

# Female Genital Mutilation/Cutting in the United States: Updated Estimates of Women and Girls at Risk, 2012

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HOWARD GOLDBERG, PhD<sup>a</sup>  
PAUL STUPP, PhD<sup>a</sup>  
EKWUTOSI OKOROH, MD<sup>a</sup>  
GHENET BESERA, MPH<sup>a</sup>  
DAVID GOODMAN, PhD<sup>a</sup>  
ISABELLA DANIEL, MD<sup>a</sup>

## ABSTRACT

**Objectives.** In 1996, the U.S. Congress passed legislation making female genital mutilation/cutting (FGM/C) illegal in the United States. CDC published the first estimates of the number of women and girls at risk for FGM/C in 1997. Since 2012, various constituencies have again raised concerns about the practice in the United States. We updated an earlier estimate of the number of women and girls in the United States who were at risk for FGM/C or its consequences.

**Methods.** We estimated the number of women and girls who were at risk for undergoing FGM/C or its consequences in 2012 by applying country-specific prevalence of FGM/C to the estimated number of women and girls living in the United States who were born in that country or who lived with a parent born in that country.

**Results.** Approximately 513,000 women and girls in the United States were at risk for FGM/C or its consequences in 2012, which was more than three times higher than the earlier estimate, based on 1990 data. The increase in the number of women and girls younger than 18 years of age at risk for FGM/C was more than four times that of previous estimates.

**Conclusion.** The estimated increase was wholly a result of rapid growth in the number of immigrants from FGM/C-practicing countries living in the United States and not from increases in FGM/C prevalence in those countries. Scientifically valid information regarding whether women or their daughters have actually undergone FGM/C and related information that can contribute to efforts to prevent the practice in the United States and provide needed health services to women who have undergone FGM/C are needed.

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<sup>a</sup>Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Reproductive Health, Atlanta, GA

Address correspondence to: Howard Goldberg, PhD, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Reproductive Health, MS-F74, 4770 Buford Hwy. NE, Atlanta, GA 30341; tel. 770-488-4630; fax 770-488-6291; e-mail <hgoldberg@cdc.gov>.

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In 1997, *Public Health Reports* published the first U.S. estimates of the number of women and girls in the United States in 1990 (hereafter referred to as the 1990 estimates) who were at risk for female genital mutilation/cutting (FGM/C).<sup>1</sup> That study was conducted at the request of the U.S. Congress, which passed legislation making FGM/C illegal in the United States. Since 2012, various constituencies have again raised concerns about the practice of FGM/C in the United States.<sup>2-6</sup> New estimates are needed because of substantial growth in the immigrant population of the United States in recent decades and the need to support additional policies to reduce the occurrence of FGM/C.

We updated the 1990 estimates of the number of women and girls in the United States who were at risk for FGM/C. We report only the number of women and girls at risk for FGM/C and do not estimate the number of women and girls who have actually undergone the procedure.

## BACKGROUND

FGM/C has been a traditional practice in various parts of the world since antiquity<sup>7-9</sup> and has continued to the present day in some societies. In 1997, the World Health Organization (WHO), United Nations Children's Fund (UNICEF), and United Nations Population Fund issued a joint statement defining FGM/C as "all procedures involving partial or total removal of the external female genitalia or other injury to the female genital organs whether for cultural, religious, or other non-therapeutic reasons."<sup>10,11</sup> The practice violates several human rights principles, including rights outlined under the Universal Declaration of Human Rights, the Convention on the Elimination of all Forms of Discrimination Against Women, and the Convention on the Rights of the Child.<sup>11-13</sup> FGM/C, especially in its more extreme forms, is associated with a wide variety of physical, sexual, and psychological/emotional complications, both immediate and long term.<sup>8,14-16</sup>

In 2008, WHO estimated that 100 to 140 million women and girls worldwide had undergone one of the traditional forms of FGM/C, with about 3 million girls each year undergoing the procedure.<sup>11</sup> FGM/C continues to be practiced in many African countries, as well as some South Asian and Middle Eastern countries.<sup>17</sup> FGM/C is also found in immigrant communities throughout the world, including communities in Europe and North America.<sup>18-20</sup> The practice is deeply grounded in the culture of some ethnic groups and varies greatly across and within countries and regions.<sup>11,17</sup>

## FGM/C in the United States

To develop effective policies, programs, and interventions to prevent FGM/C from occurring in the United States, and to understand and provide needed services (especially obstetric and gynecologic services) to those who have undergone FGM/C, it is important to understand the magnitude of the problem. Some immigrants have attempted to sustain the practice in the United States by either trying to have their daughters cut locally or by returning to their countries of origin with their daughters for the purpose of having them cut (commonly known as "vacation cutting").<sup>3</sup> No reliable sources of data exist on the number of U.S. resident women and girls who have undergone FGM/C either in the United States or in their country of origin, or on the number of women and girls who undergo the procedure in a given year.

In 1996, Congress passed the Federal Prohibition of Female Genital Mutilation Act, making it illegal to perform FGM/C on girls younger than 18 years of age in the United States.<sup>21</sup> In 2013, Congress passed another law, the Transport for Female Genital Mutilation Act, which amended the 1996 legislation and made it a crime to knowingly transport a girl out of the United States for the purpose of FGM/C.<sup>22</sup> Since 1995, 24 states have enacted anti-FGM/C laws.<sup>23</sup>

As a consequence of the 1996 legislation, the Centers for Disease Control and Prevention (CDC) developed estimates of the number of women and girls in the United States at risk for FGM/C, using country-specific prevalence estimates and data from the 1990 U.S. Census.<sup>1</sup> That study estimated that 168,000 girls and women living in the United States in 1990 had undergone or were at risk for FGM/C, with 48,000 of them younger than 18 years of age. The study was not able to differentiate between the number of women and girls who had actually undergone FGM/C and the number who were at risk. In 2004, the African Women's Health Center at Brigham and Women's Hospital and the Population Reference Bureau updated the CDC estimates using prevalence data from more recent surveys and the 2000 U.S. Census.<sup>24</sup> That study estimated that 227,887 women and girls in 2000, including 62,519 girls younger than 18 years of age, had undergone or were at risk for FGM/C. This 35% increase in one decade was attributable to large increases in the U.S. population of women and girls born in or with ancestry from FGM/C-practicing countries.

Since the studies that produced estimates for 1990 and 2000, the foreign-born population of the United States has increased substantially, particularly from African countries.<sup>25</sup> In addition, improved data exist

on FGM/C prevalence in most countries where it is traditionally practiced. On the other hand, systematically collected data on the prevalence and characteristics of FGM/C among immigrant women who have undergone FGM/C or are at risk for it continue to be only rarely available.<sup>20,26,27</sup> To produce estimates of women and girls at risk for FGM/C or its consequences in countries that typically receive immigrants from countries where the practice persists, researchers commonly extrapolate prevalence data on FGM/C to the population of female migrants (and their daughters) from FGM/C-practicing countries.<sup>26,28,29</sup> A 2014 review of FGM/C prevalence studies in the European Union found that many such studies have been conducted in European countries, with similar methodology used in most.<sup>29</sup>

## METHODS

This study is an update of the 1990 estimates,<sup>1</sup> using similar methodology but necessarily different data sources. The data sources used to derive the estimates in this study were (1) the public-use dataset from the 2012 American Community Survey (ACS-2012),<sup>30</sup> a 1% sample of households in the United States (U.S. Census data, used for the 1990 estimates, could not be used because the U.S. Census no longer includes questions on country of birth); and (2) population-based, country-specific FGM/C prevalence estimates compiled from national surveys (most often Demographic and Health Surveys or UNICEF's Multiple Indicator Cluster Surveys).<sup>31</sup> (For the 1990 estimates, FGM/C prevalence estimates for most countries were derived from local data sources and not from large, population-based, reliable national surveys.)

A total of 27 countries had an estimated FGM/C prevalence of 2% or more, based on self-reported data from surveys conducted from 2002 to 2012. For those countries, estimates of FGM/C prevalence were available for women and girls aged 15–49, 15–19, and 45–49 years. The ACS-2012 provides estimates of the population residing in the United States who were born in 17 of the 27 countries. (Because few people migrated from the other 10 countries to the United States, population figures were not available from the ACS-2012 on women originating from those countries.) In addition, the ACS-2012 provides aggregate estimates of the foreign-born population from a group of countries in West Africa for which individual country-level estimates were not available and estimates of the foreign-born population from Africa with no country of birth specified.

The 1990 estimates were tabulated based on numbers

of women born in known FGM/C-practicing countries or with ancestry from such countries. The current study similarly includes women born in an FGM/C-practicing country, but some differences in ancestry information exist between the 1990 U.S. Census and ACS-2012. In addition to individuals' place of birth, ACS-2012 provides information on the relationship of each individual to the head of the household and the places of birth of all individuals in the household. This information allowed a determination as to whether one or both parents of each female in a sampled household were born in an FGM/C-practicing country.

For this analysis, we defined "at risk" as potentially having undergone FGM/C in the past or at risk for undergoing FGM/C in the future. We obtained estimates of the at-risk population by multiplying the country-specific prevalence of FGM/C by the estimated number of women and girls from the ACS-2012 who were born in that country or who lived with a parent born in that country. We produced two sets of estimates of women and girls at risk: prevalence A, which assumed that the country-specific FGM/C prevalence among women and girls aged 15–49 years applied to all women and girls; and prevalence B, which applied country-specific FGM/C prevalence among women and girls aged 15–19 years in the country to women and girls younger than 20 years of age in the ACS, and applied the prevalence among women and girls aged 15–49 years to women and girls aged 20 years or older in the ACS-2012. The first set of estimates replicated the procedure used for the 1990 estimates. The second set took into account that in some countries, reported FGM/C prevalence is lower among younger women and girls than among all women of childbearing age.

Using this methodology, we developed estimates of the number of women and girls in the United States who may have undergone FGM/C or were at risk for being subjected to it. In our analysis, we separated the older ( $\geq 18$  years of age) and younger ( $< 18$  years of age) women and girls. The former age group consisted almost exclusively of women in potential need of health-care services related to FGM/C, most notably for obstetric and/or gynecologic problems stemming from having undergone the procedure. The latter age group comprised girls at risk for undergoing FGM/C and those who previously underwent the procedure. For comparability of terminology with earlier analyses, those at risk consisted of the number who potentially underwent or would potentially undergo FGM/C in the future if the population of foreign-born women and girls and their children in the United States had the same rates of FGM/C as the countries in which the girls or their mothers had been born.

## RESULTS

Among FGM/C-practicing countries for which ACS-2012 provided estimates of the U.S. population as countries of origin and for which data were available, FGM/C prevalence among women of reproductive age (15–49 years) was highest in Somalia (98%), Guinea (96%), Egypt (91%), and Eritrea (89%).<sup>31</sup> Because the prevalence data for the 1990 estimates did not come from national population-based surveys for most countries (unlike the most recent data), comparisons of prevalence in the right-hand columns (i.e., the 15–49 years columns) do not represent the actual change in FGM/C over time. However, the differences in prevalence between 15- to 19-year-olds and 15- to 49-year-olds in countries with available data can be viewed as an indicator of recent change in FGM/C prevalence. In all but a few of the high-prevalence countries listed (most notably Gambia and Somalia), the prevalence of FGM/C among 15- to 19-year-olds was lower than the prevalence among 15- to 49-year-olds, indicating that the practice has likely been declining in recent decades (Table 1).

The age distributions of women and girls born in the United States and those who migrated from FGM/C-practicing countries were strikingly different. The largest numbers of women and girls in the United States who were born in FGM/C-practicing countries (i.e., first-generation residents) were aged 25–49 years, with relatively few younger than 20 years of age. The age distribution of women and girls born in the United States to women from FGM/C-practicing countries (i.e., second-generation residents) was heavily concentrated in the youngest age groups, with the largest numbers at 0–4 and 5–9 years of age and relatively few older than 15–19 years of age (Figure).

In 2012, an estimated 1.1 million women and girls living in the United States were born in FGM/C-practicing countries or were born in the United States to women born in such countries. Thirty-six percent were younger than 18 years of age. The total represents an increase of about 863,000 women and girls from the 1990 estimates.<sup>1</sup>

We present two estimates of women and girls in the United States at risk for FGM/C in the past or future. Prevalence A was an estimate of about 545,000 women and girls at risk, 199,900 (37%) of whom were younger than 18 years of age. Prevalence B was an estimate of about 513,000 women and girls at risk, 169,000 (33%) of whom were younger than 18 years of age (Table 2).

In slightly more than two decades, from 1990 to 2012, the total number of women and girls in the United States at risk for FGM/C or its consequences increased by 224%, from 168,000 to 545,000, using

the prevalence A scheme to ensure comparability. The increase was much greater among those younger than 18 years of age (314%) than among those aged 18 years or older (188%) (Table 3).

The most common countries of origin for women and girls in the United States at risk for FGM/C or its consequences were Egypt (20%), Ethiopia (18%), and Somalia (12%), accounting for 50% of the total percentage. These percentages include women and girls who were born in FGM/C-practicing countries or were born to women from FGM/C-practicing countries (Table 4).

## DISCUSSION

Our best estimate is that, in 2012, about 513,000 women and girls in the United States were at risk for FGM/C or its consequences. When examining absolute numbers of women and girls at risk, rather than percentage change, we believe that the prevalence B estimate is more reliable than the prevalence A estimate because it takes into account recent changes in FGM/C prevalence in countries of origin, applying a different prevalence to younger women and girls. Compared with estimates from 1990, this estimate represents approximately a threefold increase in the overall number of women and girls at risk for FGM/C and a fourfold increase for girls younger than 18 years of age.

Girls younger than 18 years of age now comprise about one-third of the total women and girls at risk for FGM/C or its consequences. The number at risk increased greatly despite the fact that FGM/C prevalence has not increased in practicing countries (and has seemingly fallen in many countries). Rather, the increase resulted from the fact that the U.S. population originating from FGM/C countries has risen sharply in recent decades. However, most of the increase has been in second-generation women and girls (i.e., those born to parents already living in the United States). Our finding that the age distribution of second-generation women and girls is much younger than for first-generation women and girls is important with regard to risk because there is a strong possibility that first-generation girls are much more likely to undergo FGM/C than second-generation girls, because the latter tend to come from more acculturated families. Unfortunately, data do not exist in the United States to test this hypothesis.

A systematic review of FGM/C studies in Europe concluded that children born to an immigrant family (second generation) run relatively little risk of undergoing FGM/C.<sup>20</sup> If that is true, then the increase in women and girls theoretically at risk may not translate to an increase in girls actually undergoing FGM/C in

the United States. However, a substantial increase in women in need of health-care and other services may occur as a consequence of having undergone FGM/C.

### Limitations

This study was subject to several limitations, some of which are similar to those described in the 1997 article.<sup>1</sup> For one, the estimates assumed that, with

regard to FGM/C practices, people behave the same in the United States as they would in the countries from which they migrated. Several reasons explain why the behaviors are likely to differ from those in countries of origin, including assimilation, differences in education and other socioeconomic characteristics, and U.S. laws banning FGM/C. These differences would very likely result in reduced risk for FGM/C.

**Table 1. Prevalence of female genital mutilation/cutting (FGM/C) for countries known to practice FGM/C and from which substantial numbers<sup>a</sup> of women and girls have come to the United States, by age and year: most recent prevalence estimate, 2002–2011,<sup>b</sup> and prevalence used for 1990 estimates**

Countries known to practice FGM/C	Year of most recent survey estimate	Percentage of all 15- to 19-year-old women and girls who underwent FGC, according to most recent survey	Percentage of all 15- to 49-year-old women and girls who underwent FGC, according to most recent survey	Percentage of all 15- to 49-year-old women and girls who underwent FGM/C, estimates used for 1990 estimates <sup>c</sup>
Egypt	2008	81	91	80
Ethiopia	2005	62	74	90 <sup>d</sup>
Eritrea	2002	78	89	90 <sup>d</sup>
Gambia	2010	77	76	80
Ghana	2011	2	4	30
Guinea	2005	89	96	50
Kenya	2008–2009	15	27	50
Liberia	2007	36	58	60
Nigeria	2011	19	27	60
Senegal	2010–2011	24	26	20
Sierra Leone	2010	70	88	90
Somalia	2006	97	98	98
Sudan <sup>e</sup>	2010	84	88	89
Tanzania	2010	7	15	10
Togo	2010	1	4	50
Africa (unspecified) <sup>f</sup>	NA	34	41	NA <sup>g</sup>
West Africa (unlisted country)	NA	44	49	NA <sup>g</sup>
Iraq	2011	5	8	NA <sup>g</sup>
Yemen	2003	NA <sup>h</sup>	38	NA <sup>g</sup>
All practicing countries <sup>i</sup>	NA	NA	NA	65

<sup>a</sup>Numbers of women and girls who have come to the United States were large enough that the 2012 American Community Survey reported the estimated number. Source: Gambino CP, Trevelyan EN, Fitzwater JT. The foreign-born population from Africa: 2008–2012. American Community Survey Briefs. Washington: Census Bureau (US); 2014. Also available from: <http://www.census.gov/content/dam/Census/library/publications/2014/acs/acsbr12-16.pdf> [cited 2014 Nov 10].

<sup>b</sup>Data compiled by the Population Reference Bureau. Source: Agency for Healthcare Research and Quality (US). Healthcare Cost and Utilization Project (HCUP) [cited 2014 Nov 10]. Available from: <http://www.ahrq.gov/research/data/hcup/index.html>

<sup>c</sup>Jones WK, Smith J, Kieke B Jr, Wilcox L. Female genital mutilation. Female circumcision. Who is at risk in the U.S.? Public Health Rep 1997;112:368-77.

<sup>d</sup>Eritrea and Ethiopia combined

<sup>e</sup>All values exclude South Sudan.

<sup>f</sup>An average FGM/C prevalence was calculated for Africa as a whole based on the countries for which country-specific estimates of the foreign-born population were available in the American Community Survey. A prevalence of zero was assumed for countries not specifically identified as FGM/C-practicing countries.

<sup>g</sup>Not included in published 1990 estimates

<sup>h</sup>Prevalence for 15- to 19-year-olds not available; prevalence for 15- to 49-year-olds used for all women

<sup>i</sup>Determined by weighting prevalences by population in United States originating from specific countries

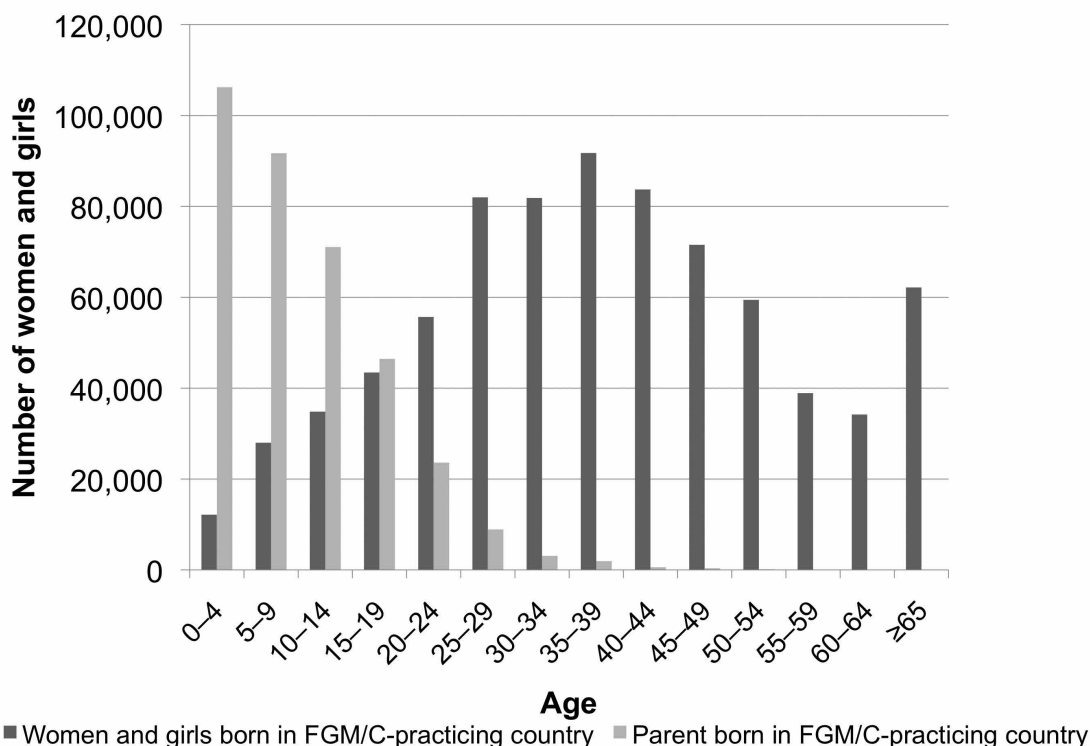
FGM/C = female genital mutilation/cutting

FGC = female genital cutting

NA = not available



**Figure. Women and girls in the United States who were born in an FGM/C-practicing country or were living with a parent born in an FGM/C-practicing country, by age, 2012**



FGM/C = female genital mutilation/cutting

Additionally, these estimates were based on national prevalence levels reported for the countries of origin where FGM/C is practiced. However, in many of those countries, the prevalence of FGM/C varies by geographic area (e.g., urban-rural), ethnic group, and other factors. The population coming to the United States, however, may not be representative of the entire

country of origin. In addition, the length of time since the most recent surveys providing FGM/C prevalence varied, such that if prevalence is changing, the prevalence data used could be somewhat outdated. We only had FGM/C prevalence estimates from countries for which such information exists.<sup>28,31</sup> A large number of people migrate to the United States from other

**Table 2. Estimates of women and girls at risk for female genital mutilation/cutting (to the nearest thousand), by age, using two different country-of-origin prevalence assumptions, United States, 2012**

Prevalence assumption	Age of women/girls (in years)		
	<18 Number at risk (percent)	≥18 Number at risk (percent)	All ages Number at risk (percent)
At risk for FGM/C using prevalence assumption A <sup>a</sup>	199,000 (37)	346,000 (63)	545,000 (100)
At risk for FGM/C using prevalence assumption B <sup>b</sup>	169,000 (33)	344,000 (67)	513,000 (100)

<sup>a</sup>Applies proportions with FGM/C of women aged 15–49 years in countries of origin to all women and girls

<sup>b</sup>Applies proportions with FGM/C of women aged 15–19 years in countries of origin for those <20 years of age and of women aged 15–49 years for those aged ≥20 years

FGM/C = female genital mutilation/cutting

**Table 3. Changes between 1990 and 2012 in the estimated number of women and girls living in the United States (to the nearest thousand) at risk for female genital mutilation/cutting<sup>a</sup>**

Year	Age of women/girls (in years)		
	<18 Number at risk (percent of total)	≥18 Number at risk (percent of total)	All ages Number at risk (percent of total)
1990 <sup>b</sup>	48,000 (29)	120,000 (71)	168,000 (100)
2012	199,000 (37)	346,000 (63)	545,000 (100)
Change from 1990 to 2012 (percentage)	+151,000 (+314)	+226,000 (+188)	+377,000 (+224)

<sup>a</sup>For comparability of estimates, the FGM/C prevalence used to arrive at these estimates is for those aged 15–49 years in countries of origin applied to women and girls of all ages for both years.

<sup>b</sup>1990 figures taken from: Jones WK, Smith J, Kieke B Jr, Wilcox L. Female genital mutilation. Female circumcision. Who is at risk in the U.S.? Public Health Rep 1997;112:368-77.

countries where FGM/C is practiced to an unknown extent (e.g., Indonesia and India). Exclusion of such countries from this analysis could have biased the estimates of at-risk women and girls downward.

It is difficult to determine the number of undocumented individuals from FGM/C-practicing countries or the probability that such individuals complete the ACS, which provides the populations used for these estimates, resulting in a possible response bias and an underestimation of U.S. women and girls at risk for FGM/C. We considered using other estimation methodologies that employ existing data, but none added substantially to the approach used. For example, some International Classification of Diseases diagnostic codes are specific for FGM/C, but when we examined

them using national hospital discharge data from the Healthcare Cost and Utilization Project<sup>32</sup> to obtain information on the occurrence of FGM/C, it was clear that those codes were rarely used and, thus, would not provide realistic population-level estimates.

## CONCLUSION

Until scientifically valid information is collected regarding whether women or their daughters have undergone or are likely to undergo FGM/C, the approach used in this study provides the best available information regarding potential levels of FGM/C. The results presented herein provide an important update of previous estimates of FGM/C risk, but they do not provide information on the extent to which FGM/C is practiced in the United States. Also, they do not provide information on other important aspects of the practice, such as the ages at which it occurs, who performs the procedure, what types of FGM/C procedures are performed, and the degree to which the practice of FGM/C changes after arrival in the United States. Very importantly, they also say nothing about the number of women who have health-care and other needs related to FGM/C or who have experienced physical, emotional, psychosocial, or other potentially serious consequences of FGM/C.

The ultimate goals of collecting information on the occurrence of FGM/C among women and girls living in the United States should be to contribute to preventing the practice and providing services to those who have undergone it. Surveys and other types of data collection at the community and individual level are needed to answer important questions. Because of the cultural and legal sensitivity of the information needed, however, the approaches needed to conduct these activities must be carefully considered to ensure that complete,

**Table 4. Distribution of countries of origin of women and girls at risk for female genital mutilation/cutting in the United States, 2012**

Country of origin	Number of women and girls at risk <sup>a</sup> (percent)
Egypt	101,000 (20)
Ethiopia	90,000 (18)
Somalia	64,000 (12)
Nigeria	46,000 (9)
Sudan	31,000 (6)
Liberia	29,000 (6)
Sierra Leone	26,000 (5)
Kenya	16,000 (3)
Eritrea	15,000 (3)
Yemen	13,000 (3)
Guinea	12,000 (2)
Other, specified	27,000 (5)
Africa, unspecified country	31,000 (6)
West Africa, unspecified country	12,000 (2)
Total	513,000 (100)

<sup>a</sup>Rounded to the nearest thousand

reliable, and generalizable information is collected. By implementing actions to capture information that enhances knowledge on those issues, the United States can more effectively move toward prevention.

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