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Numbers of Women Circumcised in Africa: The Production of a Total

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March 2008

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1 INTRODUCTION

This report was written in response to a request from the World Health Organization's Division of Family & Community Health, Department of Reproductive Health & Research, Gender, Reproductive Rights, Sexual Health & Adolescence team (FCH/RHR/GRR) to produce an estimate of the number of women in Africa who have been circumcised, or have undergone female genital cutting (FGC).

The World Health Organization (WHO), the United Nations Population Fund UNFPA), the United Nations Children's Fund (UNICEF), the United States Agency for International Development, UNFPA, UNICEF, (USAID), and various NGOs have provided estimates of the "number of women and girls worldwide" who have undergone FGC, but those estimates vary widely and do not include information on how the numbers were obtained. Given the limitations of the data on FGC in some African countries, the team at Macro agreed to provide a number, but a number for women 15 years old and older, not one for "women and girls worldwide." In order to provide a methodological context for that number, we have also written a brief report about how the numbers were produced for each country. Readers could then judge for themselves if the calculations seemed reasonable. In countries where FGC data are available from a national survey with a representative sample of women, most often from a Demographic and Health Survey (DHS), the calculations are straightforward. Where such data are lacking, the calculations involve a series of assumptions related to the various estimates available and the ethnic composition of the population.

The text provides a total number and accounts of its derivation for women 15 years old and older in African countries who have been circumcised. The estimates do not include girls younger than 15 years old, although Appendix A provides an estimate for girls 10-14 years old. Two types of data are needed for such calculations: a reliable estimate of the number of women 15 years old and older for each country, and a national prevalence rate for FGC for the same women. After a brief discussion of the importance of obtaining numbers as accurate as possible, the text describes the procedures used to estimate the numbers of women circumcised in countries with population-based national surveys. The next section describes how prevalence estimates were done for the countries without such data. The report concludes with a discussion of the assumptions made and the relative strength of the calculations used.

2 EFFORTS TO ESTIMATE NUMBERS

The interest in obtaining a reliable figure for the number of circumcised women in Africa stems from a need to know the number of women at risk for FGC and its complications. Such a figure can be used to increase public awareness of the size and scope of the practice in some countries in Africa. Accurate information about the size and scope of FGC makes it possible to better estimate the need for specialized health care for women and to mobilize resources for advocacy against FGC.

The earliest systematic examination of the number of circumcised women around the world is *The Hosken Report - Genital and Sexual Mutilation of Females* (Hosken, 1982). The report includes a table that presents the total population and the national prevalence of FGC [FGM] for 20 African countries. The table assumes that 50% of the population in each country is female and that all females are equally at risk for being circumcised. The total number of women cut in each country is obtained by multiplying the total population by 50% and then by a prevalence estimate. The total number of circumcised females (women and girls) in the 20 countries was estimated to be 110,529,000. Some African countries where FGC is known to be practiced were not included in the list because it was thought at the time that only "a small proportion" of the female population in these countries had been circumcised.

While the Hosken report brought the problem of FGC to world attention, the prevalence estimates in the report were based on questionable sources, many of which were anecdotal. It should be remembered, however, that the report was written at a time when reliable survey data were not generally available. The estimates erred on both the low side and the high side; however, the estimates for four African countries were close to current estimates: Burkina Faso, Djibouti, Liberia, and Somalia. Countries on the low side were Egypt at 50% (instead of 98%) and Guinea at 60% (instead of 98%). Countries on the high side were Nigeria at 50% (instead of 25%) and Mauritania at "a small percentage of the population" (instead of 71%). The extent to which these figures were inaccurate is no longer important because survey data on FGC is now available for more than 20 African countries. The table on FGC in the Hosken report has significance not so much for the numbers presented as for pointing out the usefulness of calculating the number of circumcised women in various countries at a given point in time.

Reports on FGC published by international agencies, NGOs, and other donors often include a statement about the number of women and girls worldwide who have been circumcised. For example, the first sentence of *Abandoning Female Genital Cutting*, a special report by the Population Reference Bureau, states, "More than 130 million girls and women worldwide have undergone female genital cutting—also known as female circumcision..." (PRB, 2001). The source cited in the PRB report is a joint PATH/WHO publication (PATH/WHO, 1999). In its *USAID Strategy for Female Genital Cutting for*

2004 – 2006, the Bureau for Global Health states that "an estimated 135 million women and girls worldwide have undergone FGC." A WHO research publication of 2006 that provides a brief overview of the practice of FGC in the world states that "In the world today there are an estimated 100 million to 140 million girls and women who have been subjected to the operation" (WHO, 2006).

This present text does not provide an estimate for "women and girls worldwide" since so little data on prevalence are available for countries outside Africa, and reliable prevalence figures for girls less than 15 years old do not exist. However, if a reasonable figure for women 15 years and older in African countries can be produced, the uncertainty about worldwide figures can be greatly reduced, for that figure can be used as a base for further estimates.

3 THE MEASUREMENT OF FGC PREVALENCE

The standard approach to estimating FGC prevalence in African countries was developed by the Demographic and Health Surveys (DHS) of Macro International. The history of that development can be found elsewhere (Yoder et al. 2004). DHS surveys collect data from nationally-representative probability samples of households and from adult women (age 15-49) and men in the sampled households. In general, surveys use a two-stage cluster sampling design, with over-sampling of certain categories of respondents. Samples are generally not self-weighting, and response rates vary across sampling domains. Therefore, sample weights are used to obtain nationally representative estimates of indicators. DHS surveys yield nationally representative estimates of FGC for women age 15 to 49 in the survey countries.

In the countries where the prevalence of FGCI is of concern, a module of FGC questions is added to the Women's Questionnaire. The questions are designed to generate information on prevalence rates, types of FGC, circumcision of daughters, and respondents' attitudes toward FGC. Since 2000, UNICEF's Multiple Indicator Cluster Surveys (MICS) have used a similar module to collect information on FGC in selected countries. Both DHS surveys and MICS surveys provide FGC prevalence data. Female respondents are asked if they have ever heard of FGC; then those who have heard of the practice are asked if they themselves have been circumcised. The responses to these questions are used to calculate national prevalence rates for FGC.

Experts generally assume that women respond truthfully when asked if they have been circumcised. If bias exists in some of the responses, it has not been documented. It is hypothetically possible that some women may say 'no' in countries where the practice has been forbidden, but no solid evidence of this has been found. A pair of surveys in northern Ghana conducted five years apart among the same women asked if they had been circumcised, yes or no. The survey results indicated that 5% of the respondents gave a different answer when they were asked the question in the second survey (Jackson et al., 2003). Overall, however, it is thought that there is little bias in women's responses to the question about FGC status.

Reports published by UNICEF, USAID, and other donors identify 27 countries where FGC is practiced (UNICEF, 2005; USAID, 2006). In 19 of these countries, an FGC module was included in the survey questionnaire and these data have been aggregated by age cohort. While the FGC module was not used in the 2006 DHS survey in Uganda, respondents were asked if they had been circumcised. Thus, prevalence data are available for Uganda, but no data on other aspects of FGC.

For 20 countries included in this study, national prevalence rates were calculated from the survey data. For the other countries, FGC prevalence was obtained from other sources. The Democratic Republic of the Congo (DRC) is usually included in the list of countries where FGC is practiced. The USAID

report gives the prevalence of FGC in DRC as 3% (USAID, 2006). However, this study was not able to provide a plausible estimate for FGC in DCR because so little information is available.

4 CALCULATION OF NUMBERS IN COUNTRIES WITH SURVEY DATA

Two sets of numbers are needed to estimate how many women have undergone FGC. The first is the total number of women in the selected country; the second is the prevalence of FGC among women in the country. The number of women was taken from US Census Bureau midyear estimates (by five-year age groups) for the countries analyzed. Women age 15 - 49 were used because this is the sample used in the various national sample surveys. From this information, the total number of women circumcised is calculated by multiplying the prevalence of FGC by the number of women.

The US Census Bureau provides midyear population estimates of women by 5-year age groups for each country in the analysis. One can therefore estimate the numbers of women in any given age group, in this case women age 15-49. However, this analysis tries to estimate FGC among all women above the age of 14, including those 50 years old and older. As the DHS gives a prevalence of women 15-49 only, the analysis must account for women 50+. The US Census Bureau provides midyear population estimates for women over 49. To estimate prevalence rates for these women, the analysis must make a reasonable estimation.

There are several methods that can be employed to make this estimation. One approach would be to use linear interpolation between the last two age groups (40-44 and 45-49) to project what the prevalence in subsequent age groups would be. Alternatively, one could use a similar method, but rely on the prevalence of all 5-year age groups of women 15-49 for the interpolation. However, this assumes that the relationship between age and FGC is linear, and that women in the 50+ age group are similar to the 15-49 cohort (in terms of religion, ethnicity and other strong correlates of FGC). Both assumptions are questionable, since the relationship between age and FGC prevalence is not linear in most cases, and because information on the similarities of women more than 49 years old to younger women is lacking.

This analysis employs a simpler method by using the prevalence of women 45-49 to estimate the prevalence of women 50+. The approach assumes that women above 49 are similar to women 45-49 years old. A look at age patterns of FGC confirms that women 40-44 and 45-49 share a similar prevalence, and perhaps lends credence to the likelihood that women 50+ are similar enough to have the same prevalence. Since most countries (countries with a prevalence of 90% and higher are exceptions) show a decline in FGC prevalence by age cohort, the prevalence rates of women older than 50 are likely to be slightly higher overall than the prevalence of the 45-49 year cohort. This method of calculation provides a low estimate of the number of circumcised women.

Dealing with ever-married samples

Surveys in Egypt (2005) and Northern Sudan (1990) included only ever-married women; thus FGC prevalence is calculated only for these women. However, because this analysis seeks to estimate the total number of circumcised women over age 15 in these countries, including never-married women, additional calculations had to be carried out. The survey data indicate that in Egypt and Sudan female genital cutting takes place most often before the age of 15, regardless of marital status. Therefore, the analysis assumes that the rate of FGC among never-married women is the same as that for married women in the same cohort. The authors use the prevalence of FGC for ever-married women as a proxy for the prevalence of FGC for never-married women. These calculations make it possible to estimate the total number of circumcised women in the two countries.

It is important to note that the 1990 DHS survey in Sudan included only northern Sudan, or approximately 80% of the population. Therefore, the denominator used for the calculating the number of circumcised women in Sudan (both 15-49 and 50+) is 80% of the midyear estimate for the population of women in 1990.

Table 1 presents the FGC prevalence rates for the 20 African countries for which survey data are available. The table gives the year the survey was conducted, the number of women of the two age groups (15-49; 50+), and the number of circumcised women in each country. The table indicates that the total number of circumcised women in the 20 countries is estimated to be 74,711,674. It should be noted, however, that more than half of these women (about 45 million) live in three countries that have high FGC prevalence rates: Egypt, Ethiopia, and northern Sudan. Another 9 million live in Nigeria.

Table 1. Estimates of the number of women with female genital cutting (FGC) in 20 countries in Africa

Country	Year	Age group						Total number of women with FGC
		Women 15-49			Women 50+			
		FGC prevalence	Number of women	Number of women with FGC	FGC prevalence	Number of women	Number of women with FGC	
North East Africa								
Egypt[1]	2005	95.8	20,006,856	19,166,568	96.3	5,937,978	5,718,273	24,884,841
Eritrea	2002	88.7	983,997	872,805	95.0	246,637	234,305	1,107,110
Northern Sudan[2]	1990	89.2	4,800,227	4,281,803	90.9	790,301	718,383	5,000,186
Ethiopia	2005	74.3	16,994,126	12,626,636	80.8	3,618,669	2,923,885	15,550,520
West Africa, northern								
Guinea	2005	95.6	2,130,885	2,037,126	99.5	517,485	514,898	2,552,024
Mali	2001	91.6	2,189,091	2,005,207	91.0	600,597	546,543	2,551,751
Burkina Faso	2003	76.3	2,811,343	2,145,055	83.6	606,485	507,021	2,652,076
Mauritania	2001	71.3	626,994	447,047	68.6	128,451	88,117	535,164
Senegal	2005	28.2	2,846,213	802,632	30.6	599,599	183,477	986,109
West Africa, southern								
Côte d'Ivoire (AIS)	2005	41.7	4,166,873	1,737,586	45.0	892,183	401,482	2,139,068
Chad	2004	44.9	2,113,861	949,124	45.9	481,459	220,990	1,170,113
Central African Republic (MICS)	2000	35.6	894,997	318,619	41.9	259,695	108,812	427,431
Nigeria	2003	19.0	28,398,726	5,395,758	59.6	6,446,927	3,842,368	9,238,126
Benin	2001	16.8	1,590,292	267,169	23.7	329,972	78,203	345,372
Ghana	2003	5.4	5,248,882	283,440	7.9	1,107,078	87,459	370,899
Niger	2006	2.2	2,680,035	58,961	2.8	555,668	15,559	74,519
Cameroon	2004	1.4	4,003,302	56,046	2.4	894,837	21,476	77,522
East Africa								
Kenya	2003	32.2	8,179,346	2,633,749	47.7	1,471,077	701,704	3,335,453
Tanzania	2004	14.6	8,573,748	1,251,767	22.9	1,834,272	420,048	1,671,815
Uganda	2006	0.6	6,22,878	37,325	0.4	1,061,591	4,246	41,572
Total				57,374,423			17,337,251	74,711,674

[1] Sample is ever-married women. Never-married women are assumed to have the same prevalence as ever-married women.
[2] Northern Sudan: Estimates assume survey covered 80% of population

5 CALCULATION OF NUMBERS IN COUNTRIES WITHOUT SURVEY DATA

In a number of countries where FGC is practiced, no data from DHS or MICS surveys are available. That is the case for Guinea Bissau, The Gambia, Sierra Leone, Liberia, Djibouti, and Somalia. We provide estimates for each of these countries based on other estimates from various sources and from what can be learned about the ethnic composition of the populations. For each country we began with the estimates given in Appendix I of the Bureau for Global Health of USAID that are derived from WHO and other U.N. agencies, then consulted data from WHO, UNFPA, UNICEF, and other sources. Finally, we collected information about the ethnic composition of the populations and tried to determine if those ethnic groups practice FGC or not. Togo has been added to this group since data on FGC prevalence by age group is not available, even though a national survey was conducted in 1996.

It is important to note that the estimates provided are based on the entire population of the country, and that we do not assume that 100% of women in an ethnic group that practices FGC are circumcised. In most cases, at least a small proportion of women of ethnic groups that practice FGC never get cut. The estimates provided are meant to approximate the findings of a population-based national survey. For example, all sources available put FGC prevalence for Somalia at 95-98%. However, only 85% of the population is Somali; 15% is other African or Arab, populations which may or may not practice FGC. The Somali estimate takes this into consideration.

Togo

The national prevalence figure of 12% for Togo comes from a survey conducted in 1996 by the Unité de recherche démographique (URD) of the University of Lomé financed by USAID Togo. The survey was administered to a nationally representative sample of 4,500 women 15 - 49 years of age. The data showed wide variations in prevalence by region and by ethnic group, with most cases of FGC located in the central regions (Locoh, 1998). Given the overall tendency of FGC prevalence to diminish, it is likely that the prevalence in 2007 is less than 12%.

The Gambia

Estimates of FGC prevalence over the years have varied between 60% and 90%, but it is unclear what evidence led to the estimates. The Gambia a long and narrow country along the Gambia river, is totally surrounded by Senegal, and the population is made up of many of the same ethnic groups as Senegal. The Mandinka, Fula, Jola, and Serahule make up 78% of the country's population. Because these same ethnic groups practice FGC across the border in Senegal, they are assumed to do so in The

Gambia as well. If we assume that the prevalence rates of FGC among these populations is close to what is found among them in Senegal (70%), then the national prevalence rate of FGC for The Gambia would be about 55%.

Guinea-Bissau

This country of about 1.5 million people is situated between Senegal to the north and Guinea to the south. Early estimates of FGC prevalence were 50%, but it is not known how this figure was derived. A recent article on FGC in Guinea-Bissau stated that 46% of the ethnic groups of the country are Muslim, and they all practice FGC (Irin News 2007). The Fula and the Mandinka, both populations which practice FGC in Senegal, make up 33% of the population, while the Balanta make up 30%. The Fula and Mandinka are Muslim populations while the Balanta are not Muslim; they practice a traditional religion. Given the social and religious differences between the Balanta and others, the Balanta are not likely to practice FGC. If this assumption is correct, and the Papel and Manjaca do not practice FGC either, then about 50% of the ethnic groups in the country practice FGC. But we are still unsure what proportion of Fula and Mandinka women are circumcised, since the practice never covers 100% of women. If the Fula and Mandinka and their Muslim neighbors practice FGC at about the rate they practice in neighboring Senegal (prevalence of 70%), the overall prevalence of FGC would be around 35% for Guinea Bissau.

Liberia

Reaching a reasonable estimate for Liberia is a major challenge. Not only is the country made up of a patch work of small ethnic groups, but the fabric of the society has been torn apart by civil wars over the past 15-20 years. Estimates of FGC prevalence from various sources have ranged from 20-50%. The largest ethnic groupings are the Kpelle at 20% and the Bassa at 16% of the population. One source listed the practicing groups as the following: Kpelle, Bassa, Vai, Dan (Gio), Man, Dei and Gola. Those groups make up about 60% of the population. If we assume, as for Sierra Leone, that 75% of the women from those groups have been circumcised, then the total national prevalence for Liberia can be estimated at 45%.

Sierra Leone

Reports on FGC in Sierra Leone estimate a national prevalence rate of somewhere between 70% and 90%. A recent report from the GTZ (Gesellschaft für Technische Zusammenarbeit) states that female genital mutilation (FGM) in Sierra Leone is practiced across all ethnic groups except the Christian Krio in Western region (GTZ, 2006). The same report states that WHO estimates that 90% of the female population has been circumcised. The population of Sierra Leone is made up of Temne 30%, Mende 30%, Limba 10%, Kono 8%, and 12% other ethnic groups. About 10% of the population is Krio, or descendents of freed slaves who arrived in Sierra Leone in the 18th century. If we assume that the Temne, Mende, Limba, and Kono all practice FGC—there is evidence to this effect—then 78% of the ethnic groups in the country practice FGC. If, in addition, we assume that in this population (78% of the country), FGC has a prevalence of 75%, then the national prevalence of FGC in Sierra Leone will be about 59%. The FGC figure 75% seems plausible because survey data from Senegal and neighboring Guinea indicate that among the groups practicing FGC, 70% to 80% of women have been circumcised. Thus, the national prevalence of FGC in Sierra Leone is estimated at 60%.

Djibouti

Estimates for FGC prevalence for Djibouti have ranged from 90-98%. The population is 60% Somali, 35% Afar, and the rest are foreigners. The Somali and Afar populations are known to practice FGC at high rates. If we assume that 95% of the women of these populations are circumcised, and that the foreigners do not practice FGC, then the national FGC prevalence rate would be 90%. A MICS survey was also conducted in 2006.

Somalia

Just as in Djibouti, estimates for FGC prevalence in Somali usually range from 90-98%. The population of Somalia is 85% Somali, thus generally practicing FGC. The other 15% is made up of populations of African or Arab origin. We do not have information on whether they practice FGC, but it is possible that half of them do. If 95% of Somali women are circumcised, plus half of the remaining women, the national prevalence of FGC would be 88%.

Table 2 shows the numbers of circumcised women in countries without survey data.

Table 2. Estimates of female genital cutting (FGC) in countries without DHS/MICS/AIS surveys

		All women		
Country	Year	FGC prevalence	Number of women age 15+	Number of women with FGC
The Gambia	2007	55	475,184	261,351
Guinea Bissau	2007	35	453,324	158,663
Liberia	2007	45	910,444	409,700
Sierra Leone	2007	60	1,770,264	1,062,158
Djibouti	2007	90	135,447	121,902
Somalia	2007	88	2,545,928	2,240,417
Togo	1996	12	1,165,222	139,827
Total women with FGC - Table 2				4,394,018
Total women with FGC - Table 1				74,711,674
Grand total women with FGC				79,105,692

UNICEF has also conducted MICS surveys in the past three years in Djibouti (2006), The Gambia (2006), and Sierra Leone (2005). Final results that include FGC prevalence rates are now available for Djibouti but not yet for The Gambia and for Sierra Leone. The national FGC prevalence rate found in Djibouti is 93.1, slightly higher than the rate estimated above. Once the results from the MICS in The Gambia and Sierra Leone are officially released, the prevalence rates may need to be revised. However, since the total populations of these countries is relatively small, any differences in the prevalence rates found by the MICS surveys as compared to the estimates provided here will change very little the total numbers of women cut.

Since the Democratic Republic of the Congo (DRC) is usually included as a country where FGC exists, the total number of women would be of interest. The actual number of women 15 years old and older in the DRC is 17,570,793. The prevalence for the DRC is unknown. If that prevalence were 1%, then we would find a total of 175,708 women circumcised that could be added to the overall figure of nearly 80 million women. If the prevalence rate were estimated at 2% or 3%, simple multiplication by two or three will give an overall figure for the total number of women circumcised in the country.

6 DATA ON TYPE OF FGC PRACTICED

Since many studies have shown that the negative effects of being cut are most severe with infibulation, or being sewn shut, a table showing FGC by type reported by respondents is included as Appendix B. Not all DHS surveys that included questions on FGC asked respondents about the type of operation performed on them. Surveys that included such questions asked if they had been nicked with no flesh removed, if there had been flesh removed, and if they had been sewn shut. These categories are obviously only rough approximations of what occurred, but the categories do provide an estimate for nicking and for infibulation. DHS data on type of FGC according to those three categories are available for 11 countries only. Data are available from Mauritania for the proportion of women who were just nicked or from whom flesh was removed, but the proportion of those infibulated is not given. On the other hand, in Ethiopia we have the proportion of those who were "sewn shut," but no information about the other categories.

The total found for the 12 countries with data on infibulation for women 15-49 years old is 5,256,648 or just over five million. No survey data are available for women older than 49 years of age. However, it is possible to provide an estimate for this group of women as well if we assume that the proportion of those infibulated among this group is the same as for the 15-49 year age group. Since the trend over time has been to reduce the severity of the operation, it is likely that the actual proportion of those infibulated among women over 49 will be slightly higher. Therefore, the estimate that includes these older women should be considered as a minimum number. The estimate for the 12 countries for women older than 49 years is 1,114,793. Thus the total number of women 15 years old and older who have been infibulated from these same 12 countries is 6,371,441.

Infibulation is practiced largely in countries located in northeastern Africa: Djibouti, Eritrea, Ethiopia, Somalia, and Sudan. Survey data are available for Sudan, Eritrea, Ethiopia and Djibouti. Sudan alone accounts for about 3.5 million of the women. With estimates for the number of women infibulated in Djibouti and Somalia, we can arrive at a credible number for the total number of women infibulated.

The MICS survey in Djibouti found that 67% of women had been infibulated, so the total number of women infibulated in Djibouti would be 81,674. Regarding Somalia, reports indicate that infibulation is the type of FGC most often practiced there. Table 2 estimates that 2,240,417 women have been circumcised in Somalia. No national survey data are available for Somalia, but a study of 2,497 women in Mogadishu in 1981 found that 76% of those circumcised had been infibulated (Gallo and Abdisamed 1985). We assume that infibulation is higher in rural areas than in urban areas, and that there is a gradual trend toward less severe cutting in Somalia as elsewhere. We would still expect that about 80% of Somali

women who were cut have been infibulated. Therefore, the total number of women infibulated in Somalia is a little less than two million women: 1,792,334.

The estimates from Djibouti and Somalia combined add up to 1,874,008. If that total is added to the total from the table in Appendix B for 12 countries (5,256,648 women 15-49 years old) plus 1,114,793 women 50+ years old for those same countries, the estimate of the total number of women infibulated in these countries comes to 8,245,449, or just over eight million women. This figures amounts to about 10% of the total number of women circumcised in African countries.

7 CONCLUSION

The estimates for the total number of women 15 years old and older are based on a series of assumptions that are identified in the text. The most critical assumption for the calculations─and relevant only for the countries with DHS or MICS data─is that the FGC prevalence for women 50 years old and older is equal to the prevalence found in the 45-49 year old cohort in countries where survey data is available. As noted earlier, we make this assumption because in nearly all cases, the FGC prevalence decreases in younger age cohorts and prevalence is highest in the 45-49 year old cohort.

The assumptions made in countries without such survey data are varied and more problematic, since they are based on country-specific information are based on weaker evidence. Although the propositions differ from country to country, two general assumptions are made in all of the cases. First, we assert that FGC prevalence varies with ethnicity, for the evidence is strong from the countries with survey data (Yoder et al. 2004). Second, we assume that prevalence among ethnic groups that practice FGC is less than 100%. This is also based on survey data. Since data are not often available for prevalence specific to ethnic groups in these countries, it is necessary to approximate in many cases.

While the provision of a reasonable number for the total number of women who have been circumcised in Africa is important and useful, it is equally useful to find clearer ways of generating estimates of FGC prevalence in countries without survey data. Some specialists may make different assumptions in the calculations of national prevalence rates for countries with no survey data, and thus would arrive at slightly different numbers. Given the relatively small size of the countries in question, such revisions would not significantly change the overall number much. It would, however, be useful for specialists in these countries to look more closely at which groups practice FGC and which do not, to see what revisions might be necessary.

The total number of women circumcised in Africa applies to women 15 years old and older and comes to 79,105,692, just short of 80 million. We have also, by logical extension, provided a number for girls 10-14 years old in Appendix A. If that total (12.4 million) is added to the total for women 15 years old and older, we get a figure of 91.5 million women and girls cut who are 10 years old and older. Given the changes in the practice in many countries, and the lack of data for girls less than ten years old, no estimates are provided for all girls and women together. However, the number of women circumcised who are 15 years old and older can serve as a basis for further calculations with slightly different denominators.

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APPENDIX A: NUMBERS OF GIRLS 10-14 YEARS OLD CIRCUMCISED IN AFRICAN COUNTRIES

Appendix Table 1. Estimates of the number of girls age 10-14 with female genital cutting (FGC) in 20 African countries

		Girls age 10-14		
Country	Year	FGC prevalence	Number of girls	Number of girls with FGC
North East Africa				
Egypt[1]	2005	96.4	3,959,380	3,816,842
Eritrea	2002	78.3	275,449	215,677
Northern Sudan[2]	1990	86.8	1,265,063	1,098,075
Ethiopia	2005	62.1	4,661,094	2,894,539
West Africa, northern				
Guinea	2005	89.3	577,263	515,496
Mali	2001	91.2	641,617	585,155
Burkina Faso	2003	65.0	814,901	529,686
Mauritania	2001	65.9	174,770	115,173
Senegal	2005	24.8	707,853	175,548
West Africa, southern				
Côte d'Ivoire (AIS)	2005	39.6	1,073,988	425,299
Chad	2004	43.4	582,771	252,923
Central African Republic (MICS)	2000	27.2	252,805	68,763
Nigeria	2003	12.9	7,347,923	947,882
Benin	2001	12.1	444,903	53,833
Ghana	2003	3.3	1,331,237	43,931
Niger	2006	1.9	763,956	14,515
Cameroon	2004	0.4	1,040,747	4,163
East Africa				
Kenya	2003	20.3	2,038,593	413,834
Tanzania	2004	9.1	2,412,435	219,532
Uganda	2006	0.5	2,026,944	10,135
Total				**12,401,000**

[1] Sample is ever-married women. Never-married women are assumed to have the same prevalence as ever-married women.
[2] Northern Sudan: Estimates assume survey covered 80% of population

Although this report focused on women 15 years old and older, some estimates of women circumcised provide totals for "women and girls worldwide." We are able to give credible figures for countries for girls 10-14 years of age for countries with survey data, since we have age cohort specific prevalence data, and most girls who will one day be circumcised will have been cut before the age of 15.

The number of girls with FGC is calculated in a manner similar to that of the 50+ women, that is, by using the FGC prevalence of the age cohort next to this group. Thus we assume that FGC in the 10-14

age cohort is the same as the prevalence for the 15-19 age group. We then multiply this prevalence by the actual number of girls estimated by the US Census Bureau. Conducting an estimate in this way provides a figure on the high side, since it is likely that the prevalence rate in this age cohort is actually a little lower than for the 15-19 year old cohort.

APPENDIX B: NUMBERS AND PROPORTIONS OF WOMEN CUT BY TYPE OF FGC

Appendix B Table 2. Types of FGC

				Women 15-49						
				Type of FGC				Number of women by type of FGC		
Country	Year	Overall prevalence	Number of women 15-49	Nicked, no flesh removed	Flesh removed	Sewn	Don't know/ not stated	Nicked, no flesh removed	Flesh removed	Sewn
North East Africa										
Eritrea	2002	88.7	983,997	40.8	3.6	34.2	10.0	401,501	35,786	336,912
Northern Sudan[1]	1990	89.2	4,800,227	n/a	15.6	73.4	0.2	n/a	749,155	3,523,169
Ethiopia	2005	74.3	16,994,126	n/a	n/a	4.5	n/a	n/a	n/a	769,782
West Africa, northern										
Guinea	2005	95.6	2,130,885	1.6	82.6	8.9	2.5	34,645	1,760,766	189,527
Mali	2001	91.6	2,189,091	1.8	74.5	1.7	13.5	40,095	1,631,867	38,090
Burkina Faso	2003	76.6	2,811,343	0.9	69.5	1.5	4.7	25,827	1,954,267	43,046
Mauritania	2001	71.3	626,994	3.8	53.7	n/a	13.8	24,131	336,500	n/a
Senegal	2005	28.2	2,846,213	0.1	23.4	3.4	1.4	1,607	664,621	95,635
West Africa, southern										
Chad	2004	44.9	2,113,861	8.7	33.6	1.1	1.6	184,254	709,472	22,794
Nigeria	2003	19.0	28,398,726	0.4	8.2	0.7	9.6	107,706	2,342,615	210,028
Benin	2001	16.8	1,590,292	1.2	14.7	0.0	1.0	19,277	233,196	0
Cameroon	2004	1.4	4,003,302	0.1	1.3	0.1	0.0	2,970	50,942	2,599
East Africa										
Tanzania	2004	14.6	8,573,748	0.3	13.3	0.3	0.7	23,815	1,144,353	25,068
						Total 15-49		865,829	11,613,539	5,256,648

[1] Northern Sudan: Estimates assume survey covered 80% of population