (36%)	33.9 (47%)	12.5 (17%)
Medical abortion	21.7 (15%)	104.9 (70%)	22.5 (15%)
District hospitals			
MVA	25.0 (39%)	33.1 (52%)	6.2 (10%)

D&C	26.6 (37%)	39.8 (55%)	6.2 (9%)

5.3. Sensitivity analysis

5.3.1. Reduction in cost of medical abortion drugs

This analysis examined the impact on the total cost of medical abortion by reducing the cost of medical abortion drugs by 25, 50, and 75 percent.

The average cost of medical abortion is higher than the other procedures because of the cost of the drug regimens. Appendix C lists the drug name, dosage, and the cost of each drug used in medical abortion. Mifestad (mifepristone) is used with Cytotec, Alsoben, or misoprostol. Mifestad or mifepristone varies in price from 85,000 to 100,000 VND. Cytotec, Alsoben, and misoprostol vary in price from around 3,600 to 8,000 VND per tablet, depending on both the facility and the drug.

Table 7 shows that if drug costs were reduced by 25 percent, the cost of a medical abortion would be about the same as the cost of providing MVA at the national level. However, the cost of drugs would have to decrease by 75 percent to provide medical abortion at the same cost as MVA at provincial hospitals and RHC centers.

Table 7. Average cost of medical abortion if drug costs are reduced by 25, 50, and 75 percent (2006 '000 VND).

Average cost of medical abortion per client	Tertiary hospital	Provincial hospital	RHC center
Drug regimen cost reduced by:			
25%	120.2	124.5	125.0
50%	94.1	98.2	100.7
75%	65.2	71.8	76.3
Baseline medical abortion	146.2	127.3	149.4
Baseline MVA	114.1	70.4	71.2
Baseline D&C		94.9	73.0

5.3.2. Reduction in the use of ultrasound

The cost of medical abortion remains high despite 25 and 50 percent reductions in price, partly because facilities routinely use ultrasound with the provision of medical abortion, despite there being no such requirement in the national standards and guidelines. The study assessed two cost impact scenarios for each type of procedure: one without ultrasound, and another with one ultrasound, compared to what facilities are currently doing (as reflected by the baseline costs and holding the price of drugs constant at the current baseline price).

Table 8 shows that the actual cost of a medical abortion without ultrasound is 10, 8, and 18 percent lower than estimated costs of current practices at national, provincial, and RHC

facilities respectively. Medical abortion does, however, continue to cost more than MVA and D&C at all levels of the health system.

Table 8. Cost of medical abortion when following recommended guidelines and with and without the use of ultrasound (2006 '000 VND).

Average cost of medical abortion per client	Tertiary hospital	Provincial hospital	RHC center
Medical abortion with one ultrasound	139.2	129.5	133.8
Medical abortion without ultrasound	131.6	122.5	121.8
Baseline medical abortion	146.2	127.3	149.4
Baseline MVA	114.1	70.4	71.2
Baseline D&C		94.9	73.0

5.4. Cost of providing medical abortion at the district level

Currently, district hospitals do not provide medical abortion. However, interest exists in potentially expanding access to medical abortion by allowing these facilities to provide the method. Using the estimates of personnel time, ultrasound use, and the drug regimen costs from RHC centers, the cost of medical abortion was estimated if the procedure were available at district hospitals. Table 9 presents the estimated average cost of providing medical abortion at a district hospital—136,550 VND using the current RHC center ultrasound practice and cost of drugs. This is less expensive than providing medical abortion at tertiary hospitals or RHC centers but more expensive than providing the method at provincial hospitals.

Table 9. Estimated average cost of providing medical abortion at the district level (2006 '000 VND).

	'000 VND	US$
Estimated average cost	136.6	8.59
Drug regimen cost reduced by:		
25%	112.2	7.06
50%	87.8	5.52
75%	63.5	3.99
Changes in ultrasound protocol		
With one ultrasound	130.3	8.20
Without ultrasound	124.1	7.80
Baseline MVA	64.2	4.04
Baseline D&C	72.6	4.56

Table 9 also shows how the cost of medical abortion at the district level would decrease if there were a reduction in the cost of the drug regimen or use of fewer ultrasounds. If the cost of the drugs were reduced by 75 percent, medical abortion could be provided at district hospitals at nearly the same cost as MVA. Without ultrasound, medical abortion would be cheaper to provide at district hospitals than at all higher levels of the health system.

5.5. User fees

Table 10 presents user fees assessed for abortion services provided at all the facilities included in the study. The user fees presented include the fees for all services required by each facility to perform the abortion. These are compared with the cost per client for the different abortion services as estimated during our study. There is a greater difference between the cost of and the price for medical abortion as compared to surgical abortion. Despite little variation in the estimated cost of providing medical abortion at different levels of the health system, fees for this service range from 220,000 to 430,000 VND (data not shown).

Table 10. User fees for abortion procedures by facility (2006 '000 VND).

	Tertiary hospital	Provincial hospital	RHC center	District hospital
MVA				
Average cost	111.4	70.4	71.2	64.2
Average user fee	135.0	110.0	132.3	89.7
D&C	Not performed			
Average cost		94.9	73.0	72.6
Average user fee		200.0	168.0	97.7
Medical abortion				Not performed
Average cost	145.8	134.4	149.2	
Average user fee	377.5	325.0	323.0	

6. Discussion

Women in Vietnam have legal access to safe abortion procedures at all levels of the health system. However, despite medical abortion being perceived by clients and providers as an important and acceptable alternative to surgical abortion, access to the method is restricted to a limited number of hospitals and not available at district hospitals.

There are very few differences in the costs of providing D&C and MVA at any given level of care; however, due to the higher costs of labor, drugs, and supplies, abortion costs at tertiary hospitals located in the capital cities of Hanoi and Ho Chi Minh City are higher than at provincial hospitals, RHC centers, and district hospitals. Medical abortion is consistently more expensive to provide than either MVA or D&C. This is related to the high cost of the drugs used for medical abortion, combined with the use of multiple ultrasound images.

A sensitivity analysis was performed to identify a price at which medical abortion would be more or less cost neutral compared to existing services for MVA and D&C. At the national level, a 25 percent decrease in drug costs used for medical abortion would lower the overall cost of the procedure to that of providing MVA. However, the cost of medical abortion would have to be reduced drastically—up to 75 percent—to equal the cost of MVA at provincial hospitals and RHC centers, or the procedure would have to be provided at district hospitals.

Vietnam's National Standards and Guidelines for Reproductive Health Care Services does not require ultrasound for abortion, yet this study showed that depending on the type of abortion procedure, women are likely to receive up to two ultrasound tests for a surgical abortion, and up to three ultrasounds are often used with medical abortion. The increased use of ultrasound inflates the cost of services to both the facility and the client. The reliance on ultrasound for medical abortion may be a result of providers' limited experience with the method. As providers' confidence in the method increases, the use of ultrasound would likely decrease.

Given the current prices of mifepristone and misoprostol drugs and common ultrasound practice, if medical abortion were provided at district hospitals, it would remain relatively more expensive than using MVA or D&C. However, it would be cheaper than providing medical abortion at tertiary hospitals or RHC centers. Using district hospitals to provide medical abortion would help conserve scarce resources that are currently being used in tertiary and provincial facilities to provide these services. However, it would be critical to identify ways to bring the cost of medical abortion more in line with the costs of providing existing services for MVA and D&C. In settings as diverse as Sweden and China, the cost of providing medical abortion is equal to or less than the cost of providing surgical abortion.11

This study did not estimate the indirect costs associated with a client's time and travel to obtain an abortion in tertiary or provincial facilities located in more urban areas; however, since district-level facilities are generally easier for clients to access than higher-level facilities, we would suspect that patient costs for travel would also be equal to or lower than for medical or surgical procedures.

The pricing of abortion services is an important factor in increasing women's access to a wide range of safe alternatives. This study indicates that user fees being charged for abortion are not in line with the cost of resources being used to provide the services. This analysis did not include operating expenses because of the difficulty in attributing these to abortion services. However, the study estimates that these costs range from about 100 to 2,000 VND per woman treated. This would not have had a significant impact on cost estimates compared to user fees.

7. Conclusions and recommendations

This study documents the costs of providing medical abortion at various levels of the health system and compares these costs with the costs of providing other abortion services (MVA and D&C). A number of important conclusions can be drawn from the findings of the study.

7.1. Study conclusions

Cost of providing abortion services

- The cost of providing D&C is slightly higher than the cost of providing MVA at each level of the health system.
- Because of the high cost of drugs, combined with an overuse of ultrasound imaging, the cost of providing medical abortion is consistently higher than the cost of providing either MVA or D&C.
- The cost of providing an abortion (either surgical or medical) is higher at tertiary hospitals than at other levels of the health system because of the higher costs of labor and supplies.

Price of drugs

- The cost of drugs for medical abortion, in particular mifepristone, is a significant contributor to the overall cost of the procedure.
- At the tertiary level, a 25 percent decrease in the cost of drugs would lower the overall cost of medical abortion to that of providing MVA.
- The cost of medical abortion would have to be reduced drastically—up to 75 percent—to equal the cost of MVA at provincial hospitals and RHC centers, or the procedure would have to be provided at district hospitals.

Use of ultrasound

- Although Vietnam's Standards and Guidelines for Reproductive Health Care Services does not require ultrasound for abortion, women are likely to receive up to two ultrasound tests for surgical abortion and up to three ultrasounds for medical abortion.
- The increased use of ultrasound increases service costs to both the facility and the client.

User fees

- A wide range of user fees exists between facilities despite little variation in the cost of providing the services by facility or level of the health system.
- No clear relationship exists between the cost of providing an abortion service and the user fee.
- The difference between cost and user fee is particularly high for medical abortion.

Provision of medical abortion at the district level

- If medical abortion were provided at district hospitals, the procedure would be more expensive than MVA or D&C but less expensive than providing the method at higher levels of the health system.

- If indirect costs associated with the client's time and travel were included, then medical abortion may be less expensive to provide at district hospitals than surgical abortions at higher-level facilities.

7.2. Recommendations

Based on the conclusions above, the following actions are recommended.

Lower medication pricing for medical abortion

Efforts should be made to lower the price of mifepristone to facilities. This would require negotiating with major pharmaceutical companies providing the drug in Vietnam. It may be preferable for the MOH to facilitate these negotiations and attempt to secure a low price for public-sector hospitals in Vietnam. As medical abortion becomes more widely available in Vietnam, and more public-sector facilities are purchasing the drugs, greater incentive will exist for pharmaceutical companies to engage in price-setting discussions with the MOH.

Reduce the use of ultrasound imaging

Physicians should be encouraged to reduce the use of ultrasound imaging for all abortion services—but particularly for medical abortion—to reduce costs to the health system and the client. The current National Standards and Guidelines for Reproductive Health Care Services neither recommends nor restricts the use of ultrasound imaging, although international best practice indicates that ultrasound is not required for the routine provision of medical abortion.12 To inform and determine a strategy for reducing the use of ultrasound, further study into the reasons for the use of multiple ultrasounds is needed.

Reassess user fees

User fees urgently need to be reassessed to ensure that women have affordable choices for abortion care. Providing medical abortion services at a lower cost, without additional costs to the facilities, creates a more accessible method for many clients. In order to provide facilities with the necessary support for establishing user fees, the MOH should understand how user fees are set and why large differences exist between facilities and between user fees and costs. Data from this study should be provided to facilities currently permitted to provide medical abortion services.

Allow medical abortion service at the district level

Providing medical abortion at the district level should be considered for inclusion in future revisions of the National Standards and Guidelines for Reproductive Health Care Services. Data from this study show that providing medical abortion at the district level is less costly than at many higher-level facilities. Allowing district hospitals to provide medical abortion would permit scarce resources currently being used in higher-level facilities to be used for providing these services, and it would increase access to a wider choice of abortion services.

8. References

[1] Vietnam Ministry of Health. *National Standards and Guidelines for Reproductive Health Care Services*. Hanoi: 2003.

[2] Goodkind D. Abortion in Vietnam: Measurements, puzzles and concerns. *Studies in Family Planning*. 1996;25(6):342–352.

[3] Committee for Population, Family and Children. *Vietnam Demographic and Health Survey 2002*. Hanoi: 2003.

[4] Ganatra B, Bygdeman M, Thuy PB, Vinh ND, Loi VM. From research to reality: the challenges of introducing medical abortion into service delivery in Vietnam. *Reproductive Health Matters.* 2004;12(24 Supplement):105–113.

[5] Hong KTT, Daniel B. Single women's experiences of sexual relationships and abortion in Hanoi. *Reproductive Health Matters.* 1999;7(14):72–82.

[6] Ganatra B. Medical abortion guidelines in Vietnam. Presented at: Consortium for National Consensus on Medical Abortion, 2003; India.

[7] World Health Organization (WHO). *Abortion in Vietnam: An Assessment of Policy, Programme, and Research Issues*. WHO/RHR/HRP/ITT/99.2. Geneva: WHO; 1999.

[8] World Health Organization (WHO). *Safe Abortion: Technical and Policy Guidance for Health Systems.* Geneva: WHO; 2003.

[9] Nguyen NTN, Winikoff B, Clark S, et al. Safety, Efficacy and acceptability of mifepristone–misoprostol medical abortion in Vietnam. *International Family Planning Perspectives*. 1999;25(1):10–14.

[10] World Health Organization (WHO). *Mother-Baby Package Costing Speadsheet.* WHO/FCH/RHR/99.17. Geneva: WHO; 1999.

[11] Murthy A, Creinin MD. Pharmacoeconomics of medical abortion: a review of cost in the United States, Europe and Asia. *Expert Opinion on Pharmacotherapy*. 2003;4(4):503–513.

[12] Royal College of Obstetricians and Gynaecologists (RCOG). *The Care of Women Requesting Induced Abortion*. London (UK): Royal College of Obstetricians and Gynaecologists (RCOG); 2004 Sep. 104 p. (Evidence-based Clinical Guideline; no. 7). Available at: http://www.rcog.org.uk/resources/Public/pdf/induced_abortionfull.pdf.

Appendix A. Characteristics of study facilities

Facility	Facility type	Level	Techniques	Provider	Location of procedure	Recovery protocol	Average length of stay
National Ob/Gyn Hospital	Ob/Gyn	Tertiary	MVA MA	Doctor Midwife	Procedure room	Brief stay in recovery room	4 hours for MVA 1.5 hours for MA
Tu Du Hospital	Ob/Gyn	Tertiary	MVA/EVA MA	Doctor Midwife	Procedure room	Brief stay in recovery room	5 hours for MVA 2 hours for MA
Hai Duong General Hospital	General	Provincial	MVA D&C	Doctor Midwife	Procedure room	Brief stay in recovery room	2.5 hours for MVA 3.5 hours for D&C
Hai Duong RHC Center	Reproductive health	Provincial	MVA D&C MA	Doctor Midwife	Procedure room	Brief stay in recovery room	2.5 hours for MVA 3 hours for D&C 1 hour for MA
Kim Thanh District Hospital	General	District	MVA D&C	Midwife Doctor	Procedure room	Brief stay in recovery room	2.5 hours for MVA 4 hours for D&C
Da Nang General Hospital	General	Provincial	D&C	Doctor Midwife	Procedure room	Hospitalization	3 days
Da Nang RHC Center	Reproductive health	Provincial	MVA D&C MA	Doctor Midwife	Procedure room	Brief stay in recovery room	4 hours for MVA 4 hours for D&C 1 hour for MA
Hai Chau District Hospital	General	District	MVA D&C	Midwife Doctor	Procedure room	Brief stay in recovery room	2.5 hours for MVA 3 hours for D&C
Binh Duong Semi-private Ob/Gyn Hospital	Ob/Gyn	Provincial	MVA MA	Doctor Midwife	Delivery room	Brief stay in delivery room	3 hours for MVA 1 hour for MA
Binh Duong RHC Center	Reproductive health	Provincial	MVA D&C MA	Doctor Midwife	Procedure room	Brief stay in recovery room	3 hours for MVA 3.5 hours for D&C 2 hours for MA
Thuan An District Hospital	General	District	MVA D&C	Midwife Doctor	Procedure room	Brief stay in recovery room	3 hours for MVA 3.5 hours for D&C

D&C = Dilation and curettage
EVA = Electric vacuum aspiration
MA = Medical abortion
MVA = Manual vacuum aspiration
Ob/Gyn = Obstetric and gynecological
RHC = Reproductive health care

Appendix B. Cost profiles for the provision of abortion services

D&C = Dilation and curettage
MA = Medical abortion
MVA = Manual vacuum aspiration
RHC = Reproductive health care
VND = Vietnam dong

Figure B1. Cost profile for provision of MVA by type of facility.

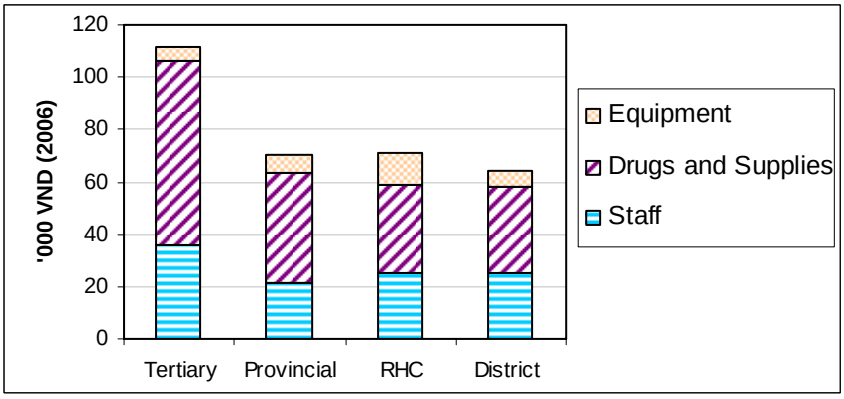


Figure B2. Cost profile for provision of D&C by type of facility.

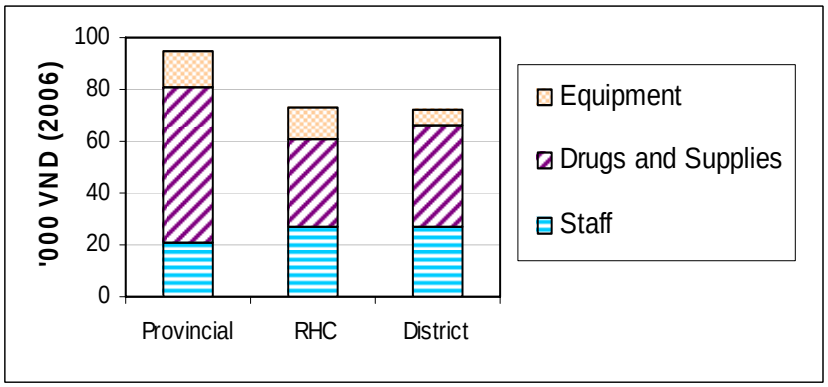


Figure B3. Cost profile for provision of medical abortion by type of facility.

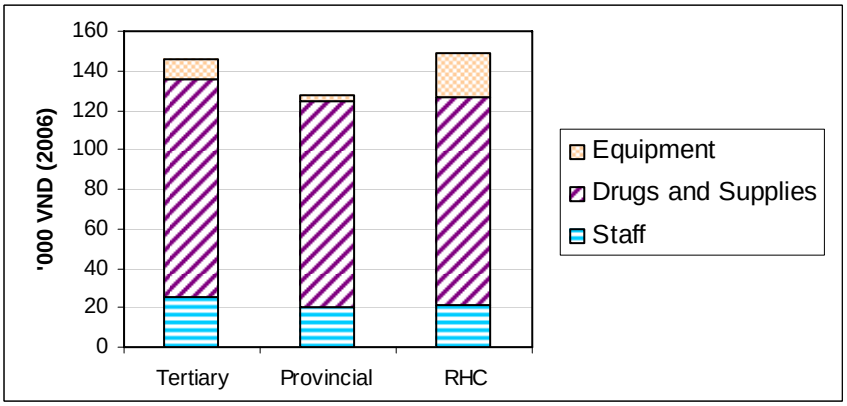


Figure B4. Cost profile for provision of different types of abortion at tertiary hospitals.

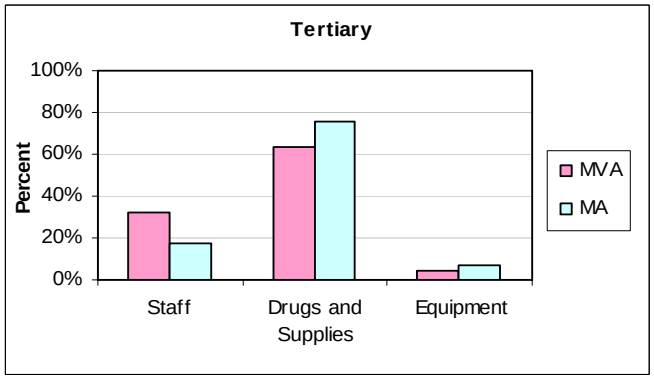


Figure B5. Cost profile for provision of different types of abortion at provincial hospitals.

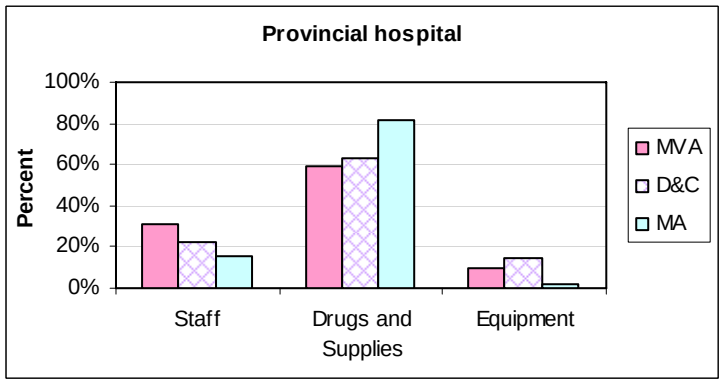


Figure B6. Cost profile for provision of different types of abortion at RHC centers.

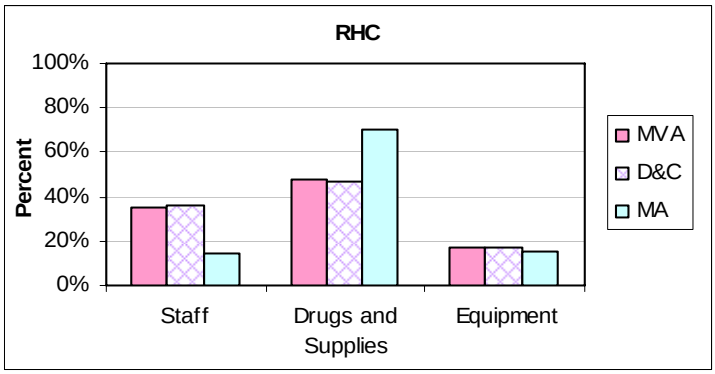
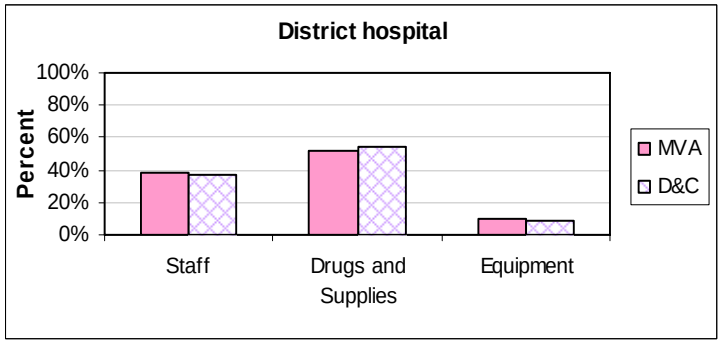


Figure B7. Cost profile for provision of different types of abortion at district hospitals.



Appendix C. Drug summary

Below is a summary of drugs currently used for medical abortion in the study facilities.

Table C1. Drugs currently used for medical abortion, dosage, unit cost, and cost, by facility.

Facility	Brand name of mifepristone	Cost per dose		Brand name of misoprosal	Cost per dose	
		'000 VND	US$		'000 VND	US$
Tertiary level						
National Ob/Gyn Hospital	Mifepristone 200mg	100.0	6.29	Cytotec 200mcg	16.378	1.03
Tu Du Hospital	Mifestad 200mg	85.0	5.35	Alsoben 200mcg	7.14	0.45
Provincial hospital						
Da Nang General Hospital	Mifestad 200mg	85.0	5.35	Alsoben 200mcg	7.6	0.48
Binh Duong Semi-private Ob/Gyn Hospital	Mifestad 200mg	85.0	5.35	Misoprostol 200mcg	20.4	1.28
RHC center						
Hai Duong RHC Center	Mifestad 200mg	85.0	5.35	Misoprostol 200mcg	12.0	0.76
Da Nang RHC Center	Mifestad 200mg	90.0	5.66	Alsoben 200mcg	7.4	0.47
Binh Duong RHC Center	Mifestad 200mg	85.0	5.35	Misoprostol 200mcg	13.0	0.82

Ob/Gyn = Obstetric and gynecological
RHC = Reproductive health care
US$ = United States dollar
VND = Vietnam dong