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Supplementary appendix

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Global, regional, and subregional classification of abortions by safety, 2010–14:

estimates from a Bayesian hierarchical model

Supplementary Web Appendix

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1 Model fitting

1.1 Notation

Let $p_{i,green}, p_{i,yellow}$, and $p_{i,red}$ refer to the i-th vector of the observed proportions of abortions that are categorized as safe, less safe and least safe, respectively, from country indexed by $c[i]$ and year $t[i]$. Here green refers to safe, yellow to less safe and red to least safe. Let $\mu_{i,green}, \mu_{i,yellow}$, and $\mu_{i,red}$ refer to the vector of the estimated proportions of abortions that are categorized as green, yellow and red, respectively for the corresponding i-th country-year. Let $\Omega_i = \mu_{i,red}/(1-\mu_{i,green})$ refer to the proportion red out of non-green (ROONG).

1.2 Regression models

We used two regression models to estimate the unknown proportions, one for the proportion green and one for the proportion ROONG, as follows:

$$\begin{aligned} logit(\mu_{i,green}) &= \gamma_{c[i],green} + \sum_{m=1}^{M} y_{c[i],m} \cdot \beta_m, \\ logit(\Omega_i) &= \gamma_{c[i],ROONG} + \sum_{k=1}^{K} x_{c[i],k} \cdot \eta_k, \end{aligned}$$

where $c[i]$ refers to the country of observation i, $y_{c,m}$ refers to the m-th covariate for country c that is used for predicting proportion green, and $x_{c,k}$ refers to the k-th covariate for country c that is used for predicting proportion ROONG. Covariates were time-matched with year $t[i]$ (to the extent possible). All covariates were centered at the average of the observed values and GNI was log-transformed (before centering).
The unknown parameters are the country intercepts $\gamma_{c,\cdot}$ (with $\cdot$ referring to green or ROONG) and regression coefficients β_m and η_k. The intercepts were estimated with a hierarchical model:

$$\begin{aligned} \gamma_{c,\cdot} &\sim N(\alpha_{r[c],\cdot}, \sigma^2_{\gamma,\cdot}), \\ \alpha_{r,\cdot} &\sim N(\alpha_{world,\cdot}, \sigma^2_{\alpha,\cdot}), \end{aligned}$$

where $r[c]$ refers to the region (continent) of country c, $\alpha_{r,\cdot}$s to regional-level intercepts, $\alpha_{world,\cdot}$ to world-level intercepts, and σs represent the across-region standard deviation in intercepts.

1.3 Data models and input data

Below are the data models that summarize how observations were related to the true unknown parameters in the model fitting. All input data are given in Table 1.

Observed proportion green The data model for the observed proportion green is as follows:

$$\begin{aligned} p_{i,green} &\sim t(\mu_{i,green}, \text{var}_{i,green}, 3)T(0,1), &(1)\\ \text{var}_{i,green} &= \max(0.01^2, \mu_{i,green} \cdot (1-\mu_{i,green})/N_i), &(2) \end{aligned}$$

where $t(\mu, \text{var}, 3)T(0,1)$ refers to a truncated t-distribution with 3 degrees of freedom, truncated between 0 and 1. The variance formula is based on using binomial variance for a proportion where N_i refers to the unknown sample size. The sample size and proportion combined determine the uncertainty associated with the observation, and a minimum variance of 0.01^2 is used. We differentiated between different source types and national and subnational data as follows:

$$\begin{aligned} N_i &= 1/\sigma_i^2, && (3) \\ \sigma_i &= \sigma_{s[i]}^{(source)} + \sigma^{(addsub)} \cdot I(\text{study } i \text{ is a subnational study}), && (4) \end{aligned}$$

where $s[i]$ refers to the data type of the i-th observation (method, provider, place), $\sigma_s^{(source)} = 0.06, 0.13, 0.20$ for method, provider and place respectively, and $\sigma^{(addsub)} = 0.07$ which is added for subnational data sources. These settings were chosen such that if the observed green proportion is 0.5, the approximate 95% confidence intervals for the true green proportion are as follows:

- (0.4, 0.6) for national-method, (0.3,0.7) for national-provider and (0.2,0.8) for national-place.
- (0.3, 0.7) for subnational-method, (0.2,0.8) for subnational-provider and (0.15,0.85) for subnational-place.

The intervals are more narrow (in other words, there is less uncertainty associated with observations) at higher or lower proportions, e.g. for an observed proportion of 0.1, the approximate 95% confidence intervals for the true green proportion are as follows:

- (0.05, 0.16) for national-method, (0,0.2) for national-provider and (0,0.3) for national-place.
- (0, 0.2) for subnational-method, (0,0.3) for subnational-provider and (0,0.4) for subnational-place.

Observed proportion ROONG The data model for the observed proportion ROONG is similar to that for the proportion green:

$$\begin{aligned} p_{i,red}/(1-p_{i,green})|p_{i,green} &\sim t(\Omega_i, \text{var}_{i,ROONG}, 3)T(0,1), \\ \text{var}_{i,ROONG}|p_{i,green} &= Var(p_{i,red}/(1-p_{i,green})|p_{i,green}), \\ &= 1/(1-p_{i,green})^2 \text{var}_{i,red}, \\ \text{var}_{i,red} &= \max(0.01^2, \mu_{i,red} \cdot (1-\mu_{i,red})/N_i). \end{aligned}$$

The variance expression for proportion red is again based on using binomial variance for the proportion red, where N_i refers to the unknown sample size defined as in the model for the proportion green. Observations with $p_{i,green} = 1$ were left out because they do not provide information on the break-down. Settings data were not used either because we could not distinguish between yellow and red.

Minima and maxima We incorporated minima and maxima for proportions green and red as well, accounting for the uncertainty in these extremes, as follows:

$$\begin{aligned} p^*_{i,\cdot} &\sim t(p_{i,\cdot}, \text{var}_{i,\cdot}, 3)T(0,1), \\ \mu_{i,\cdot} &\geq p^*_{i,\cdot}, \text{ if observation } i,\cdot \text{ refers to a minimum;} \\ \mu_{i,\cdot} &\leq p^*_{i,\cdot}, \text{ if observation } i,\cdot \text{ refers to a maximum,} \end{aligned}$$

for $\cdot$ referring to green or red.

Prior distributions The following prior distributions were used:

$$\begin{aligned} \beta_{\cdot} &\sim N(0, 15^2), \\ \eta_{\cdot} &\sim N(0, 15^2), \\ \alpha_{world,\cdot} &\sim N(0, 15^2), \\ \sigma_{\cdot,\cdot} &\sim U(0, 20). \end{aligned}$$

Index	Country	Information	Population	Proportion safe	Prop. least safe out of not safe	Minimum safe	Maximum safe	Minimum least safe	Maximum least safe
1	Armenia	Method		0.39	0.03				
2	Australia	Method		0.91	0.06				
3	Azerbaijan	Method		0.59	0.09				
4	Bangladesh	Provider		0.59	0.58				
5	Belarus	Method		0.58	0.00				
6	Belgium	Method		0.94	0.02				
7	Burkina Faso	Method		0.06	1.00				
8	Cambodia	Method	Subnational	0.54	0.12				
9	Cameroon	Method	Subnational	0.34	0.18				
10	Canada	Method		0.94	0.12				
11	China	Setting	Subnational	0.86					
12	Colombia	Provider		0.13	0.18				
13	Congo, Rep.	Method		0.16	0.38				
14	Denmark	Method		1.00					
15	Estonia	Method		0.95	0.43				
16	Ethiopia	Provider		0.51	0.77				
17	Finland	Method		1.00	0.00				
18	France	Method		1.00					
19	Gabon	Method		0.01	0.59				
20	Georgia	Method		0.71	0.00				
21	Germany	Method		0.86	0.00				
22	Ghana	Method		0.12	0.31				
23	Haiti	Method		0.14	0.48				
24	Iceland	Method		1.00					
25	India	Method	Subnational	0.46	0.17				
26	Israel	Method		1.00					
27	Italy	Method		0.87	0.21				
28	Japan	Method		0.67	0.00				
29	Kenya	Provider		0.16	0.52				
30	Kyrgyzstan	Method		0.65	0.13				
31	Malawi	Provider		0.28	0.82				
32	Mexico	Provider		0.18	0.37				
33	Mongolia	Method		0.78	0.01				
34	Nepal	Method		0.33	0.13				
35	Netherlands	Method		1.00	0.00				
36	New Zealand	Method		0.96	0.00				
37	Nigeria	Provider		0.21	0.57				
38	Norway	Method		1.00	0.00				
39	Pakistan	Provider		0.31	0.51				
40	Portugal	Method		0.85	0.71				
41	Republic of Moldova	Method		0.72	0.00				
42	Russian Federation	Method		0.44	0.03				
43	Rwanda	Provider		0.10	0.68				
44	Senegal	Provider		0.14	0.77				
45	Spain	Method		0.99	0.00				
46	Sri Lanka	Method	Subnational	0.35	0.65				
47	Sweden	Method	Subnational	0.99	0.96				
48	Switzerland	Method		1.00	1.15				
49	Turkey	Setting		0.95					
50	Uganda	Provider		0.12	0.50				
51	United Kingdom	Method		1.00					
52	United Republic of Tanzania	Provider		0.22	0.71				
53	United States	Method		0.99	0.00				
54	Zambia	Method	Subnational	0.03	0.64				
55	Bolivia	Method	Subnational				0.11	0.18	
56	China	Setting	Subnational				1.00		
57	Colombia	Method					0.40		
58	Ethiopia	Method					0.73		
59	India	Method	Subnational				0.50		
60	Iran, Islamic Rep.	Method	Subnational			0.28			0.19
61	Kenya	Method					0.73		
62	Malawi	Method					0.57		
63	Myanmar	Method	Subnational				0.39		
64	Pakistan	Method					0.47		
65	Papua New Guinea	Method	Subnational			0.00			0.50
66	Sierra Leone	Method					0.15		
67	State of Palestine	Method	Subnational				0.88		
68	Vanuatu	Setting						0.51	

Table 1: Input data

2 Constructing country estimates

After fitting the regression models, we constructed estimates of the proportion of green, yellow and red abortions for all countries and subregional groupings of interest for the period 2010–2014. We used the following equations:

$$\begin{aligned} logit(\mu_{c,2012,green}) &= \gamma_{c,green} + \sum_{m=1}^{M} y_{c,2012,m} \cdot \beta_m, \\ logit(\Omega_{c,2012}) &= \gamma_{c,ROONG} + \sum_{k=1}^{K} x_{c,2012,k} \cdot \eta_k, \\ \mu_{c,2012,red} &= \Omega_{c,2012} \cdot (1 - \mu_{c,2012,green}), \end{aligned}$$

where $y_{c,2012,m}$ refers to the m-th covariate for country c for the year 2012 that is used for predicting proportion green, and $x_{c,2012,k}$ refers to the k-th covariate for country c for the year 2012 that is used for predicting proportion red out of non-green.
Point estimates were given by rescaled posterior medians, which are the posterior median proportions green-yellow-red, divided by their sum (to guarantee that the proportions add up to one). 90% highest posterior density intervals (HDI) were used to construct uncertainty bounds, which refer to the shortest interval on a posterior density for some given credible (uncertainty) level. HDIs have the advantage of including the mode of the distribution.

3 Constructing subregional estimates

Regional estimates were constructed based on the country estimates $\mu_{c,2012,\cdot}$ and the estimates of the number of abortions A_c for the period 2010–2014. The s-th posterior sample for the three proportions for a region with n countries, indexed by $R = \{c_1, c_2, \ldots, c_n\}$, was obtained as follows:

$$\begin{aligned} \mu^{(s)}_{region,green} &= \frac{\sum_{c \in R} \mu^{(s)}_{c,2012,green} \cdot A_c}{\sum_{c \in R} A_c}, \\ \mu^{(s)}_{region,red} &= \frac{\sum_{c \in R} \mu^{(s)}_{c,2012,red} \cdot A_c}{\sum_{c \in R} A_c}, \\ \mu^{(s)}_{region,yellow} &= \frac{\sum_{c \in R} \mu^{(s)}_{c,2012,yellow} \cdot A_c}{\sum_{c \in R} A_c}, \end{aligned}$$

where $\mu^{(s)}_{c,2012,\cdot}$ denotes the s-th posterior sample for the proportion green-yellow-red in country c. The posterior samples for each region were used to construct the uncertainty intervals (again, 90% highest posterior density intervals were used). Point estimates were obtained based on the country point estimates, thus based on the rescaled country-specific medians.

4 Model selection, validation and comparison

Candidate models differed with respect to the inclusion of the law variable and GNI, for both regression models, see Table 2.

	Model for green		Model for ROONG	
Model	Law	GNI	Law	GNI
1	x	x	x	x
2	x	x	x	
3	x	x		x
4	x	x		
5	x		x	x
6	x		x	
7	x			x
8	x			
9		x	x	x
10		x	x	
11		x		x
12		x		
13			x	x
14			x	
15				x
16				

Table 2: Overview of 16 candidate models: "x" denotes the inclusion of the covariate.

Candidate models were compared based on measures of in-sample fit and out-of-sample validation. We first used a measure of in-sample fit to find the set of best fitting models and exclude models with worse in-sample fit. Among the selected models, we then used out-of-sample validation to select the best performing model.

In-sample fit For in-sample fit, we used the Deviance Information Criterion (DIC). Lower values of the criterion indicate preferred model fit. We selected all models with a DIC value that differed less than 5 points from the minimum DIC value among all models. Models 3, 4, 7, 11, 12 and 16 were selected with this approach.

Out-of-sample validation To validate out-of-sample model performance of a given model, we fitted the model to a subset of the data (the training set) and checked how well it predicted the left-out observations. Training sets were constructed by leaving out approximately 20% of the observations at random. Based on the predictions for the left-out data $p_{i,\cdot}$, we calculated the error $e_{i,\cdot} = p_{i,\cdot} - \tilde{p}_{i,\cdot}$ for each observation i, where $\tilde{p}_{i,\cdot}$ refers to the posterior median prediction for $p_{i,\cdot}$, and summarized the errors in terms of mean/median (absolute) errors for all left-out observations combined. We also calculated which percentage of left-out observations was outside their respective 90% highest posterior density prediction interval (rounded to two decimal places). We repeated the validation exercise 30 times and reported the mean outcomes across the exercise-specific outcomes. Table 3 shows the results for all selected models; results are comparable across models.

Comparison of modeled estimates across models Figure 1 shows global and regional estimates for all models. The comparison shows that modeled estimates are not substantially different across models.

	For proportion green					
Model	ME	MAE	MedE	MedAR	Outside UI	Below median
3	0.02	0.13	0.01	0.09	0.15	0.39
4	0.02	0.13	0.01	0.09	0.15	0.40
7	0.02	0.13	0.02	0.08	0.15	0.38
11	0.01	0.14	0.01	0.09	0.14	0.40
12	0.01	0.14	0.01	0.09	0.15	0.40
16	0.02	0.13	0.01	0.08	0.15	0.41
	For proportion red					
Model	ME	MAE	MedE	MedAR	Outside UI	Below median
3	0.01	0.10	-0.00	0.04	0.12	0.65
4	0.01	0.10	-0.00	0.04	0.12	0.65
7	0.01	0.10	-0.00	0.04	0.11	0.67
11	0.01	0.10	0.00	0.04	0.12	0.64
12	0.01	0.10	-0.00	0.04	0.12	0.64
16	0.01	0.10	-0.00	0.04	0.11	0.64

Table 3: Validation results for selected models. ME = mean error, MAE = mean absolute error, MedE = median error, MedAR = median absolute error, outside UI and median refer to the proportion of observations that fall outside the 90% uncertainty interval (UI) or below the median estimate.

Figure 1: Comparison of global and regional estimates across models (page 1 of 5). Point estimates (dots) and uncertainty intervals (horizontal lines). Red lines indicate the models selected by DIC.

Figure 2: Comparison of global and regional estimates across models (page 2 of 5). Point estimates (dots) and uncertainty intervals (horizontal lines). Red lines indicate the models selected by DIC.

Figure 1 (page 3 of 5): Comparison of global and regional estimates across models. Point estimates (dots) and uncertainty intervals (horizontal lines). Red lines indicate the models selected by DIC.

Figure 1 (page 4 of 5): Comparison of global and regional estimates across models. Point estimates (dots) and uncertainty intervals (horizontal lines). Red lines indicate the models selected by DIC.

Figure 1 (page 5 of 5): Comparison of global and regional estimates across models. Point estimates (dots) and uncertainty intervals (horizontal lines). Red lines indicate the models selected by DIC.

Web Appendix part 2

Supplement to: Ganatra et al. Global, regional and sub-regional classification of abortions by safety: Estimates for 2010-14.

CONTENTS

REGIONAL GROUPINGS OF COUNTRIES

Source: United Nations Department of Economic and Social Affairs/Population Division

(Note: The groupings in the paper as listed below are based on the classification as of 2015. It should be noted that the United Nations Department of Economic and Social Affairs/Population Division updated this classification in 2017, the groupings used in the paper do not reflect these updates).

DEVELOPED AND DEVELOPING REGIONS

Developed Region				**Developing Region**		
Northern America	Europe	Japan	Australia New Zealand	Latin America and the Caribbean	Asia (excluding Japan)	Oceania (excluding Australia & New Zealand

SUB-REGIONAL GROUPING OF COUNTRIES (N=182)*

AFRICA(53)					ASIA (48)		
Eastern Africa (17)	Middle Africa (9)	Northern Africa (6)	Southern Africa (5)	Western Africa (16)	Eastern Asia (5)	South-central Asia (14)	South-eastern Asia
Burundi Comoros Djibouti Eritrea Ethiopia Kenya Madagascar Malawi Mauritius Mozambique Rwanda Somalia South Sudan Uganda United Republic of Tanzania Zambia Zimbabwe	Angola Cameroon Central African Republic Chad Congo, Rep. Democratic Republic of Congo Equatorial Guinea Gabon Sao Tome and Principe	Algeria Egypt, Arab Rep. Libya Morocco Sudan Tunisia	Botswana Lesotho Namibia South Africa Swaziland	Benin Burkina Faso Cape Verde Cote d' Ivore Gambia, The Ghana Guinea Guinea-Bissau Liberia Mali Mauritania Niger Nigeria Senegal Sierra Leone Togo	China Democratic People's Republic of Korea Japan Mongolia Republic of Korea	Afghanistan Bangladesh Bhutan India Iran, Islamic Rep. Kazakhstan Kyrgyzstan Maldives Nepal Pakistan Sri Lanka Tajikistan Turkmenistan Uzbekistan	Brunei Darussalam Cambodia Indonesia Lao PDR Malaysia Myanmar Philippines Singapore Thailand Timor-Leste Vietnam

ASIA	Europe (38)				Latin America and the Caribbean (31)		
Western Asia (18)	Eastern Europe (10)	Northern Europe (10)	Southern Europe (11)	Western Europe (7)	Caribbean (11)	Central America (8)	South America (12)
Armenia Azerbaijan Bahrain Cyprus Georgia Iraq Israel Jordan Kuwait Lebanon Oman Qatar Saudi Arabia State of Palestine Syrian Arab Republic Turkey United Arab Emirates	Belarus Bulgaria Czech Republic Hungary Poland Republic of Moldova Romania Russian Federation Slovakia Ukraine	Denmark Estonia Finland Iceland Ireland Latvia Lithuania Norway Sweden United Kingdom	Albania Bosnia & Herzegovina Croatia Greece Italy Montenegro Portugal Serbia Slovenia Spain The former Yugoslav Republic of Macedonia	Austria Belgium France Germany Luxembourg Netherlands Switzerland	Bahamas, The Barbados Cuba Dominica Dominican Republic Grenada Haiti Jamaica Saint Lucia Saint Vincent and the Grenadines Trinidad and Tobago	Belize Costa Rica El Salvador Guatemala Honduras Mexico Nicaragua Panama	Argentina Bolivia Brazil Chile Colombia Ecuador Guyana Paraguay Peru Suriname Uruguay Venezuela, RB

Northern America (2)	Oceania (10)			
	Australia and New Zealand	Melanesia (4)	Micronesia (2)	Polynesia (2)
Canada United States of America	Australia New Zealand	Fiji Papua New Guinea Solomon Islands Vanuatu	Kiribati Micronesia, Federal States of	Samoa Tonga

*182 countries were used in the analyses.

SUMMARY OF WHO TECHNICAL GUIDELINES ON METHODS, PROVIDERS AND SETTINGS FOR PROVISION OF SAFE ABORTION

Method	**Cadre of Trained Provider**	**Setting**	**Notes**
≤12 weeks pregnancy duration			
Vacuum aspiration	Specialist and non-specialist doctors, Associate and advanced associate clinicians, midwives, nurses.	Primary care facility; outpatient care.	Can be used to 14 weeks pregnancy duration. The procedure should not be routinely completed by sharp curettage.
Mifepristone followed by misoprostol or misoprostol alone in settings where mifepristone is not available	Specialist and Non-specialist doctors, Associate and advanced associate clinicians, midwives, nurses, auxiliary nurses, auxiliary nurse midwives.	Outpatient, primary care level to 9 -10 weeks of pregnancy duration. Facilities for in-patient stay required beyond that.	Self-management i.e. management of medication without direct supervision of a health-care provider and self-assessment of completion can be undertaken independently outside of a facility in circumstances where women have a source of accurate information and access to a health-care provider should they need or want it at any stage of the process.
> 12 weeks pregnancy duration			
Dilation and evacuation (D&E)	Specialist and non-specialist doctors	Secondary level health care facility on outpatient basis	
Mifepristone followed by misoprostol or misoprostol alone in settings where mifepristone is not available	Specialist and non-doctors. (associate clinicians, nurses and midwives in certain specific circumstances)	Healthcare facility with provisions for inpatient stay.	

Note: Dilation and sharp curettage (D&C): As per WHO guidelines, D&C if still practiced should be replaced by vacuum aspiration.

The table above is a tabular summary of the key points of current WHO recommendations. The complete and full recommendations can be found in the following documents:

- World Health Organization. Safe abortion: technical and policy guidance for health systems. Second Edition ed. Geneva: World Health Organization; 2012. (http://www.who.int/reproductivehealth/publications/unsafe_abortion/9789241548434/en/)
- World Health Organization. Health worker roles in providing safe abortion care and post-abortion contraception. Geneva: World Health Organization; 2015. (http://www.who.int/reproductivehealth/publications/unsafe_abortion/abortion-task-shifting/en/)
- World Health Organization. Clinical Practice handbook for Safe Abortion. Geneva: World Health Organization; 2014. (http://www.who.int/reproductivehealth/publications/unsafe_abortion/clinical-practice-safe-abortion/en/)

FACTORS THAT INFLUENCE THE CONDITIONS OF SAFETY UNDER WHICH AN ABORTION TAKES PLACE

CONCEPTUAL DOMAINS OF SAFETY CONSIDERED FOR THIS ANALYSES

We considered a range of factors that might influence the ability of a woman to have an abortion with a trained provider, safe method and in a setting appropriate for the method and pregnancy duration. We organized the factors into five conceptual domains:

- The abortion service delivery environment: The actual availability of trained providers, safe methods and settings equipped to provide safe services.
- Financial access to safe methods and trained providers
- Abortion Stigma and gender inequality. The two concepts are overlapping and interrelated. We considered stigma as it applies to women basing the construct on the definition that stigma is a negative attribute ascribed to women who seek to terminate a pregnancy that marks them, internally or externally, as inferior to ideals of womanhood. (Kumar A, Hessini L, Mitchell EMH. Conceptualising abortion stigma. Culture, Health & Sexuality 2009; 11(6): 625 – 390). While its root causes are manifold, stigma is perpetuated by systems of unequal access to power and resources, narrow and rigid gender roles and systematic attempts to control female sexuality.
- Abortion laws in the country and how they are interpreted and implemented
- Overall development –including development of health services and related infrastructure.

The availability of trained providers and methods is the most immediate determinant of the safety of the procedure. Stigma, laws, financial ability and development of health services act both through influencing the availability of providers and methods but also by affecting the women's ability to access safe care –thus the conceptual domains are not mutually exclusive.

PLAUSIBLE COVARIATES CONSIDERED UNDER EACH OF THE CONCEPTUAL DOMAINS

Abortion service delivery Environment	**Legal environment for abortion**	**Abortion Stigma**	**Financial access to safe abortion**	**Development /Health Development**
Registration of mifepristone	*Legal grounds for abortion*	Measures of country religiosity	% of women living below the globally defined poverty line (either USD 2 or USD 3.1)	Human Development index (HDI)
				Life expectancy
				Gross National Income
Registration of manual vacuum aspiration (MVA)	Laws allow prosecution of women for seeking an abortion	***Gender inequality index***	% of women living below the national poverty line	Maternal Mortality ratio
Registration of misoprostol	Evidence of prosecution of women for seeking abortion	Global Gender gap index	GINI coefficient	***Gender inequality index***
			Gross National	
Pharmacy availability/ utilization of misoprostol	Concluding observations on abortion from treaty monitoring bodies			Skilled attendants at birth
Misoprostol drug sales				Physicians/nurses/midwives ratio to total population
Presence of national service delivery standards for safe abortion				***% of people living in urban areas***
% of people living in urban areas				

Physicians/nurses/midwives ratio to total population				

Note: The italicized covariates were formally tested in the model, the ones in bold were retained in the final model. Covariates are listed under the domains they measure, some covariates were considered representative of several domains hence are listed more than once.

SOURCES AND CONSTRUCTION OF COVARIATES USED IN THE FINAL MODEL

Covariate	Source of information	Notes on rationale and construction
Number of years of registration of mifepristone in country	Global Abortion Policies database http://srhr.org/abortion-policies	Mifepristone is specifically used for provision of safe induced abortion (but is not used in post-abortion care), thus its presence in-country serves as a proxy for the likelihood of an enabling environment for safe abortion services. The longer mifepristone has been available in a country context, the more likely that safe abortion services are well established. Construction: Number of years of registration of mifepristone and /or year of inclusion into the country's Essential Medicine List using mid- point observed data year (for model fitting) and 2012 (for estimation) as the reference year. Based on data distribution, it was converted to a categorical variable with 3 categories (no mifepristone; registered from 1-10 years and registered >10 years).
Registration of misoprostol in country	Global Abortion Policies database http://srhr.org/abortion-policies	Proxy for possible use of misoprostol outside of formal health systems. While not as ideal a proxy as pharmacy availability, misoprostol sales or actual documented use of misoprostol, this was chosen because systematic information for all countries was available only for this covariate. Construction: Used as a binary yes /no variable (misoprostol registered or on the Essential Medicine List for *any* indication was counted as a yes) only in second sub-model for separating the least safe and less safe categories.
Proportion of population living in urban areas	UN Department of Social and Economic Aspects : World urbanization prospects http://esa.un.org/unpd/wup/ (accessed 01 January 2017)	Proxy for availability of safe abortion services and trained providers, which is known to be higher in urban areas. Construction: Continuous variable. Sub regional averages were used to impute missing values.
Gender Inequality Index	World Bank http://hdr.undp.org/en/content/gender-inequality-index-gii (accessed 01 January 2017).	Composite index that measures gender inequalities in reproductive health (measured by maternal mortality ratio and adolescent birth rates); empowerment (measured by proportion of parliamentary seats occupied by females and proportion of adult females and males aged 25 years and older with at least some secondary education); and economic status, (measured by labour force participation rate of female and male populations aged 15 years and older).

		Partial proxy for abortion stigma, also a proxy for overall development of health services since maternal mortality ratio is a component of the index. Construction: The value of GII as a composite index was used as a continuous variable. As data was not available annually, time-matching for model fitting was not possible in all cases. Sub-regional averages were used to compute missing values.

Covariates dropped because of lack of uniform data for most countries or because of difficulties in interpretation of available data

Covariate	*Reasons*
Pharmacy availability of misoprostol	Information on policies relating to whether pharmacy based sales was available only for some countries limiting its usefulness as a predictor.
Pharmacy utilization of misoprostol	A covariate was constructed by looking for evidence of informal use of misoprostol based on a systematic search of qualitative studies and country case studies and media reports as obtained through the LEXIS-NEXIS database. Concerns over whether such anecdotal reports represent widespread use and concerns over how to interpret the lack of a published study, led us to eventually drop this covariate for this round of estimates.
Registration of manual vacuum aspiration (MVA)	Not possible to distinguish availability for post-abortion care or for Emergency Obstetric Care from availability for safe abortion care. Data not uniformly available for more than a handful of countries.
Misoprostol drug sales	Information is not available in the public domain. Not systematically available for all countries.
Physicians/nurses/midwives ratio to total population	Lack of information for many countries
Concluding observations from treaty monitoring bodies	Data was systematically available, however countries undergo review by treaty monitoring bodies only occasionally, and thus such observations exist only for a few countries during the 2010-2014 period limiting its usefulness.
Laws allow prosecution of women for seeking an abortion	Many countries include such provisions, but the existence of such laws do not indicate if and how they are applied in practice, hence difficult to interpret.
Evidence of prosecution of women for seeking abortion	A covariate was constructed by looking for evidence of women criminally prosecuted based on a systematic search of qualitative studies and country case studies and media reports as obtained through the LEXIS-NEXIS database. Concerns over whether such anecdotal reports represent only the more visible and extreme cases as well as our inability to capture this information more systematically led us to drop this from the covariates.
Measures of country religiosity	Difficult to interpret this in relation to abortion stigma

% of women living below the globally defined poverty line	Data not uniformly available, and in many countries the bar of the globally defined poverty line was not considered an adequate representation of in-country inequalities in access.
% of women living below the national poverty line	Lack of uniform data; inability to interpret the covariate information in relation to in-country inequalities in access.

Covariates that were not used because other conceptually stronger alternatives where available

Covariates	*Reason*
Presence of national service delivery standards for safe abortion	Since it was not possible to know whether guidelines contain evidence based recommendations, registration of mifepristone was which captures the same concept was chosen as stronger indicator of efforts or activities in-country to improve access to safe abortion. Additionally, at the time of the development of the estimates this data was still being collected by HRP for the Global Abortion Policies database and was not available in its entity.
Skilled Attendants at Birth	The % of women living in urban areas was chosen as conceptually being a stronger predictor for the availability of abortion services and providers, given that those are more concentrated in urban areas
Human Development Index	The gender inequality index (GII), combined with the GNI (which is a component of the HDI) were considered as conceptually stronger proxies for health services development

Formally tested in model and then dropped

Covariates	*Reasons*
Gross National Income	Considered as a possible proxy for health services development and financial ability to access safe abortion. Dropped as it did not improve model fit (See details of model fitting)
Legal grounds for abortion	Considered as a possible proxy for enabling environment. Dropped as it did not improve model fit (See details of model fitting)

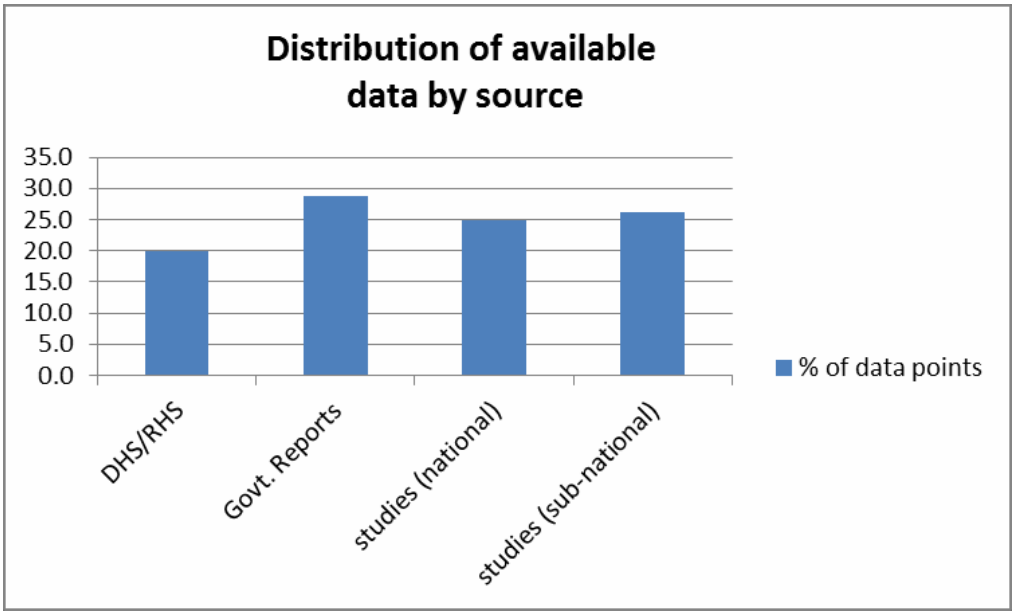
EMPIRICAL DATA

SOURCES OF EMPIRICAL DATA FOR THIS ANALYSES

Note : Empirical data refers to data sources providing information on the conditions under which an abortion took place (i.e .information on the method of abortion, type of health worker involved, or the place where the abortion took place)

- DEMOGRAPHIC AND HEALTH SURVEYS (DHS):
- REPRODUCTIVE HEALTH SURVEYS (RHS):
- MINISTRIES OF HEALTH AND NATIONAL STATISTICS OFFICES:
- PUBLISHED /UNPUBLISHED LITERATURE BASED ON SPECIFIC STUDIES

DISTRIBUTION OF DATA AVAILABILITY BY SOURCE



Note: Multiple data from government reports that were averaged are treated as one point in the above graph

EMPIRICAL DATA AVAILABILITY BY SUB-REGION

Proportion of countries for which at least one empirical data point was available for use in the estimation

	Number of countries	Number of countries with empirical data	%
Worldwide	**182**	**61**	**33.52%**
Developed Regions	**43**	**23**	**53.49%**
Developing Regions	**139**	**38**	**27.34%**
Northern America	**2**	**2**	**100.00%**
Europe	**38**	**18**	**47.37%**
Southern Europe	11	3	27.27%
Western Europe	7	5	71.43%
Northern Europe	10	7	70.00%
Eastern Europe	10	3	30.00%
Asia	**48**	**18**	**37.50%**
Eastern Asia	5	3	60.00%
South-Eastern Asia	11	2	18.18%
South and Central Asia	14	7	50.00%
Western Asia	18	6	33.33%
Latin America	**31**	**4**	**12.90%**
Caribbean	11	1	9.09%
Central America	8	1	12.50%
South America	12	2	16.67%
Africa	**53**	**15**	**28.30%**
Eastern Africa	17	7	41.18%
Middle Africa	9	3	33.33%
Northern Africa	6	0	0.00%
Western Africa	16	5	31.25%
Southern Africa	5	0	0.00%
Oceania	**10**	**4**	**40.00%**

DEMOGRAPHIC AND HEALTH SURVEYS (DHS) AND REPRODUCTIVE HEALTH SURVEYS (RHS)

The DHS are nationally representative sample of women aged 15-44 or 15-49 (varies with survey). Women reporting an induced abortion during the survey recall period are asked further details about the characteristics of the abortion. The RHS are also nationally representative surveys of women in the reproductive age group, but unlike DHS the entire survey is focused on Reproductive Health issues.

Both these provide a nationally representative sample but underreporting of induced abortion particularly of informal /illegal abortions is likely. As with any survey based on women's reports –methods, providers and settings as perceived and reported by the respondent may not match medical definitions of safe methods, trained providers or appropriate health facilities.

DHS and RHS data sources that informed the .estimation models:

Country	Data on method	Data on provider	Data on setting	Use in model	References
Western Asia					
Armenia (2007-11)	√			Data point	National Statistical Service [Armenia], Ministry of Health [Armenia], ICF International. Armenia Demographic and Health Survey 2010. Calverton, Maryland: National Statistical Service, Ministry of Health, and ICF International, 2012.
Azerbaijan (2008-2011)	√		√	Data point	Public Health and Reforms Centre (PHRC) [Azerbaijan]. Demographic and Health Survey Azerbaijan 2011. Baku, Azerbaijan: Ministry of Health (MoH) [Azerbaijan], 2013.
Turkey (2008-2013)			√	Data point in first sub-model only	Hacettepe University Institute of Population Studies (2014), "2013 Turkey Demographic and Health Survey". Hacettepe University Institute of Population Studies, T.R. Ministry of Development and TÜBİTAK, Ankara, Turkey.
Georgia (2005-2011)	√		√	Data point	Division of Reproductive Health CfDCaPC, Georgia Ministry of Labor haSA, National Centre for Disease Control and Public Health (Georgia), Georgia nSOo. Georgia Reproductive Health Survey 2010. Tbilisi, Georgia: National Centre for Disease Control and Public Health, 2012
East Asia					
Mongolia (2004-09)	√			Data point	Ministry of Health [Mongolia], National Statistical Office of Mongolia. Mongolia

					Reproductive Health Survey 2008. Ulaanbaatar, Mongolia: National Statistical Office of Mongolia, 2009
South-central Asia					
Kyrgyzstan (2009-13)	√			Data point	National Statistical Committee of the Kyrgyz Republic (NSC), Ministry of Health [Kyrgyz Republic], ICF International. Kyrgyz Republic Demographic and Health Survey 2012. Bishkek, Kyrgyz Republic, and Calverton, Maryland, USA: NSC, MoH, and ICF International, 2013
Nepal (2006-11)	√	√	√	Data point	Ministry of Health and Population (MOHP) [Nepal], New ERA, and ICF International Inc. 2012. Nepal Demographic and Health Survey 2011. Kathmandu, Nepal: Ministry of Health and Population, New ERA, and ICF International, Calverton, Maryland.
Bangladesh (2009-12)			√	Minimum lower limit of the least safe abortions (data is only for Menstrual Regulation procedures)	National Institute of Population Research and Training (NIPORT), Mitra and Associates, ICF International. Bangladesh Demographic and Health Survey 2011. Dhaka, Bangladesh and Calverton, Maryland, USA: NIPORT, Mitra and Associates, and ICF International, 2013.
South-east Asia					
Cambodia (2008-14)	√	√	√	Two surveys available, averaged data point used	National Institute of Statistics, Directorate General for Health, ICF International. Cambodia Demographic and Health Survey. Phnom Penh, Cambodia and Rockville, Maryland, USA: National Institute of Statistics, Directorate General for Health, and ICF International, 2011; 2015.
Eastern Europe					
Russian Federation (2006-2012)	√		√	Data point	Serbanescu F, Avdeev A, Traskaia I. Induced abortion in reproductive health survey Russia 2011: Final report draft. Atlanta, GA, USA: Federal State Statistic Service (ROSSTAT), and Centre for Disease Control and Prevention (CDC), 2013
Middle Africa					
Congo (2006 -2012)	√	√	√	Data point	Centre Nationale de la Statistique et des Études Économiques (CNSEE) [Congo], ICF International. Enquête Démographique et de Santé du Congo (EDSC-II) 2011-2012. Calverton, Maryland, USA: CNSEE et

					ICF International, 2013.
Gabon (2007-2012)	√	√	√	Data point	Direction Générale de la Statistique (DGS), ICF International. Enquête Démographique et de Santé du Gabon 2012. Calverton, Maryland et Libreville, Gabon: GDS et ICF International, 2013
Western Africa					
Ghana (2002-2008)	√	√	√	Data point	Ghana Statistical Service (GSS), Ghana Health Service (GHS), Macro International. Ghana Maternal Health Survey 2007. Calverton, Maryland, USA: GSS, GHS, and Macro International, 2009.
Caribbean					
Haiti (2007 - 2012)	√	√	√	Data point	Cayemittes M, Busangu MF, Bizimana JdD, et al. Enquête Mortalité, Morbidité et Utilisation des Services, Haïti, 2012. Calverton, Maryland, USA: MSPP, IHE et ICF International, 2013.

This represents routinely collected information as part of the health information reporting within the country. This is a reasonable representation of safety in countries where most abortions are reported and facility based (the majority of countries for which data of this type was available), it is possible that private sector abortions may be under represented, particularly in Eastern Europe.

National Statistics data sources that informed the estimation model

Country	Data on method	Data on provider	Data on setting	Use in model	References
Western Europe					
Belgium (2009-2011)	√			Multiple data points, averaged	Rapport bisannuel 2010-2012; Commission nationale d'evaluation interruptionde grossesse; http://organesdeconcertation.sante.belgique.be/fr/documents/2012-ivg-rapport-bisannuel (accessed 2 Feb 2016)
France (2008-2013)	√			Multiple data points, averaged	Institut National d'Études Démographiques [France]. Statistiques de l'avortement en France 2015. http://ivg_statistiques.site.ined.fr/ (accessed 27 May 2015).
Germany (2014)	√			Multiple data points, averaged	Statistisches Bundesamt Zweigstelle Bonn [Germany]. Number of pregnancy terminations. 9 March 2016 2016. http://www.gbe-bund.de/gbe10/i?i=240:18973661E (accessed 20 May 2016).
Netherlands (2010-2014)	√			Multiple data points, averaged	Inspectie voor de Gezondheidszorg [Netherlands]. Jaarrapportage 2010; 2011; 2012; 2013; 2014 van de Wet afbreking zwangerschap. Utrecht: Ministerie van Volksgezondheid, Welzijn en Sport.
Switzerland (2009-2013)	√			Multiple data points, averaged	Office Fédéral de la Statistique [Switzerland]. Interruptions de grossesse. 2016. http://www.bfs.admin.ch/bfs/portal/fr/index/themen/14/02/03/key/03.html (accessed 19 May 2015
Southern Europe					
Italy (2013)	√			data point	Ministero della Salute [Italy]. Relazione del ministro della salute sulla attuazione della legge contenente norme per la tutela sociale della maternità e per l'interruzione volontaria di gravidanza (legge 1994/78), dati preliminari 2014 - dati definitivi 2013. Rome, 2013
Portugal (2010-2014)	√			Multiple data points, averaged	Direcao-Geral da saude, divisao de Saude Reproductiva – Relatorio dos Registos das interrupcoes da gravidez ao abrigo de lei 16/2007 de 17 de abril; Lisboa 2012.
Spain (2010-2013)				data point	Subdirección General de Promoción de la Salud y Epidemiología [Spain]. Interrupciones Voluntarias del Embarazo. http://www.msssi.gob.es/profesionales/saludPublica/prevPromocion/embarazo/tablas_figuras.htm (accessed 5 January 2016)
Northern Europe					
Denmark (2010-2013)	√			Multiple data points, averaged	Heino A, Gissler M. [Induced abortions in the Nordic countries 2013] Pohjoismaiset raskaudenkeskeytykset 2013: Aborter i Norden 2013. Helsinki, Finland: National Institute for Health and Welfare, 2015
Estonia	√			Multiple	National Institute for Health Development [Estonia]. Health Statistics and Health Research Database:

(2010-2014)				data points, averaged	Abortions. 2016. http://pxweb.tai.ee/esf/pxweb2008/Database_en/Population/03Abortions/03Abortions.asp (accessed 22 May 2015
Finland (2009-2014)	√			Multiple data points, averaged	National Institute for Health and Welfare [Finland]. Induced abortions in 2014, 2015. https://www.thl.fi/en/web/thlfi-en/statistics/statistics-by-topic/sexual-and-reproductive-health/abortions/induced-abortions (accessed 4 February 2015).
Iceland (2009-2014)	√			Multiple data points, averaged	Heino A, Gissler M. [Induced abortions in the Nordic countries 2013] Pohjoismaiset raskaudenkeskeytykset 2013: Aborter i Norden 2013. Helsinki, Finland: National Institute for Health and Welfare, 2015
Norway (2008-2013)	√			Multiple data points, averaged	Heino A, Gissler M. [Induced abortions in the Nordic countries 2013] Pohjoismaiset raskaudenkeskeytykset 2013: Aborter i Norden 2013. Helsinki, Finland: National Institute for Health and Welfare, 2015 Norwegian Institute of Public Health. Medical birth registry and abortion registry, FHI. http://statistikkbank.fhi.no/mfr/ (accessed 18 February 2016).
Sweden (2009-20140	√			Multiple data points, averaged	Socialstyrelsen [Sweden]. Statistik om aborter. http://www.socialstyrelsen.se/statistik/statistikefterarne/aborter (accessed 15 January 2015).
United Kingdom (2008-2014)	√			Multiple data points, averaged	Abortion Statistics Team [England and Wales]. Abortion statistics, England and Wales. https://www.gov.uk/government/collections/abortion-statistics-for-england-and-wales (accessed 21 December 2015).
Eastern Europe					
Russia (2013)	√			Data point	Ministry of Health, personal communication
Belarus (2013)	√			Data point	Ministry of Health; personal communication
Moldova (2013)	√			Data point	National Centre for Healthcare Mangement [Moldova]. Statistica avorturilor pe metode, numarul si procentajul chiuretajelor pentru 2013. Moldova: National Centre for Healthcare Management; 2014.
Northern America					
Canada (2008-2013)	√			Multiple data points, averaged	Canadian Institute for Health Information. Induced abortions reported in Canada in 2008; 2009; 2010; 2011; 2012; 2013. Canadian Institute for Health Information
United States (2010-2012)	√			Multiple data points, averaged	Pazol K, Creanga AA, Burley KD, Hayes B, Jamieson DJ. Abortion surveillance - United States, 2010. MMWR Surveill Summ 2013; 62(8): 1-44. Pazol K, Creanga AA, Burley KD, Jamieson DJ. Abortion surveillance - United States, 2011. MMWR Surveill Summ 2014; 63(11): 1-41. Pazol K, Creanga AA, Jamieson DJ. Abortion Surveillance - United States, 2012. MMWR Surveill Summ 2015; 64(10): 1-40. Pazol K, Creanga AA, Zane SB, Burley KD, Jamieson DJ. Abortion surveillance--United States, 2009. MMWR Surveill Summ 2012; 61(8): 1-44. Pazol K, Zane SB, Parker WY, Hall LR, Berg C, Cook DA. Abortion surveillance--United States, 2008. MMWR Surveill Summ 2011; 60(15): 1-41

Western Asia					
Israel (2013)	√			data point	Central Bureau of Statistics [Israel]. Applications to committee for termination of pregnancy, by religion, marital status, age and selected characteristics 2013: Central Bureau of Statistics, 2013. Information Division Ministry of Health. Termination of pregnancy under the law 1990 - 2013. Jerusalem: Ministry of Health, 2014.
Oceania					
Australia (2010-2013)	√			Multiple data points, averaged	Chan A, Scheil W, Scott J, Nguyen A-M, Sage L. Pregnancy Outcome in South Australia. Adelaide, Australia Pregnancy Outcome Unit, SA Health, Government of South Australia, 2009, 2011, 2012, 2013, 2015.
New Zealand (2010-2014)	√			Multiple data points, averaged	Abortion Supervisory Committee. Report of the Abortion Supervisory Committee. New Zealand, 2013; 2014; 2015. Statistics New Zealand. Abortion. 23 December 2015. http://www.stats.govt.nz/browse_for_stats/health/abortion.aspx (accessed 17 February 2016).

DATA FROM PUBLISHED AND UNPUBLISHED STUDIES

STUDIES DRAWING ON INDIRECT ESTIMATION FROM SURVEYS OF HEALTH PROFESSIONALS OR OTHER KNOWLEDGEABLE INDIVIDUALS REPORTING ON ABORTION CARE SEEKING PRACTICES OF WOMEN

Country	Data on method	Data on provider	Data on setting	Use in model	References
East Africa					
Ethiopia (2008, 2014)		√		Adjusted data point (2 surveys available)	Moore A et al., The estimated incidence of induced abortion in Ethiopia, 2014: changes in the provision of services since 2008, International Perspectives on Sexual and Reproductive Health, 2016, doi: 10.1363/42e1816. Singh S, Fetters T, Gebreselassie H, Abdella A, Gebrehiwot Y, Kumbi S, Audam S, The estimated incidence of induced abortion in Ethiopia, 2008, International Perspectives on Sexual and Reproductive Health, 2010:16-25.
Kenya (2012)		√		Adjusted data point	Incidence and Complications of Unsafe Abortion in Kenya: Key Findings of a National Study (Nairobi, Kenya: African Population and Health Research Center, Ministry of Health, Kenya, Ipas, and Guttmacher Institute 2013)
Malawi (2012)		√		Adjusted data point	unpublished
Rwanda (2010)		√		Adjusted data point	Basinga P et al., Unintended Pregnancy and Induced Abortion in Rwanda: Causes and Consequences, New York: Guttmacher Institute, 2012.
Uganda (2013)		√		Adjusted data point	Prada E, Atuyambe LM, Blades NM, Bukenya JN, Orach CG, Bankole A, Incidence of Induced Abortion in Uganda, 2013: New Estimates Since 2003. PLoS ONE, 2016,11(11), doi:10.1371/journal.pone.0165812
United Republic of Tanzania (2013)		√		Adjusted data point	Keogh SC et al., Incidence of induced abortion and post-abortion care in Tanzania, PLoS ONE, 2015, 10(9):e0133933, doi:10.1371/journal.pone.0133933.
Western Africa					
Nigeria (2012)		√		Adjusted data point	Bankole A et al., The incidence of abortion in Nigeria, International Perspectives on Sexual and Reproductive Health, 2015, 41(4):170–181.
Senegal (2012)		√		Adjusted data point	Sedgh G et al., Estimates of the incidence of induced abortion and consequences of unsafe abortion in Senegal, International Perspectives on Sexual and Reproductive Health, 2015, 41(1):11–19
South central Asia					
Bangladesh (2010)		√		Adjusted data point	Singh S, Hossain A, Maddow-Zimet I, Bhuiyan HU, Vlassoff M, Hussain R, The incidence of menstrual regulation procedures and abortion in Bangladesh, 2010. International Perspectives on Sexual and Reproductive Health, 2012:122-32.
Pakistan		√		Adjusted	Sathar ZA, Singh S, Shah ZH, Rashida G,

(2012)				data point	Kamran I, and Eshai K, *Post-Abortion Care in Pakistan: A National Study*, Islamabad, Pakistan: Population Council, 2013.
Southern America					
Colombia (2009)		√		Adjusted data point	Prada E, Singh S, Remez L and Villarreal C, *Unintended Pregnancy and Induced Abortion in Colombia: Causes and Consequences*, New York: Guttmacher Institute, 2011
Central America					
Mexico (2007)		√		Adjusted data point	Juarez F, Singh S, Maddow-Zimet I, and Wulf D, *Embarazo no planeado y aborto inducido en Mexico: causas y consequencias*, New York: Guttmacher Institute, 2013.

Note: These data come from tabulations prepared by the Guttmacher Institute from Health Professional Surveys conducted during the course of studies on abortion incidence using the Abortion Incidence Complications Methodology (AICM).

STUDIES WITH NATIONALLY OR SUB-NATIONALLY REPRESENTATIVE FACILITY BASED DATA ON MANAGEMENT OF INDUCED ABORTION

Country	**Data on method**	**Data on provider**	**Data on setting**	**Use in model**	**References**
East Africa					
Kenya (2012)	√			Maximum upper limit for safe abortion	Ziraba AK, Izugbara C, Levandowski BA, et al. Unsafe abortion in Kenya: a cross-sectional study of abortion complication severity and associated factors. BMC pregnancy and childbirth 2015; 15: 34.
Malawi (2012)	√			Maximum upper limit for safe abortion	Kalilani-Phiri L, Gebreselassie H, Levandowski BA, Kuchingale E, Kachale F, Kangaude G. The severity of abortion complications in Malawi. International journal of gynaecology and obstetrics: 2015; 128(2): 160-4.
Ethiopia (2014)	√			Maximum upper limit for safe abortion	Fetters T, Gebreselassie H, Gebrehiwot Y, et al. A Description of Morbidity from Abortion Complications in Ethiopia, 2008 & 2014. 2015 Population Association of America Annual Meeting. San Diego, California, USA; 2015. Gebreselassie H, Fetters T, Singh S, et al. Caring for women with abortion complications in Ethiopia: national estimates and future implications. International perspectives on sexual and reproductive health 2010; 36(1): 6-15.
Western Africa					
Sierra Leone (2011)	√			Maximum upper limit for safe	Paul M, Gebreselassie H, Samai M, Benson J, Kargbo S, Lazzarino M:

				abortion	Unsafe Abortion in Sierra Leone: An Examination of Costs and Burden of Treatment on Healthcare Resources. J Women's Health Care 2015, 4:2
South central Asia					
Bangladesh (2009)	√			Maximum upper limit for safe abortion (sub-national)	Rahman M, DaVanzo J, Razzaque A: Pregnancy termination in Matlab, Bangladesh: maternal mortality risks associated with menstrual regulation and abortion. Int Perspect Sex Reprod Health. 2014 Sep;40(3):108-18.
Pakistan (2012)	√			Maximum upper limit for safe abortion	Sathar ZA, Singh S, Shah ZH, Rashida G, Kamran I, Eshai K. Post-abortion care in Pakistan: A national study. Islamabad, Pakistan: Population Council, 2013.
India (2011)	√			Maximum upper limit for safe abortion (sub-national)	Aich P, Bangerjee SK, Jha TK, Aggarwal A, Sinha D. Situation analysis of MTP services in Bihar. New Delhi, India: Ipas, 2011.
East Asia					
Japan (2012)	√			Data point	Sekiguchi A, Ikeda T, Okamura K, Nakai A. Safety of induced abortions at less than 12weeks of pregnancy in Japan. International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics 2014.
South East Asia					
Myanmar (2010)	√			Maximum upper limit for safe abortion (sub-national)	Unpublished data from WHO

1. STUDIES BASED ON RETROSPECTIVE SURVEYS OF WOMEN IN REPRODUCTIVE AGE GROUP (EITHER POPULATION BASED OR FROM WOMEN RECRUITED AT HEALTH FACILITIES)

	Data on method	**Data on provider**	**Data on setting**	**Use in model**	**References**
China 1 (2010)			√	maximum upper limit of safe abortion (sub-national urban sample, population based)	Xiao Y, Gao Y, Hu Z. Prevalence of artificial abortion and its influential factors among rural married reproductive women. Chinese Journal of Public Health 2013; 29(10): 1521-3
China 2 (2013)			√	data point in first sub-model only (sub-national population based survey)	Xiaoqin S, Yimin M, Liandong Z, Yong X, Li L. Status and influencing factors of induced abortion among childbearing women with different household registration in Guangzhou. Chinese Journal of Family Planning 2013; 21(11): 739-42.
South central Asia					
Iran (2009-10)	√	√	√	minimum lower limit of safe abortions and maximum upper limit of unsafe abortion (sub-national urban sample recruited from facilities)	Ranji A. Induced abortion in Iran: prevalence, reasons, and consequences. Journal of Midwifery and Women's Health 2012; 57(5): 482-8.
Sri Lanka (2010)	√	√		Data point (sub national)	Arambepola C, Rajapaksa LC: Decision making on unsafe abortions in Sri Lanka: a case-control study. Reprod Health. 2014 Dec 17;11:91
India (2010-2011)	√	√		Data points (three sub-national population based surveys)	Jejeebhoy SJ, Francis Zavier AJ, Acharya R, Kalyanwala S. Increasing access to safe abortion in rural Maharashtra: Outcomes of a Comprehensive Abortion Care model. New Delhi, India: Population Council, 2011. Jejeebhoy, S. J., A. J. Francis Zavier, R. Acharya and S. Kalyanwala. 2011. Increasing access to safe abortion in rural Rajasthan: Outcomes of a Comprehensive Abortion Care model. New Delhi: Population Council. Banerjee SK, Andersen KL, Baird TL, Ganatra B, Batra S, Warvadekar J. Evaluation of a multi-pronged intervention to improve access to safe abortion care in two districts in Jharkhand. BMC health services

					research 2014; 14: 227.
Western Asia					
Palestine (2011)	√	√		Maximum upper limit for safe abortions (sub-national)	Hassan SJ, Wick L, DeJong J. A glance into the hidden burden of maternal morbidity and patterns of management in a Palestinian governmental referral hospital. Women Birth 2015
Middle Africa					
Cameroon (2012)	√	√		data point (sub-national)	Ngowa J, Neng H, Domgue J, Nsahlai C, Kasia J. Voluntary induced abortion in Cameroon: prevalence, reasons, and complications. Open Journal of Obstetrics and Gynecology 2015; 5(475-480).
Western Africa					
Burkina Faso (2010)	√	√		data point (national population based survey)	Bankole A, Hussain R, Sedgh G, Rossier C, Kaboré I, Guielle G. Grossesse non désirée et avortement provoqué au Burkina Faso: causes et conséquences. New York, USA: Guttmacher Institute, 2013
Ghana (2008)	√	√	√	data point (sub-national)	Mote CV, Otupiri E, Hindin MJ. Factors associated with induced abortion among women in Hohoe, Ghana. African Journal of Reproductive Health 2010; 14(4 Spec no.): 110-6
East Africa					
Zambia (2013)	√			data point (sub-national population based survey)	Ongoing studies; unpublished data
Southern America					
Bolivia (2010)	√	√		Maximum upper limit for safe abortion & minimum lower limit for least safe abortion (sub-national urban survey)	Bury L, Aliaga Bruch S, Machicao Barbery X, Garcia Pimentel F. Hidden realities: What women do when they want to terminate an unwanted pregnancy in Bolivia. International journal of gynaecology and obstetrics: 2012; 118 Suppl 1: S4-9.
Oceania					
Papua New Guinea (2012)	√	√		Maximum upper limit least safe abortions (sub-national sample drawn from hospital)	Vallely LM, Homiehombo P, Kelly-Hanku A, Kumbia A, Mola GD, Whittaker A. Hospital admission following induced abortion in Eastern Highlands Province, Papua New Guinea--a descriptive study. PloS one 2014; 9(10): e110791
Vanuatu (2010-2014)			√	Data point in first sub-model only	Vanuatu Family Health Association. The context of induced abortion in Vanuatu: Operation research project. Vanuatu: Vanuatu Family

					Health Association; International Planned Parenthood Foundation; Safe Abortion Action Fund, 2015.

SEARCH STRATEGY FOR SYSTEMATIC SEARCHES OF BIBLIOGRAPHIC DATABASES

The search strategy, developed in collaboration with the WHO Library staff, was initially developed and tested in PubMed. To test the search strategy we chose 10 sources a priori that met inclusion criteria. These sources were intentionally selected to represent diverse time periods of publication, geographic regions, and types of publication. We experimented with different search strategies in PubMed to find the strategy that identified all 10 sources and had the fewest total results. The search strategy was translated into other languages and adapted to other search engines by native or fluent speakers.

The search was developed for use for several analyses and therefore more comprehensive (i.e. included abortion morbidity and mortality) and for a longer time span (1990 onwards) than needed for the purpose of these estimates.

ABORTION SEARCH TERMS FOR PUBMED DATABASE.

Search (#26) NOT "comment"[Publication Type]

Search (#24) NOT "editorial"[Publication Type]

Search (#23) NOT "threatened abortion"[Title/Abstract]

Search (#22) NOT "in vitro fertilisation"[Title/Abstract]

Search (#16) NOT "in vitro fertilization"[Title/Abstract]

Search (#15) NOT in vitro fertilization[MeSH Terms]

Search (#14) NOT (("animals"[MeSH Terms] NOT (humans [MeSH Terms] AND animals[MeSH Terms])))

Search (#13) AND ("1980/01/01"[Date - Publication] : "3000"[Date - Publication])

Search ((((((((((abortion[MeSH Terms]) OR "abortion"[Title/Abstract]) OR "abortions"[Title/Abstract]) OR abortion, criminal[MeSH Terms]) OR miscarriage[MeSH Terms]) OR "miscarriage"[Title/Abstract]) OR "menstrual regulation"[Title/Abstract]) OR legal abortion[MeSH Terms]) OR "termination of pregnancy"[Title/Abstract]) OR "pregnancy termination"[Title/Abstract]) OR "postabortion"[Title/Abstract]) OR "post-abortion"[Title/Abstract]

Legal methods/technologies search terms for Pubmed database.

"curettage"[MeSH Terms] OR "curettage"[All Fields],

"vacuum curettage"[MeSH Terms] OR ("vacuum"[All Fields] AND "curettage"[All Fields]) OR "vacuum curettage"[All Fields] OR ("vacuum"[All Fields] AND "aspiration"[All Fields]) OR "vacuum aspiration"[All Fields],

("manual"[All Fields]) AND ("vacuum curettage"[MeSH Terms] OR ("vacuum"[All Fields] AND "curettage"[All Fields]) OR "vacuum curettage"[All Fields] OR ("vacuum"[All Fields] AND "aspiration"[All Fields]) OR "vacuum aspiration"[All Fields]),

"MVA"[All Fields],

("electricity"[MeSH Terms] OR "electricity"[All Fields] OR "electric"[All Fields]) AND ("vacuum curettage"[MeSH Terms] OR ("vacuum"[All Fields] AND "curettage"[All Fields]) OR "vacuum curettage"[All Fields] OR ("vacuum"[All Fields] AND "aspiration"[All Fields]) OR "vacuum aspiration"[All Fields]),

"EVA"[All Fields],

("suction"[MeSH Terms] OR "suction"[All Fields]) AND termination[All Fields],

("menstruation"[MeSH Terms] OR "menstruation"[All Fields] OR "menstrual"[All Fields]) AND ("social control, formal"[MeSH Terms] OR ("social"[All Fields] AND "control"[All Fields] AND "formal"[All Fields]) OR "formal social control"[All Fields] OR "regulation"[All Fields]),

"mifepristone"[MeSH Terms] OR "mifepristone"[All Fields],

"misoprostol"[MeSH Terms] OR "misoprostol"[All Fields],

medical[All Fields] AND ("abortion, induced"[MeSH Terms] OR ("abortion"[All Fields] AND "induced"[All Fields]) OR "induced abortion"[All Fields] OR "abortion"[All Fields]),

"ru486"[All Fields],

"methotrexate"[MeSH Terms] OR "methotrexate"[All Fields],

late[All Fields] AND medical[All Fields] AND ("abortion, induced"[MeSH Terms] OR ("abortion"[All Fields] AND "induced"[All Fields]) OR "induced abortion"[All Fields] OR "abortion"[All Fields]),

late[All Fields] AND ("abortion, induced"[MeSH Terms] OR ("abortion"[All Fields] AND "induced"[All Fields]) OR "induced abortion"[All Fields] OR "abortion"[All Fields]),

("dilatation, pathologic"[MeSH Terms] OR ("dilatation"[All Fields] AND "pathologic"[All Fields]) OR "pathologic dilatation"[All Fields] OR "dilation"[All Fields]) AND evacuation[All Fields],

("surgical procedures, operative"[MeSH Terms] OR ("surgical"[All Fields] AND "procedures"[All Fields] AND "operative"[All Fields]) OR "operative surgical procedures"[All Fields] OR "surgical"[All Fields]) AND two-stage[All Fields] AND ("abortion, induced"[MeSH Terms] OR ("abortion"[All Fields] AND "induced"[All Fields]) OR "induced abortion"[All Fields] OR "abortion"[All Fields]),

Medically[All Fields] AND ("abortion, induced"[MeSH Terms] OR ("abortion"[All Fields] AND "induced"[All Fields]) OR "induced abortion"[All Fields] OR ("induced"[All Fields] AND "abortion"[All Fields])),

"ethacridine"[MeSH Terms] OR "ethacridine"[All Fields] OR ("ethacridine"[All Fields] AND "lactate"[All Fields]) OR "ethacridine lactate"[All Fields], Rivanol,

"ethacridine"[MeSH Terms] OR "ethacridine"[All Fields] OR "rivanol"[All Fields]

"prostaglandins"[MeSH Terms] OR "prostaglandins"[All Fields] OR "prostaglandin"[All Fields],

"hysterotomy"[MeSH Terms] OR "hysterotomy"[All Fields],

Instillation[All Fields] AND ("abortion, induced"[MeSH Terms] OR ("abortion"[All Fields] AND "induced"[All Fields]) OR "induced abortion"[All Fields] OR "abortion"[All Fields]),

Intact[All Fields] AND ("dilatation, pathologic"[MeSH Terms] OR ("dilatation"[All Fields] AND "pathologic"[All Fields]) OR "pathologic dilatation"[All Fields] OR "dilation"[All Fields]) AND extraction[All Fields],

("menstruation"[MeSH Terms] OR "menstruation"[All Fields] OR "menstrual"[All Fields]) AND extraction[All Fields],

Unsafe methods/technologies search terms for pubmed databases.

self-induced[All Fields] AND ("abortion, induced"[MeSH Terms] OR ("abortion"[All Fields] AND "induced"[All Fields]) OR "induced abortion"[All Fields] OR "abortion"[All Fields]),

self-induced[All Fields] AND ("abortion, spontaneous"[MeSH Terms] OR ("abortion"[All Fields] AND "spontaneous"[All Fields]) OR "spontaneous abortion"[All Fields] OR "miscarriage"[All Fields]),

"abortifacient agents"[Pharmacological Action] OR "abortifacient agents"[MeSH Terms] OR ("abortifacient"[All Fields] AND "agents"[All Fields]) OR "abortifacient agents"[All Fields] OR "abortifacient"[All Fields] OR "abortifacients"[All Fields],

("abdomen"[MeSH Terms] OR "abdomen"[All Fields] OR "abdominal"[All Fields]) AND ("massage"[MeSH Terms] OR "massage"[All Fields]) ,

("vagina"[MeSH Terms] OR "vagina"[All Fields] OR "vaginal"[All Fields]) AND ("pessaries"[MeSH Terms] OR "pessaries"[All Fields]),

invasive[All Fields]

coat-hanger[All Fields]

herbal[All Fields]

Pennyroyal[All Fields]

dried[All Fields] AND ("lawsonia plant"[MeSH Terms] OR ("lawsonia"[All Fields] AND "plant"[All Fields]) OR "lawsonia

plant"[All Fields] OR "henna"[All Fields])

("daucus carota"[MeSH Terms] OR ("daucus"[All Fields] AND "carota"[All Fields]) OR "daucus carota"[All Fields] OR "carrot"[All Fields]) AND ("seeds"[MeSH Terms] OR "seeds"[All Fields] OR "seed"[All Fields])

"therapeutic irrigation"[MeSH Terms] OR ("therapeutic"[All Fields] AND "irrigation"[All Fields]) OR "therapeutic irrigation"[All Fields] OR "douching"[All Fields]

"vaginal douching"[MeSH Terms] OR ("vaginal"[All Fields] AND "douching"[All Fields]) OR "vaginal douching"[All Fields] OR "douche"[All Fields]

traditional[All Fields] at-home methods

at-home[All Fields] AND ("methods"[MeSH Terms] OR "methods"[All Fields] OR "method"[All Fields])

at-home[All Fields] AND ("methods"[Subheading] OR "methods"[All Fields] OR "methods"[MeSH Terms]),

"back alley"[All Fields]

illegal[All Fields] AND termination[All Fields]

illegal[All Fields] AND ("abortion, induced"[MeSH Terms] OR ("abortion"[All Fields] AND "induced"[All Fields]) OR "induced abortion"[All Fields] OR ("pregnancy"[All Fields] AND "termination"[All Fields]) OR "pregnancy termination"[All Fields])

"abortion, criminal"[MeSH Terms] OR ("abortion"[All Fields] AND "criminal"[All Fields]) OR "criminal abortion"[All Fields] OR ("illegal"[All Fields] AND "abortion"[All Fields]) OR "illegal abortion"[All Fields]

"abortion, criminal"[MeSH Terms] OR ("abortion"[All Fields] AND "criminal"[All Fields]) OR "criminal abortion"[All Fields] OR ("illegal"[All Fields] AND "abortions"[All Fields]) OR "illegal abortions"[All Fields]

Providers search terms for pubmed database

Clinical[All Fields] AND officer[All Fields]

"Clinician (Goa)"[Journal] OR "clinician"[All Fields]

"nurses"[MeSH Terms] OR "nurses"[All Fields] OR "nurse"[All Fields]

"midwifery"[MeSH Terms] OR "midwifery"[All Fields] OR "midwife"[All Fields]

"nurse midwives"[MeSH Terms] OR ("nurse"[All Fields] AND "midwives"[All Fields]) OR "nurse midwives"[All Fields] OR ("nurse"[All Fields] AND "midwife"[All Fields]) OR "nurse midwife"[All Fields]

obstetrician[All Fields]

gynecologist[All Fields]

obstetrician-gynecologist[All Fields]

"family"[MeSH Terms] OR "family"[All Fields]) AND "practitioner"[All Fields]

"pharmacists"[MeSH Terms] OR "pharmacists"[All Fields] OR "pharmacist"[All Fields]

"pharmacy"[MeSH Terms] OR "pharmacy"[All Fields] OR "pharmacies"[MeSH Terms] OR "pharmacies"[All Fields]

ayurvedic[All Fields]

"specialization"[MeSH Terms] OR "specialization"[All Fields] OR "specialist"[All Fields]

technician[All Fields]

community health workers"[MeSH Terms] OR ("community"[All Fields] AND "health"[All Fields] AND "workers"[All Fields]) OR "community health workers"[All Fields] OR ("community"[All Fields] AND "health"[All Fields] AND "worker"[All Fields]) OR "community health worker"[All Fields]

"family"[MeSH Terms] OR "family"[All Fields]) AND ("social welfare"[MeSH Terms] OR ("social"[All Fields] AND "welfare"[All Fields]) OR "social welfare"[All Fields] OR "welfare"[All Fields]) AND visitor[All Fields]

"practitioner"[All Fields]

quack[All Fields]

traditional[All Fields] AND healer[All Fields] healer

healer[All Fields]

Pregnancy duration search term in pubmed.

"gestational age"[MeSH Terms] OR ("gestational"[All Fields] AND "age"[All Fields]) OR "gestational age"[All Fields],

("pregnancy"[MeSH Terms] OR "pregnancy"[All Fields]) AND duration[All Fields],

gestational[All Fields] AND duration[All Fields]

POPLINE DATABASE SEARCH TERMS

Title: "abortion"

OR "termination of pregnancy"
OR "pregnancy termination"
OR "menstrual regulation"

OR "postabortion"

OR "post-abortion"

OR "miscarriage"
Keyword "abortion"

OR "termination of pregnancy"
OR "pregnancy termination"

EMBASE SEARCH TERMS

'abortion'/exp OR abortion*:ti,ab OR miscarriage*:ti,ab OR 'menstrual regulation':ti,ab OR 'induced abortion'/exp OR 'termination of pregnancy':ti,ab OR 'termination of pregnancies':ti,ab OR 'pregnancy termination':ti,ab OR 'pregnancy terminations':ti,ab OR 'post abortion':ti,ab OR 'post abortions':ti,ab OR postabortion*:ti,ab

Limit by years 2005-2014

Limit to publications (not editorial /letters)

'animal'/exp NOT ('human'/exp AND

'animal'/exp) Not 'fertilization in vitro'/exp

FRENCH SEARCH TERMS

Pubmed
((((((("abortion, criminal"[MeSH Major Topic]) OR "abortion, induced"[MeSH Major Topic]) OR "abortion, legal"[MeSH Major Topic]) OR "abortion, spontaneous"[MeSH Terms])) OR ((((((postabort*[Title/Abstract]) OR (post-abort*) AND Title/Abstract) OR miscarriage[Title/Abstract]) OR abortion*[Title/Abstract]) OR "termination of pregnancy"[Title/Abstract]) OR "pregnancy termination"[Title/Abstract])) OR (("menstrual regulation"[Title/Abstract]) AND "french"[Language]) AND Humans[Mesh] AND French[lang])
POPLINE
Abortion OR Abortion rate OR spontaneous abortion OR habitual spontaneous abortion OR Postabortion OR Postabortion care OR Postabortal programs OR Menstrual regulation OR Fertility Control Postconception
BDSP
(TypDoc=(ARTICLE OR FASCICULE) OR TypDoc=(OUVRAGE OR CHAPITRE) OR TypDoc=RAPPORT OR TypDoc=(CONGRES
INEDOC
((avortement|IVG|"interruption volontaire de grossesse"|"fausse couche"|"fausse-couche"|"post-avortement"|"après avortement") (a.L040.) (fre.t101.)) @fepu >= 2014

SPANISH SEARCH TERMS

SciELO
Filter by: "todos los indices" & "regional" & Spanish language "aborto inducido", "aborto", aborto espontáneo, "aborto inseguro", "interrupcion del embarazo", "interrupción legal del aborto", "aborto clandestino", "aborto con medicamentos", aborto farmacológico, píldora de aborto, píldora del aborto, dilatación y curettage, dilatación y evacuación, curetaje por vació, aspiración manual endouterina, aspiración por vacío, legrado uterino, aborto quirúrgico, aborto por succión y curetaje, extracción con bomba aspirativa, extracción con bomba aspirativa, eléctrica, regulación menstrual, regulación del period, evacuación menstrual, Oxaprost, Cytotec, "misoprostol", mifepristone, metotrexato, RU486, atención postaborto, postaborto, aborto séptico, "aborto del primer trimestre", "aborto del segundo trimestre", "aborto incompleto", extracción de restos del embarazo, extracción de productos del embarazo.
LILACS

Filter by: AND (instance:"regional") AND (la:("es"))

"aborto inducido", "aborto", aborto espontáneo, "aborto inseguro", "interrupcion del embarazo", "interrupción legal del aborto", "aborto clandestino", "aborto con medicamentos", aborto farmacológico, píldora de aborto, píldora del aborto, dilatación y curettage, dilatación y evacuación, curetaje por vació, aspiración manual endouterina, aspiración por vacío,

legrado uterino, aborto quirúrgico, aborto por succión y curetaje, extracción con bomba aspirativa, extracción con bomba aspirativa, eléctrica, regulación menstrual, regulación del period, evacuación menstrual, Oxaprost, Cytotec, "misoprostol", mifepristone, metotrexato, RU486, atención postaborto, postaborto, aborto séptico, "aborto del primer trimestre", "aborto del segundo trimestre", "aborto incompleto", extracción de restos del embarazo, extracción de productos del embarazo.

PORTUGESE SEARCH TERMS

SciELO

Filter by: NOT "relato de caso" NOT "bovino" NOT "ovino" NOT "lupus" NOT "aborto habitual") AND (instance:"regional") AND (la:("pt"))

Aborto, aborto induzido, aborto inseguro, aborto provocado, interrupção clínica da gravidez, interrupção voluntária da gravidezc, interrupção da gravidez, aborto farmacologico, abortamento farmacologico, aborto clandestine, metodos medicos de abortamento, metodos medicos de aborto, abortamento medicamentoso, abortamento medico, pilula do aborto, abortamento cirúrgico, dilatação e curetagem (D&C), dilatação e evacuação (D&E), aspiração elétrica a vácuo (AEV), aspiração a vácuo intra-uterina, Aspiração Manual intrauterina (AMIU), curetagem AND aborto, curetagem a vacuo, regulação menstrual, regulação do ciclo menstrual, cytotec, misoprostol AND aborto, misoprostol AND abortamento, Mifepristone AND aborto, Mifepristone AND abortamento, Metotrexato AND aborto, Metotrexato AND abortamento, ru486 AND aborto, ru486 AND abortamento, atenção ao abortamento, atenção pós-aborto, atenção pós-abortamento, pós-aborto, pós-abortamento, aborto séptico, aborto do primeiro trimester, aborto do segundo trimester, abortamento incomplete, remoção de restos fetais

LILCAS

Filter by: AND NOT "lupus" AND NOT "aborto habitual" AND NOT "bovino" AND NOT "ovino"

aborto, aborto induzido, abortamento induzido, aborto inseguro, abortamento inseguro, aborto provocado, abortamento provocado, interrupção clínica da gravidez, interrupção voluntária da gravidez, interrupção da gravidez, aborto farmacologico, abortamento farmacologico, aborto clandestine, metodos medicos de abortamento, metodos medicos de aborto, abortamento medicamentoso, abortamento medico, pilula do aborto, abortamento cirúrgico, dilatação e curetagem (D&C), dilatação e evacuação (D&E), aspiração elétrica a vácuo (AEV), aspiração a vácuo intra-uterina, Aspiração Manual intrauterina (AMIU), curetagem AND aborto, curetagem a vacuo, regulação menstrual, regulação do ciclo menstrual, cytotec AND aborto, misoprostol AND aborto, misoprostol AND abortamento, Mifepristone AND aborto, Mifepristone AND abortamento, Metotrexato AND aborto, Metotrexato AND abortamento, ru486 AND aborto, ru486 AND abortamento, atenção ao abortamento, atenção pós-aborto, atenção pós-abortamento, pós-aborto, pós-abortamento, aborto séptico, abortamento séptico, aborto do primeiro trimester, aborto do segundo trimester, abortamento incomplete, aborto incomplete, remoção de restos fetais