

The state of global abortion data: an overview and call to action

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Received 11 March 2021 Revised 23 April 2021 Accepted 27 April 2021 Published Online First 20 July 2021 Abortion, an experience shared by tens of millions of people around the world, is an important component of sexual and reproductive health (SRH) care. Data on abortion incidence is needed to examine disparities in people's ability to safely terminate a pregnancy. Abortion, however, is legally restricted in much of the world and often stigmatised regardless of legal status, making it challenging to measure and document. This contributes to disparities in understanding the SRH needs of people in different contexts around the world.

Due to the difficulty in measuring abortion, we developed model-based estimates following a clear and transparent protocol.¹ These estimates utilised all global data on the number of abortions by country by year.² While these are the most comprehensive estimates currently available, our data collection and research underscored that empirical data on abortion incidence are scarce and of variable quality. To address these gaps, there is an urgent need for investing in robust abortion data collection systems and research.

Data on abortion come from three main sources: official statistics, surveys of women, and scientific studies. However, the legal status and stigmatisation of abortion influences the quality of data in a country. These affect whether data are available and, if available, the degree to which they may be underreported. While threats to the accuracy of abortion data apply in some degree to all data sources and legal settings, some concerns are more relevant to specific sources.

Among high-income countries where abortion is broadly legal, official statistics on the annual number of abortions are the primary source of abortion data. Official statistics, however, may not capture all abortions due to different country reporting requirements, whether reporting is mandated in the public and/or private sector, and non-compliance of providers. Stigma may also impact official

statistics by causing individuals to seek abortions outside of the formal health sector, the latter affected by the increasing availability of misoprostol.

Most women of reproductive age live in low- and middle-income countries where abortion is legally restricted; and even among countries where abortion is broadly legal, like India and China, official statistics are generally unavailable or incomplete. When abortion data are available in these settings the sources are usually surveys of women or scientific studies. Stigma can increase women's reluctance to self-report their abortion experiences. As a result, direct reports from surveys may not provide the true number of abortions, but they do provide important information that abortions occur in these settings. Scientific studies are an alternative way to measure abortion incidence, and various methodologies have been developed including indirect estimation techniques and social networkbased measures.3

Sources of abortion data also vary in the frequency with which they are published. Official statistics are often released annually whereas surveys or scientific studies, because of their cost, may only be conducted in a country once or, if repeated, may only occur every few years. As a result, there is great variation across regions and between countries with liberal and restrictive laws in whether abortion data are available, whether trend data exist, and whether the data available are current.

From our data collection process (further described in Bearak *et al*, 2020⁴) in total we collected 3312 observations (where an observation is an annual number of abortions for a country from one source) of abortion data from 1990 to 2018 from a total of 106 countries. [NB. Due to other data inputs used in our model from the United Nations Population Division, our data collection process only sought to collect data for 195



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 Table 1
 Abortion data availability by type, time period, and Sustainable Development Group region

Substitution Subs			1990–1999		2000–2009		2010–2018		Total	
Sub-Saharam Sub-Saharam Sub-Saharam Sub-Saharam Sub-Saharam Surey 1	Region	Data type	Observations	and	Observations	and	Observations	and	Observations	Countries and territories
Survey			1	1	6	5	9	9	16	
Official statistics 14 3 46 5 36 7 96	Africa	Survey	1	1	5	2	5	3	11	
Mest Asia and North Africa 10 2 27 4 21 5 58 20 20 20 20 20 20 20 2			14	3	46	5	36	7	96	
Mest Asia and North Africa 10 2 27 4 21 5 58 20 20 20 20 20 20 20 2			4	1	19	1	15	2	38	
Veet Asia and North Africa North			10	2		4	21	5		
New North Airing Study										20
Survey	West Asia and			1		0		0		
Official statistics 71 5 97 5 70 4 238		Survey	3	2	7	4	4	3	14	
Complete 0 0 0 0 0 0 0 0 0	(25 countries)									
Incomplete 71 5 97 5 70 4 238 75 76 76 76 76 76 76 76								0		
Total 75 104 75 104 74 18 75 104 74 75 75 75 75 75 75 7										
Study				J		3		•		7
South Asia (14 countries) Survey 3 3 2 2 3 2 8 Official statistics 75 8 83 8 76 6 234 Complete 0 0 0 0 0 0 0 Total 79 87 84 76 6 234 Southeast Asis (17 countries) Study 2 2 2 0 0 4 Southeast Asis (17 countries) 81 11 4 4 8 2 25 Official statistics 82 8 103 7 82 8 267 Complete 32 3 42 4 37 5 111 Total 87 119 90 1 2 1 Latin America's (17 countries) Sturey 1 1 0 0 1 1 2 Complete 13 3 42	Central and			1		2		Λ		,
Complete Official statistics 75	South Asia									
Complete Final Process F	(14 countries)									
Name										
Fact and Southeast Asia (17 countries) Study 2 2 2 2 0 0 0 4 0 0 0 0 0 0										
Stand Southeast Asia (17 countries) Survey 3				8		8		6		
Southeast Asia (17 countries) (17 countries) (18 complete) Survey 3 1 14 4 8 2 25 Official statistics 82 8 103 7 82 8 267 Complete 50 5 61 3 45 3 156 Incomplete 32 3 42 4 37 5 111 Total 87 119 90 266 11 Latin America (38 countries) Study 4 4 9 7 0 0 13 Survey 1 1 0 0 1 1 2 Complete 13 3 43 4 26 4 82 Europe and (40 countries) 62 128 71 8 16 17 Europe and (40 countries) 15 4 3 3 1 1 28 Formula (40 countries) 4 2 485 2 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>10</td>										10
Survey										
Complete 50 5 61 3 45 3 156 111 120 161 16										
Normplete 32 3 42 4 37 5 111			82	8	103	7	82	8		
Total 87 119 90 296 11		Complete	50	5	61	3	45	3	156	
Study		Incomplete	32	3	42	4	37	5	111	
Survey		Total	87		119		90		296	11
Official statistics 57 8 119 12 70 12 246		Study	4	4	9	7	0	0	13	
Complete 13 3 43 44 26 44 82 164 17 161 162 128 71 261 17 17 18 19 19 19 19 19 19 19	(38 Countries)	Survey	1	1	0	0	1	1	2	
Incomplete 44 5 76 8 44 8 164 Total 62 128 71 261 17 Europe and Northern America* (42 countries) Official statistics 640 42 794 39 537 38 1971 Total 658 807 768		Official statistics	57	8	119	12	70	12	246	
Total 62 128 71 261 17 17 18 19 19 19 19 19 19 19		Complete	13	3	43	4	26	4	82	
Study 10 1 10 1 8 1 28 28 24 3 3 3 1 1 12 28 20 20 20 20 20 20 2		Incomplete	44	5	76	8	44	8	164	
Northern America* (42 countries) Survey 8 4 3 3 1 1 12 (42 countries) Official statistics 640 42 794 39 537 38 1971 Complete 416 22 485 22 355 24 1256 Incomplete 224 20 309 17 182 14 715 Total 658 807 546 2011 38 Australia and New Zealand (two countries) Strudy 10 1 4 1 0 0 14 Survey 0 0 0 0 0 0 0 Official statistics 31 2 40 2 29 2 100 Complete 11 1 20 1 16 1 47		Total	62		128		71		261	17
America* (42 countries) Official statistics 640 42 794 39 537 38 1971 Complete 416 22 485 22 355 24 1256 Incomplete 224 20 309 17 182 14 715 Total 658 807 546 2011 38 Australia and New Zealand (two countries) Official statistics 31 2 40 2 29 2 100 Official statistics 31 2 10 1 10 1 10 10 10 10 10 10 10 10 10 10	Northern America*	Study	10	1	10	1	8	1	28	
(42 countries) Official statistics 640 42 794 39 537 38 1971 Complete 416 22 485 22 355 24 1256 Incomplete 224 20 309 17 182 14 715 Total 658 807 546 2011 38 Australia and New Zealand (two countries) Study 10 1 4 1 0 0 14 Survey 0 0 0 0 0 0 0 0 Official statistics 31 2 40 2 29 2 100 Complete 11 1 20 1 16 1 47		Survey	8	4	3	3	1	1	12	
Incomplete 224 20 309 17 182 14 715 Total 658 807 546 2011 38 Australia and New Zealand (two countries) 5urvey 0 0 0 0 0 0 Official statistics 31 2 40 2 29 2 100 Complete 11 1 20 1 16 1 47		Official statistics	640	42	794	39	537	38	1971	
Australia and New Zealand (two countries) Study 10 1 4 1 0 0 14 Official statistics 31 2 40 2 29 2 100 Complete 11 1 20 1 16 1 47		Complete	416	22	485	22	355	24	1256	
Australia and New Zealand (two countries) Study 10 1 4 1 0 0 14 Official statistics 31 2 40 2 29 2 100 Complete 11 1 20 1 16 1 47		Incomplete	224	20	309	17	182	14	715	
New Zealand (two countries) Survey 0 0 0 0 0 0 0 0 Official statistics 31 2 40 2 29 2 100 Complete 11 1 20 1 16 1 47		Total	658		807		546		2011	38
(two countries) Survey 0 0 0 0 0 0 0 Official statistics 31 2 40 2 29 2 100 Complete 11 1 20 1 16 1 47	New Zealand	Study	10	1	4	1	0	0	14	
Official statistics 31 2 40 2 29 2 100 Complete 11 1 20 1 16 1 47		Survey	0	0	0	0	0	0	0	
'		Official statistics	31	2	40	2	29	2	100	
Incomplete 20 1 20 1 13 1 53		Complete	11	1	20	1	16	1	47	
		Incomplete	20	1	20	1	13	1	53	
Total 41 44 29 114 2		Total	41		44		29		114	2

Continued

Table 1 Continued

	Data type	1990–1999		2000–2009		2010-2018		Total	
Region		Observations	Countries and territories	Observations	Countries and territories	Observations	Countries and territories	Observations	Countries and territories
Oceania	Study	0	0	0	0	0	0	0	
(excluding Australia and	Survey	0	0	0	0	0	0	0	
New Zealand)	Official statistics	0	0	4	1	2	1	6	
(eight countries)	Complete	0	0	0	0	0	0	0	
	Incomplete	0	0	4	1	2	1	6	
	Total	0		4		2		6	1

Country columns are not mutually exclusive, which is why they are only totalled for all time periods and sources

countries and territories. The percentages cited here are based on this denominator.] Vast regional disparities exist in abortion data availability (table 1). Europe and northern America accounted for 60% (2011) of all observations, due to 90% of countries in the region collecting, and the majority publishing, annual abortion statistics. All other regions (except Australia and New Zealand) had significantly fewer observations available for a much smaller proportion of countries in the region. In sub-Saharan Africa and Latin America, abortion data were available for 40% and 45% of countries in the regions, respectively. While sub-Saharan Africa had 123 observations compared with 261 in Latin America, more studies and surveys have been conducted in sub-Saharan Africa since 2010, whereas in Latin America no scientific studies have been conducted since 2009.

Regions may be burdened with both limited and incomplete abortion data. West Asia and North Africa is the gravest example of this, where all 238 observations based on official statistics are incomplete, and additional abortion counts are available from only one study and 14 surveys since 1990. In Central and South Asia, all official statistics are also incomplete. Surveys and scientific studies therefore constitute most of our knowledge on abortion outside of Europe and Northern America. Discouragingly, countries in Europe, especially Eastern Europe, also have incomplete official statistics.

Current variation in abortion data availability ultimately causes stakeholders to know vastly more about abortion in some settings and countries compared with others. This results in inequities in understanding the SRH care needs and experiences of people, and limits the evidence available to support policy and programmatic decisions. However, abortion incidence data are essential for countries to understand and improve the SRH of their populations and can be an important tool in increasing access to safe abortion through legal or healthcare service reform. ⁵ ⁶

This also poses significant research challenges, as it can be difficult to quantify the degree of

underreporting in official statistics. Recently published model-based estimates, which included a newly developed data classification process to increase transparency and consistency in incorporating information on abortion data sparsity and quality, offer an important methodological step forward in estimating and comparing the incidence of abortion around the world. Estimates, however, fundamentally depend on solid empirical data. Without them, estimates for certain regions and countries will continue to have large uncertainty due to the lack of quality data over time.

Abortion data availability can be improved in a variety of ways, although the legal status of abortion and capacity of health information systems dictate what data collection approaches are feasible for obtaining good quality data. Where abortion is highly restricted and/or it is not feasible for governments to collect data on abortion, investing in country-level surveys and scientific studies is important. However, regardless of the source of abortion data, stigma will continue to hinder the accuracy and completeness of the data, and current efforts to reduce abortion stigma, such as community and provider messaging training, storytelling campaigns, and research to assess these interventions, ⁸⁹ should be supported and expanded.

From 1990 to 2018, only 54% of the world's countries had at least one observation of abortion data, regardless of completeness. This underscores the urgent need to invest in robust abortion data collection systems and research, especially in regions and countries where there are limited or no data. Investing in national health information systems and in abortion research will provide evidence on abortion incidence that meets the needs of policymakers, advocates and providers and help them to better serve their populations. Improvements in availability and quality of abortion data will not only contribute to the scientific literature and strengthen model-based estimates in the future but, most importantly, produce the evidence needed

^{*}In the United Kingdom of Great Britain and Northern Ireland (UK), abortion incidence is reported separately for England and Wales, and Scotland. As a result, for the total number of countries in Europe and Northern America we count these two reporting groupings as separate countries.

to target investments where they are most needed to improve SRH care globally.

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