

# **Financial Requirements for Global Investments in Priority Health Interventions for Adolescent Girls**

Estimated Costs of Scaling-Up Priority Interventions for Adolescent Girls' Health

and

Policy Recommendations for Improved Tracking of Global Health Expenditures on  
Adolescent Girls

Prepared by Jessica Ebbeler

For the Center for Global Development

August 17, 2009

*This report was commissioned by the Center for Global Development for the purpose of informing the report, Start with a Girl: A New Agenda for Global Health, part of the Girls Count series, with funding from the Nike Foundation and the Bill and Melinda Gates Foundation.*

## Table of Contents

|  |    |
|--|----|
| <b>BACKGROUND</b> .....  | 3  |
| <b>METHODOLOGY</b> .....   | 5  |
| <b>PRIORITY INTERVENION COST ESTIMATES</b> .....   | 8  |
| <i>Estimated Cost of Full Intervention Package</i> .....   | 8  |
| <i>Promoting and expanding coverage of focused interventions with proven or promising efficacy</i> ..... | 10 |
| Youth-Friendly Health Services .....   | 10 |
| Iron Supplementation .....   | 11 |
| HPV Vaccination .....  | 12 |
| Reducing Harmful Traditional Practices .....   | 13 |
| Engaging Men and Boys as Partners .....  | 14 |
| Obesity Reduction .....  | 15 |
| Edutainment programs .....   | 16 |
| Tobacco Use Reduction .....  | 17 |
| <i>Creating particular types of social resources for girls and their families</i> .....                  | 18 |
| Safe Spaces Programs .....   | 18 |
| <i>Generating greater health benefits from investments in education and other sectors</i> .....          | 19 |
| Comprehensive Sexuality Education.....   | 19 |
| <b>TRACKING GLOBAL AID FLOWS TO ADOLESCENT GIRLS</b> .....   | 20 |
| <b>REFERENCES</b> .....  | 26 |
| Appendix A. Coverage Targets .....   | 28 |
| Appendix B. Detailed Cost Tables .....   | 36 |

## BACKGROUND

Rough cost estimates are derived for the required investments to protect and promote adolescent girls' health yearly for the five year period 2010-2015. The priority interventions comprise an essential package of interventions, as described in the report, *Start With A Girl: A New Agenda for Global Health*; some of these are needed by all girls, while others are targeted to those who are poor or are at special risk of health problems such as anemia, while still others are targeted at boys and men or general populations with the intent of benefiting girls. This report estimates costs to implement ten priority interventions in low and low-middle income countries for improving the health of adolescent girls (ages 10-19). These interventions include:

### **Promoting and expanding coverage of focused interventions with proven or promising efficacy**

- **Youth-friendly health services:** Outreach to adolescents, training of health workers, and use of peer workers to increase access of adolescents to sexual and reproductive health information and counseling, family planning and contraceptive provision, treatment for sexually transmitted infections, and testing and counseling for HIV to benefit all adolescent girls ages 10-19 living below \$2 per day in low and low-middle income countries.
- **Iron supplementation:** Provide daily iron supplements to girls ages 10-19 at risk for anemia in low and low-middle income countries.
- **HPV vaccine:** Vaccinate all 11 year old girls in each year in low and low-middle income countries.

### **Stimulating changes in social norms**

- **Reducing harmful traditional practices:** Mobilize communities to reduce FGC and child marriage through education and public declarations in countries with high prevalence of FGC and child marriage to benefit girls ages 10-12 at risk for FGC and/or girls ages 10-19 at risk for early child marriage.
- **Engaging boys and men as partners:** Engage the poorest young males ages 15-24 living below \$2 per day in low and low-middle income countries in reducing gender inequalities in the areas of gender-based violence; sexual and reproductive health; HIV prevention and AIDS treatment, care and support; fatherhood; maternal, newborn and child health; and gender socialization.
- **Obesity reduction:** Implement national physical activity and nutrition campaign in low and low-middle income countries with populations at high risk for obesity to benefit girls ages 10-19.
- **Edutainment programs:** Deliver mass media edutainment covering safe sex, gender-based violence, unwanted pregnancy, etc. via Television and/or radio plus supplementary print materials to all adolescent boys and girls ages 10-19 in low and low-middle income countries.
- **Tobacco use reduction:** Implement national policy actions including taxation of tobacco products, policies for smoke-free environments, advertising bans, and information campaigns in low and low-middle income countries where there is a greater than 25% prevalence of adult or youth smoking or increased prevalence in female youth tobacco use to benefit all boys and girls ages 10-19.

### **Creating particular types of social resources for girls and their families**

- **Safe spaces:** Create safe spaces for out-of-school girls ages 10-19 to build friendship networks, health knowledge, confidence-building, and expand life choices.

**Generating greater health benefits from investments in education and other sectors**

- **Comprehensive sexuality education:** Provide condom and sex negotiation skills to all in-school adolescent girls ages 10-19 through skills-based education programs in low and low-middle income countries.

The report also recommends ways to track donor aid flows to programs intended to directly and indirectly benefit the health of adolescent girls. Current innovations in global tracking of donor expenditures provide a timely opportunity to ensure data collection and analysis include spending by beneficiary sex and age to capture aid flows to adolescent girls. Innovations in tracking health expenditures at national government levels also provide a promising opportunity to consistently collect and identify health spending on specific beneficiary populations within countries by governments. Current inconsistencies in the way funding data is reported and collected at national and global levels by donors, governments, and civil society organizations present challenges in accurately estimating not only the flow of resources to adolescent girls, but also in identifying the efficient use of resources and gaps in health spending.

## METHODOLOGY

Unit costs<sup>1</sup> are estimated for each priority intervention based on documented program experience<sup>2</sup>, using the best available information on costs. Applying strong assumptions, unit costs are assumed to be the same across regions, and between urban and rural settings. Unit costs for each intervention are multiplied by an estimate of the number of girls to be covered; for some interventions this is all girls, and for others it is a subset of the adolescent girl population, while in other interventions the target population is males or the general population, in which case both unit costs per participant and per girl are calculated. This represents a measure of “need” rather than effective demand, which is likely to be considerably smaller. Given the limitations of the data and methods<sup>3</sup>, the rough cost estimates are solely for the purpose of estimating “order of magnitude” financial requirements, and do not evaluate cost-effectiveness of interventions or existing funding gaps. All costs are provided in constant US 2009 dollars.

Unit cost calculations may include some or all of a variety of costs, including capital and recurrent, administrative and personnel, monitoring and evaluation, training, and service delivery, unless otherwise noted. In some cases where unit costs are based on pilot programs that have high capital costs, costs will most likely be overestimated as there will presumably be a marginal decrease in per unit costs as a pilot program is refined and scaled up. For each intervention, an indication is included to state whether the unit costs include capital and recurrent costs, and/or administrative and monitoring and evaluation costs.

In cases where more than one program experience is available, a range of unit costs and an average unit cost is presented, specifying the range of interventions included. In the case of tobacco reduction, where a primary intervention is the implementation of an excise tax on tobacco products which is effectively a revenue-generating intervention, it is expected that the cost of the interventions will be exceeded by the revenues generated from the intervention itself. For this reason, the cost needed for investing in tobacco reduction is included in this study as a priority intervention, but is not included in the overall resources required for the entire priority intervention package.

Only low and low-middle income countries (determined by the Atlas method<sup>4</sup>) are included in the cost estimates (See Table 1 for low and low-middle income countries by World Health Organization (WHO) region included in cost estimates). Populations and cost estimates for China and India are excluded from regional population and cost estimates and reported separately due to the population size.

All costs of interventions are estimated on an annual basis over five years (2010-2015). Each intervention assumes a discrete treatment period for the targeted population. In some cases, the appropriate treatment represents a one-time cost for each girl (as in the case of delivering an HPV vaccine); in those cases, an average annual cost will be estimated by dividing the total program cost by the number of program years. In other cases the appropriate treatment per girl is longer than one year

---

<sup>1</sup> Unit costs for the purposes of this report is defined as the cost per girl or per participant to implement an intervention.

<sup>2</sup> HPV vaccination is the only intervention included in this priority intervention package for girls that is not based on program experience due to lack of data, but rather based on hypothetical costing scenarios.

<sup>3</sup> Limitations include lack of range of unit costs that vary across region, urban and rural settings, program intervention type, capital and recurrent costs, etc.

<sup>4</sup> World Bank Atlas method

(<http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0,,contentMDK:20452009~isCURL:Y~menuPK:64133156~pagePK:64133150~piPK:64133175~theSitePK:239419,00.html>)

(as in the case with iron supplementation which will be provided to each girl for a total of five years), in which case the total average annual program cost will reflect the number of treatment years per girl.

The number of adolescent girls (ages 10-19) to be covered on average annually is estimated based on most recent population projections available from the United Nations Population Statistics Database (2008)<sup>5</sup> for the years 2010-2015, using a medium fertility variant. In some cases it is appropriate to target the intervention to boys or specific ages within this range; this is indicated when it occurs – for example in providing gender competency training to young males age 15-24 to improve the context for better sexual and reproductive health of adolescent girls. The estimated population of girls living under two dollars per day is estimated by multiplying the average number of adolescent girls in each country (2010-2015) by the current percent of the national population living below two dollars a day as estimated by the most recent United Nations Human Development Index (2008).<sup>6</sup> Based on this calculation, an average of 149 million girls annually between the years 2010-2015 will be living on less than \$2 per day in low and low-middle income countries, with an additional 128.5 million in China and India (Table A3).

All cost estimates are provided for WHO-defined regions (Africa, Americas, Eastern Mediterranean, Europe, South-East Asia, and the Western Pacific). In some cases, however, only a subset of the regions is included in cost estimates. For example, for female genital cutting, only Africa and the Eastern Mediterranean regions include high-prevalence countries. For this type of intervention, high prevalence countries are identified and costs are aggregated into regional costs for the relevant regions included in the intervention.

In some cases, interventions such as tobacco use reduction and female genital cutting reduction, the target group goes far beyond the adolescent girls who may benefit from changes in social norms and benefits a larger population of adults and children of both sexes. For these interventions, per capita costs are used to estimate annual program costs for community-wide or national implementation. Then, to present a total per girl cost for all priority interventions the total estimated program cost is divided by the estimated number of the adolescent girls. This permits us to arrive at a consistent per girl cost to implement all priority interventions, with the assumption that this will overestimate the per girl cost as not all girls will need to receive each intervention.

Lastly, total cost estimates for some interventions assume that the marginal cost (the cost of serving one additional girl) remain constant regardless of the numbers of girls reached, while others assume that marginal costs increase beyond a set threshold. Cost estimates assume a constant marginal cost for interventions implemented nationally or community-wide, such as the case with tobacco use reduction, and for interventions in which unit costs are based on programs that are designed to specifically reach comparatively marginalized, or hard-to-reach girls (*e.g.* out-of-school girls), such as the case with safe spaces programs. In other cases, such as providing HPV vaccinations to all 11 year old girls or iron supplements to all girls 10-19 at risk for anemia, a constant marginal cost is applied to the first 80 percent of girls reached, and a 20 percent higher marginal cost is assumed for extension to the most difficult-to-reach 20 percent of the population.

---

<sup>5</sup> United Nations World Population Prospects: The 2008 Revision Population Database (<http://esa.un.org/unpp/>)

<sup>6</sup> United Nations Human Development Indices 2008.

Table 1. Low and Low-Middle Income Countries Included in Regional Cost Estimates

| Africa                |                    |                       |                      |                       |           |
|-----------------------|--------------------|-----------------------|----------------------|-----------------------|-----------|
| Angola                | Chad*              | Gambia*               | Madagascar*          | Niger*                | Uganda*   |
| Benin*                | Comoros*           | Ghana*                | Malawi*              | Nigeria               | Zambia*   |
| Burkina Faso*         | Congo, Dem.*       | Guinea                | Mali*                | Rwanda*               | Zimbabwe* |
| Burundi*              | Congo, Rep.        | Guinea-Bissau*        | Mauritania*          | São Tomé and Príncipe |           |
| Cameroon              | Côte d'Ivoire      | Kenya*                | Mozambique*          | Senegal*              |           |
| Cape Verde            | Eritrea*           | Lesotho               | Sierra Leone*        | Tanzania*             |           |
| CAR*                  | Ethiopia*          | Liberia*              | Swaziland            | Togo*                 |           |
| Americas              |                    |                       |                      |                       |           |
| Bolivia               | El Salvador        | Guyana                | Honduras             | Paraguay              |           |
| Ecuador               | Guatemala          | Haiti*                | Nicaragua            |                       |           |
| Eastern Mediterranean |                    |                       |                      |                       |           |
| Afghanistan*          | Iran, Islamic Rep. | Morocco               | Sudan                | Yemen, Rep.*          |           |
| Djibouti              | Iraq               | Pakistan              | Syrian Arab Republic |                       |           |
| Egypt, Arab Rep.      | Jordan             | Somalia*              | Tunisia              |                       |           |
| Europe                |                    |                       |                      |                       |           |
| Albania               | Azerbaijan         | Kyrgyz Republic*      | Tajikistan*          | Ukraine               |           |
| Armenia               | Georgia            | Moldova               | Turkmenistan         | Uzbekistan*           |           |
| South-East Asia       |                    |                       |                      |                       |           |
| Bangladesh*           | India              | Maldives*             | Nepal*               | Thailand              |           |
| Bhutan                | Indonesia          | Myanmar               | Sri Lanka            | Timor-Leste           |           |
| Western Pacific       |                    |                       |                      |                       |           |
| Cambodia*             | Korea, Dem Rep.*   | Micronesia, Fed. Sts. | Papua New Guinea     | Samoa                 | Tonga     |
| China                 | Lao PDR*           | Mongolia              | Philippines          | Solomon Islands       | Vanuatu   |
|                       |                    |                       |                      |                       | Vietnam*  |

Low and low-middle income countries are selected based on the Atlas method used by the World Bank, with the exception of Brazil which is included but classified as a high-middle income country. \*Indicates low income countries.



## PRIORITY INTERVENION COST ESTIMATES

### *Estimated Cost of Full Intervention Package*

Table 2 (below) summarizes the total financial requirements for a complete package of all nine priority interventions in each region in low and low-middle income countries<sup>7</sup>. For each intervention the cost per girl annually is provided, as well as the estimated target coverage during (2010-2015). Total annual global costs exclude China and India, which are reported separately due to the high populations. All per unit costs are reported as the average annual cost per girl targeted, rather than the cost per participant.

The estimated cost per girl to receive all nine priority interventions is \$359.31. As each intervention has different coverage targets, it is unlikely that all girls will be targeted to receive all nine interventions, thus this estimated cost per girl represents the maximum cost per girl that would receive all interventions. It is estimated that an average of \$6.9 billion annually is required to invest in the priority intervention package in all low and low-middle income countries. It is estimated that of the \$6.9 billion required for all low and low-middle income countries excluding China and India, an average of \$3.6 billion annually is required to invest in the priority interventions in low income countries alone. An additional \$6.2 billion would be required to invest in the priority intervention package in China and India for a total global sum of \$13.1 billion required for the package in all low and low-middle income countries, including China and India.

---

<sup>7</sup> The first row represents the cost for both low and low-middle income countries and the second row represents the cost for only low income countries.

**Table 2. Estimated Average Annual Financial Requirements (millions US\$2009) of a Comprehensive Priority Intervention Package for Adolescent Girls (2010-2015)**

| Intervention                           | Coverage   | Countries Included | Number Girls Covered | Annual Cost Per Girl |        |          |             |        |                 |                 |        | India and China |
|--|--|--------------------|----------------------|----------------------|--------|----------|-------------|--------|-----------------|-----------------|--------|-----------------|
|  |  |                    |                      |                      | Africa | Americas | Eastern Med | Europe | South-East Asia | Western Pacific | Global |                 |
| Youth-friendly health services         | Girls (10-19) living under \$2 per day                   | LMI + LI           | 149,162              | \$8.50               | 133    | 14       | 40          | 6      | 52              | 19              | 264    | 227             |
|  |  | LI Only            | 83,612               |                      | 93     | 1        | 7           | 5      | 30              | 11              | 148    |                 |
| Iron supplementation                   | Girls (10-19) at risk of anemia                          | LMI + LI           | 131,437              | \$2.00               | 122    | 23       | 54          | 8      | 48              | 19              | 273    | 178             |
|  |  | LI Only            | 63,787               |                      | 82     | 2        | 10          | 4      | 26              | 9               | 133    |                 |
| HPV vaccination                        | Girls (Age 11)   | LMI + LI           | 143,124              | \$17.50*             | 208    | 115      | 158         | 17     | 99              | 62              | 660    | 591             |
|  |  | LI Only            | 37,414               |                      | 135    | 2        | 16          | 7      | 45              | 21              | 227    |                 |
| Reducing harmful traditional practices | Girls (10-12) at risk of FGC/ (10-19) for child marriage | LMI + LI           | 70,880               | \$80.85              | 603    | 26       | 137         | 0      | 273             | 0               | 1,039  | 897             |
|  |  | LI Only            | 43,876               |                      | 420    | 6        | 12          | 0      | 46              | 0               | 483    |                 |
| Male Engagement                        | Males (15-24) living under \$2 per day                   | LMI + LI           | 149,162              | \$113.25             | 1,596  | 184      | 526         | 92     | 711             | 270             | 3,379  | 3,282           |
|  |  | LI Only            | 83,612               |                      | 1,101  | 19       | 90          | 77     | 413             | 154             | 1,854  |                 |
| Obesity reduction                      | Girls (10-19) in high prevalence countries               | LMI + LI           | 115,451              | \$0.11               | 2      | 3        | 2           | 1      | 4               | 1               | 13     | 27              |
|  |  | LI Only            | 26,037               |                      | 1      | 0        | 0.3         | 0.4    | 0.5             | 0               | 2      |                 |
| Edutainment programs                   | Girls and boys (10-19) living under \$2 per day          | LMI + LI           | 149,162              | \$0.57               | 24     | 8        | 14          | 2      | 12              | 6               | 67     | 53              |
|  |  | LI Only            | 48,700               |                      | 17     | 0.3      | 2           | 1      | 6               | 3               | 29     |                 |
| Safe spaces                            | 30% of girls (10-19) out of school                       | LMI + LI           | 42,379               | \$130.51             | 557    | 26       | 267         | 6      | 193             | 56              | 1,106  | 800             |
|  |  | LI Only            | 23,993               |                      | 388    | 1        | 58          | 2      | 132             | 45              | 626    |                 |
| Comprehensive Sexuality Education      | Girls (10-19) in school                                  | LMI + LI           | 136,836              | \$6.02               | 37     | 38       | 31          | 11     | 33              | 20              | 171    | 134             |
|  |  | LI Only            | 40,238               |                      | 25     | 1        | 1           | 5      | 10              | 8               | 50     |                 |
| Total Annual Intervention Package      |  | LMI + LI           |                      | \$359.31             | 3,281  | 436      | 1,231       | 144    | 1,427           | 453             | 6,972  | 6,188           |
|  |  | LI Only            |                      |                      | 2,261  | 33       | 197         | 103    | 709             | 251             | 3,553  |                 |

Costs for interventions in both low and low-middle income countries (LMI+LI) are presented on the first row for each intervention and costs for the intervention in low income countries only (LI only) are presented in the second row. Average annual program costs for China and India are presented separately and not included in the total global estimates.

\*Unlike the other costs in this table that are based on program example, this price per girl is based on hypothetical assumptions of what the cost per girl may be only in countries eligible for internationally subsidized vaccine prices, while \$35 per vaccinated girl is assumed hypothetically for countries that are not eligible for subsidized prices.

\*\*A comprehensive smoking reduction program will include excise tax on tobacco products at 600% of supply price.

***Promoting and expanding coverage of focused interventions with proven or promising efficacy***

**Youth-Friendly Health Services**

**Intervention Description:** Outreach to adolescents, training of health workers, and use of peer workers to increase access of adolescents to sexual and reproductive health information and counseling, family planning and contraceptive provision, treatment for sexually transmitted infections, and testing and counseling for HIV<sup>8</sup>.

**Average annual unit cost:** \$8.5 for the estimated additional cost needed to increase access of services to adolescents (difference in providing services to youth and non-youth), not including actual services.

**Target population:** All 149 million of 10- to 19-year-old girls living below \$2 per day (Table A3).

**Length of treatment:** Assumes that each girl takes advantage of all services once.

**Treatment of marginal costs:** Increasing marginal costs of 20% for the last 20% of girls reached.

**Special data limitations:** Limited cost data that assumes the difference between the cost of providing services to youth and adults accurately captures cost of making services youth-friendly. The unit costs exclude costs for monitoring and evaluation.

| Region                        | Low and Low-Middle Income Countries        |   | Low Income Countries Only                  |   |
|-------------------------------|--|---|--|---|
|                               | Average Per Annum Cost (millions US\$2009) | Average Girls Covered Per Annum (thousands) | Average Per Annum Cost (millions US\$2009) | Average Girls Covered Per Annum (thousands) |
| Africa                        | 133  | 15,048                                      | 93   | 10,506                                      |
| Americas                      | 14   | 1,533                                       | 1  | 168   |
| Eastern Mediterranean         | 40   | 4,471                                       | 7  | 824   |
| Europe                        | 6  | 704   | 5  | 592   |
| South-East Asia               | 52   | 5,886                                       | 30   | 3,439                                       |
| Western Pacific               | 19   | 2,190                                       | 11   | 1,194                                       |
| <b>Global Per Annum</b>       | <b>264</b>                                 | <b>29,832</b>                               | <b>148</b>                                 | <b>16,722</b>                               |
| <b>Global Total 2010-2015</b> | <b>1,319</b>                               | <b>149,162</b>                              | <b>739</b>                                 | <b>83,612</b>                               |
| <i>China and India</i>        | 227  | 128,461                                     |  |   |

<sup>8</sup> Stenberg, Karin (2008). Measuring costs related to the provision of health services for young people (Power Point presentation). World Health Organization Department of Child and Adolescent Health and Development. February 2008.

## Iron Supplementation

**Intervention description:** Delivery of iron supplements to girls through ante-natal care or community nutrition programs.

**Average annual unit cost:** \$2.00 per girl<sup>9</sup> including cost of supplement and delivery of supplement, assuming delivery through utilization of existing programs and facilities.

**Length of treatment per girl:** Each girl receives one year of supplementation.

**Target population:** All of the estimated 131 million of 10- to 19-year-old girls at risk for anemia in low and low-middle income countries, based on the current percentage of anemia in pregnant women age 15-49 in each country (Table A5)<sup>10</sup>.

**Treatment of marginal costs:** Increasing by 20% to reach last 20% of population.

**Special data limitations:** Limited and outdated (1992) program data and program content detail.

| Region                 | Low and Low-Middle Income Countries        |   | Low Income Countries                       |   |
|------------------------|--|---|--|---|
|                        | Average Per Annum Cost (millions US\$2009) | Average Girls Covered Per Annum (thousands) | Average Per Annum Cost (millions US\$2009) | Average Girls Covered Per Annum (thousands) |
| Africa                 | 122  | 58,561                                      | 82   | 39,347                                      |
| Americas               | 23   | 10,846                                      | 1.5  | 736   |
| Eastern Mediterranean  | 54   | 26,118                                      | 10   | 4,770                                       |
| Europe                 | 8  | 3,667                                       | 4  | 2,139                                       |
| South-East Asia        | 48   | 23,198                                      | 26   | 12,610                                      |
| Western Pacific        | 19   | 9,047                                       | 9  | 4,185                                       |
| Global Per Annum       | 273  | 131,437                                     | 133  | 63,787                                      |
| Global Total 2010-2015 | 1,367                                      | 131,437                                     | 663  | 63,787                                      |
| China and India        | 178  | 142,867                                     |  |   |

<sup>9</sup> World Bank (2009). Costing the Scale-up of Nutrition Programming. March 26, 2009 draft version.

<sup>10</sup> De Benoist, et al (2008). Worldwide prevalence of anaemia 1993-2005: WHO Global Database on Anaemia. World Health Organization.

## HPV Vaccination

**Intervention Description:** Providing three doses of HPV vaccination to targeted girls.

**Average annual unit cost:** Assumed \$17.50 per girl in countries eligible for internationally subsidized prices (Table A11). This estimate is an average of hypothetical vaccination costs, including delivery and program costs for three cost scenarios in a limited number of low income countries.<sup>11</sup> For low middle income countries that are not eligible for the subsidized vaccine price, an assumed unit cost of \$35.00 was used (Table B1).

**Target population:** All of the estimated 143 million eleven year old girls in low and low-middle income countries (28.6 million eleven year olds each year).

**Length of treatment:** One series of three vaccinations per girl.

**Treatment of marginal costs:** Increasing by 20% to reach last 20% of population.

**Special data limitations:** Unit costs are not based on program experience, and thus are based solely on an average of three hypothetical cost scenarios in a limited number of low income countries.<sup>12</sup> While the HPV vaccine price for a few middle income countries has already come down by more than 60 percent, a public sector price for low and lower middle income countries has not yet been negotiated.

| Table 5. Projected Annual Cost Estimates (2010-2015) to Vaccinate Every 11 Year Old Girl Each Year Against HPV |  |   |  |   |
|--|--|---|--|---|
| Region   | Low and Low-Middle Income Countries        |   | Low Income Countries                       |   |
|  | Average Per Annum Cost (millions US\$2009) | Average Girls Covered Per Annum (thousands) | Average Per Annum Cost (millions US\$2009) | Average Girls Covered Per Annum (thousands) |
| Africa   | 208  | 10,783                                      | 135  | 4,444                                       |
| Americas   | 115  | 3,370                                       | 2  | 70  |
| Eastern Mediterranean  | 158  | 6,145                                       | 16   | 536   |
| Europe   | 17   | 849   | 7  | 246   |
| South-East Asia  | 99   | 5,186                                       | 45   | 1,479                                       |
| Western Pacific  | 62   | 2,291                                       | 21   | 707   |
| Global Per Annum   | 660  | 28,625                                      | 227  | 7,483                                       |
| Global Total 2010-2015   | 3,299                                      | 143,124                                     | 1,135                                      | 37,414                                      |
| China and India  | 591  | 20,540                                      |  |   |

<sup>11</sup> Personal communication with Carol Levin and Vivien Tsu of PATH. August 2009.

<sup>12</sup> IAVI, PATH. HPV Vaccine Adoption in Developing Countries: Cost and Financing Issues. New York: IAVI; Seattle, WA: PATH; 2007. Available at <http://www.iavi.org/viewfile.cfm?fid=47496>

## Stimulating changes in social norms

### Reducing Harmful Traditional Practices

**Intervention Description:** Support to communities to learn about human rights and share knowledge they gain with their neighbors, friends, and family members to make informed human-rights based decisions about abandoning harmful traditional practices<sup>13</sup>.

**Average annual unit cost:** \$216.67 (range of \$166.67 to \$266.67) per female and male participant in the community program, and an average cost of \$80.85 (range of \$62.19 to \$99.50) per adolescent girl at risk of FGC and/or child marriage targeted for coverage.

**Target population:** Girls (10-12) at risk for FGC or (10-19) for early child marriage in countries with high prevalence of either (71 million) where more than 20 percent of females (age 15-49) have been cut (Table A9) and/or countries where more than 30 percent were married before the age of 18 (Table A8)<sup>14</sup>.

**Length of treatment:** Three years per male and female participant.

**Treatment of marginal costs:** Constant marginal costs.

**Special data limitations:** Limited program experience and range of types of costs for different programs.

| Table 6. Projected Annual Cost Estimates (2010-2015) to Implement Community Awareness Programs to Reduce Harmful Traditional Practices in Countries with High FGC and Child Marriage Prevalence |  |   |  |   |
|---|--|---|--|---|
| Region  | Low and Low-Middle Income Countries        |   | Low Income Countries                       |   |
|   | Average Per Annum Cost (millions US\$2009) | Girls Covered                           | Average Per Annum Cost (millions US\$2009) | Girls Covered                           |
|   |  | Community Members Per Annum (thousands) |  | Community Members Per Annum (thousands) |
| Africa  | 603  | 7,454                                   | 420  | 6,577                                   |
|   |  | 2,781                                   |  | 1,937                                   |
| Americas  | 26   | 323                                     | 6  | 70                                      |
|   |  | 121                                     |  | 26                                      |
| Eastern Mediterranean   | 137  | 3,578                                   | 12   | 789                                     |
|   |  | 633                                     |  | 54                                      |
| South-East Asia   | 273  | 2,821                                   | 46   | 2,821                                   |
|   |  | 14,107                                  |  | 212                                     |
| Global Per Annum  | 1,039                                      | 14,176                                  | 483  | 12,274                                  |
|   |  | 4,796                                   |  | 2,230                                   |
| Global Total 2010-2015  | 5,196                                      | 70,880                                  | 2,416                                      | 61,370                                  |
|   |  | 23,980                                  |  | 11,150                                  |
| India   | 897  | 11,098                                  |  |   |
|   |  | 4,141                                   |  |   |

<sup>13</sup> Tostan CEP Program

<sup>14</sup> UNICEF State of the World's Children (2009)

### Engaging Men and Boys as Partners

**Intervention Description:** Interactive lifestyle social marketing campaigns to promote condom use and use of gender-equitable messages.

**Average annual unit cost:** \$115.78 per male participant (range of \$84.24 to \$147.32)<sup>15</sup> and \$108 per adolescent girl to benefit from male participation.

**Target population:** All males age 15-24 living below \$2/day in low and low-middle income countries (an estimated 140 million) to benefit the population of girls age 10-19 living below \$2/day (an estimated 149 million).

**Length of treatment:** Each male will participate for six months.

**Treatment of marginal costs:** Increasing marginal costs of 20% for the last 20% of boys reached.

**Special data limitations:** Limited program experience and cost data. This program addresses condom use and sexual and reproductive information, but does not address other issues such as gender and partner violence, etc.

| Region                 | Low and Low-Middle Income Countries        |                               | Low Income Countries                       |                               |
|------------------------|--|-------------------------------|--|-------------------------------|
|                        | Average Per Annum Cost (millions US\$2009) | Girls Covered                 | Average Per Annum Cost (millions US\$2009) | Girls Covered                 |
|                        |  | Male Participants (thousands) |  | Male Participants (thousands) |
| Africa                 | 1,596                                      | 15,048                        | 1,101                                      | 10,506                        |
|                        |  | 13,251                        |  | 9,145                         |
| Americas               | 184  | 1,533                         | 19   | 168                           |
|                        |  | 1,526                         |  | 162                           |
| Eastern Mediterranean  | 526  | 4,471                         | 90   | 824                           |
|                        |  | 4,370                         |  | 748                           |
| Europe                 | 92   | 704                           | 77   | 592                           |
|                        |  | 766                           |  | 638                           |
| South-East Asia        | 711  | 5,886                         | 413  | 3,439                         |
|                        |  | 5,908                         |  | 3,430                         |
| Western Pacific        | 270  | 2,190                         | 154  | 1,194                         |
|                        |  | 2,238                         |  | 1,276                         |
| Global Per Annum       | 3,379                                      | 29,832                        | 1,854                                      | 16,722                        |
|                        |  | 28,059                        |  | 15,399                        |
| Global Total 2010-2015 | 16,893                                     | 149,162                       | 9,271                                      | 83,612                        |
|                        |  | 140,293                       |  | 76,993                        |
| China and India        | 3,282                                      | 25,692                        |  |                               |
|                        |  | 28,350                        |  |                               |

<sup>15</sup> Program H in Brazil

## Obesity Reduction

**Intervention Description:** Intervention package includes: (1) media events for information dissemination, (2) actions carried out with partner institutions such as informational campaigns, and (3) academic and NGO partners to conduct outreach and research.<sup>16</sup>

**Average annual unit cost:** \$0.01 per capita annually for a nation-wide awareness program for physical activity, or \$0.11 per girl to include administration, training, and monitoring and evaluation costs.

**Target population:** Adolescent girls (10-19) covered within population-wide targeting in countries with high obesity prevalence (116 million girls) where male or female adult obesity is over 20 percent or where over 5 percent of children under five or adolescents (age 13-15) are overweight (Table A10).

**Length of treatment:** Each year all targeted girls will be covered.

**Treatment of marginal costs:** Constant marginal costs.

**Special data limitations:** Limited program experience and cost data. Intervention focuses on nation-wide awareness rather than specific nutrition and physical-activity based programs for healthy weight maintenance or reduction due to lack of data.

| Region                 | Low and Low-Middle Income Countries        |   | Low Income Countries                       |   |
|------------------------|--|---|--|---|
|                        | Average Per Annum Cost (millions) US\$2009 | Girls Covered                             | Average Per Annum Cost (millions) US\$2009 | Girls Covered                             |
|                        |  | National Population Per Annum (thousands) |  | National Population Per Annum (thousands) |
| Africa                 | 2  | 22,507                                    | 1  | 14,045                                    |
|                        |  | 180,129                                   |  | 96,895                                    |
| Americas               | 3  | 23,264                                    | 0  | 0   |
|                        |  | 269,962                                   |  | 0   |
| Eastern Mediterranean  | 2  | 19,605                                    | 0.3  | 3,213                                     |
|                        |  | 197,721                                   |  | 27,819                                    |
| Europe                 | 1  | 8,219                                     | 0.4  | 4,318                                     |
|                        |  | 107,924                                   |  | 43,094                                    |
| South-East Asia        | 4  | 31,593                                    | 1  | 4,461                                     |
|                        |  | 389,769                                   |  | 53,087                                    |
| Western Pacific        | 1  | 10,263                                    | 0  | 0   |
|                        |  | 105,151                                   |  | 0   |
| Global Per Annum       | 13   | 115,451                                   | 2  | 26,037                                    |
|                        |  | 1,250,656                                 |  | 220,895                                   |
| Global Total 2010-2015 | 62   | 115,451                                   | 11   | 26,037                                    |
|                        |  | 1,250,656                                 |  | 220,895                                   |
| China and India        | 27   | 210,455                                   |  |   |
|                        |  | 2,690,190                                 |  |   |

<sup>16</sup> Brazil Agita program



**Edutainment programs**

**Intervention Description:** Cost for producing television, radio, and print media to profile positive role models of women, men, and couples overcoming gender-related challenges including social roles, partner violence, HIV/AIDS, family planning, gender roles, cross generational sex, and sexuality.

**Average annual unit cost:** \$0.58 per boy and girl reached,<sup>17</sup> including all administrative costs and costs to monitor and evaluate the effectiveness of the program, media production, youth advisory meetings, and workshops.

**Target population:** An estimated 244 million adolescent boys and girls (10-19).

**Length of treatment:** Each year for five program years all targeted girls and boys will be covered.

**Treatment of marginal costs:** Increasing marginal costs of 20% for the last 20% of adolescents reached.

**Special data limitations:** Limited program and cost data.

| Region                 | Low and Low-Middle Income Countries        |                                    | Low Income Countries Only                  |                                    |
|------------------------|--|------------------------------------|--|------------------------------------|
|                        | Average Per Annum Cost (millions) US\$2009 | Girls Only Covered                 | Average Per Annum Cost (millions) US\$2009 | Girls Only Covered                 |
|                        |  | Girls and Boys Covered (thousands) |  | Girls and Boys Covered (thousands) |
| Africa                 | 24   | 20,220                             | 17   | 13,859                             |
|                        |  | 40,733                             |  | 27,861                             |
| Americas               | 8  | 6,715                              | 0.3  | 232                                |
|                        |  | 13,656                             |  | 469                                |
| Eastern Mediterranean  | 14   | 4,861                              | 2  | 690                                |
|                        |  | 24,303                             |  | 3,452                              |
| Europe                 | 2  | 1,872                              | 1  | 351                                |
|                        |  | 3,823                              |  | 1,756                              |
| South-East Asia        | 12   | 10,277                             | 6  | 1,997                              |
|                        |  | 20,925                             |  | 9,986                              |
| Western Pacific        | 6  | 1,927                              | 3  | 2,499                              |
|                        |  | 9,637                              |  | 5,175                              |
| Global Per Annum       | 67   | 55,620                             | 29   | 24,043                             |
|                        |  | 113,078                            |  | 48,700                             |
| Global Total 2010-2015 | 335  | 278,099                            | 147  | 120,215                            |
|                        |  | 565,392                            |  | 243,498                            |
| China and India        | 53   | 42,091                             |  |                                    |
|                        |  | 17,902                             |  |                                    |

<sup>17</sup> HEART (Helping Each Other Out) Zambia run by JHUCCP and local partners

## Tobacco Use Reduction

**Intervention Description:** 1) Excise tax on tobacco products at 600% of supply price; 2) clean indoor air law enforcement; 3) comprehensive ban on tobacco advertising; and 4) information dissemination and mass media. *The cost of this component is not included as part of the full package intervention as the revenue received from taxation of tobacco products will exceed the cost to implement and will cover the total intervention costs.*

**Average annual unit cost:** Average of \$5.72 per capita and \$2.43 per girl and boy. All costs include costs of administration, training, and monitoring and evaluation.<sup>18</sup> The revenue received from taxation of tobacco products will exceed the cost to implement and will cover the total intervention costs.

**Target population:** All 10- to 19-year-old girls and boys in low and low-middle income countries where current adult or youth male or female tobacco use exceeds 25 percent (383 million), or those countries where there is a higher percent of female youth using tobacco than adult females (Table A7).

**Length of treatment:** Nationwide coverage for all five program years.

**Treatment of marginal costs:** Constant marginal costs.

**Special data limitations:** Limited cost data, particularly in developing countries.

| Region                 | Low and Low-Middle Income Countries        |   | Low Income Countries Only                  |   |
|------------------------|--|---|--|---|
|                        | Average Per Annum Cost (millions US\$2009) | Girls and Boys Covered                    | Average Per Annum Cost (millions US\$2009) | Girls and Boys Covered                    |
|                        |  | National Population Age 10-60 (thousands) |  | National Population Age 10-60 (thousands) |
| Africa                 | 1,189                                      | 119,839                                   | 687  | 72,614                                    |
|                        |  | 489,079                                   |  | 282,548                                   |
| Americas               | 470  | 17,255                                    | 63.9                                       | 2,352                                     |
|                        |  | 80,675                                    |  | 10,957                                    |
| Eastern Mediterranean  | 2,182                                      | 95,887                                    | 0  | 0   |
|                        |  | 489,285                                   |  | 0   |
| Europe                 | 529  | 8,121                                     | 47.5                                       | 1,115                                     |
|                        |  | 65,500                                    |  | 5,877                                     |
| South-East Asia        | 2,434                                      | 93,471                                    | 964  | 41,273                                    |
|                        |  | 524,343                                   |  | 207,720                                   |
| Western Pacific        | 799  | 48,686                                    | 444  | 25,848                                    |
|                        |  | 254,868                                   |  | 141,431                                   |
| Global Per Annum       | 7,604                                      | 383,259                                   | 2,206                                      | 143,202                                   |
|                        |  | 1,903,750                                 |  | 648,533                                   |
| Global Total 2010-2015 | 38,020                                     | 383,259                                   | 11,031                                     | 143,202                                   |
|                        |  | 1,903,750                                 |  | 648,533                                   |
| China and India        | 2,177                                      | 447,541                                   |  |   |
|                        |  | 2,690,190                                 |  |   |

<sup>18</sup> The WHO Choice Database provides data on the cost effectiveness and DALYs averted of the four different anti-tobacco interventions and different levels of taxation on tobacco across regions (<http://www.who.int/choice/results/en/index.html>)

## ***Creating particular types of social resources for girls and their families***

### **Safe Spaces Programs**

**Intervention Description:** Community work, mentor stipends, and professional development for enrolled girls to build friendship networks for girls in a safe environment and support them as decision-makers in control of their choices and life decisions.

**Average annual unit cost:** \$130.51 per girl<sup>19</sup> includes all annual capital and recurrent costs, administration, monitoring and evaluation, and training.

**Target population:** 30% of estimated percent of girls ages 10-19 in low- and low-middle income countries currently out of secondary school, or at risk of not transitioning to secondary school, of which there are an estimated 42 million,<sup>20</sup> (Table A6) based on the rationale that reaching 30% of girls in a community and will result in creation of additional safe space clubs and will reach the remaining girls.

**Length of treatment:** One year of enrollment per girl.

**Treatment of marginal costs:** Constant marginal costs.

**Special data limitations:** Limited program experience and cost data. Costs will vary by the time it takes to root the program in the community depending on existing community partnerships and social capital, intensity required to develop girl mentor skills, and by types of interventions girls need in different area.

| Region                        | Low and Low-Middle Income Countries        |   | Low Income Countries Only                  |   |
|-------------------------------|--|---|--|---|
|                               | Average Per Annum Cost (millions US\$2009) | Average Girls Covered Per Annum (thousands) | Average Per Annum Cost (millions US\$2009) | Average Girls Covered Per Annum (thousands) |
| Africa                        | 557  | 4,270                                       | 388  | 2,976                                       |
| Americas                      | 26   | 197   | 1  | 9   |
| Eastern Mediterranean         | 267  | 2,050                                       | 58   | 441   |
| Europe                        | 6  | 49  | 2  | 16  |
| South-East Asia               | 193  | 1,479                                       | 132  | 1,010                                       |
| Western Pacific               | 56   | 431   | 45   | 346   |
| <b>Global Per Annum</b>       | <b>1,106</b>                               | <b>8,476</b>                                | <b>626</b>                                 | <b>4,799</b>                                |
| <b>Global Total 2010-2015</b> | <b>5,531</b>                               | <b>42,379</b>                               | <b>3,131</b>                               | <b>23,993</b>                               |
| <i>China and India</i>        | <i>800</i>                                 | <i>5,949</i>                                |  |   |

<sup>19</sup> Population Council second phase of Guatemala “Abriendo Oportunidades” safe spaces program

<sup>20</sup> UNESCO estimates of the current percentage of girls not in secondary school in each country (based on latest available national surveys)

## ***Generating greater health benefits from investments in education and other sectors***

### **Comprehensive Sexuality Education**

**Intervention Description:** 1) Training teachers on education around sexuality, reproductive health, gender, and human rights; 2) debates on sexuality, gender and human rights and essay writing contests on ways students can protect themselves from HIV infection; 3) video/media about sexuality, gender, and human rights education; 5) relative risk information campaign.

**Average annual unit cost:** \$6.02 per student<sup>21</sup> to include excluding costs for monitoring and evaluation.

**Target population:** All 10- to 19-year-old girls enrolled in school in low and low-middle income countries (estimated 137 million girls).

**Length of treatment:** One year per girl.

**Treatment of marginal costs:** Increasing by 20% to reach last 20% of population.

**Special data limitations:** Unit costs will vary by requirements for development of educational materials; production of education materials; training school teachers; amount of school teaching time dedicated to health, sexuality, and gender education; and personnel and administration costs.

| Region                        | Low and Low-Middle Income Countries        |   | Low Income Countries Only                  |   |
|-------------------------------|--|---|--|---|
|                               | Average Per Annum Cost (millions US\$2009) | Average Girls Covered Per Annum (thousands) | Average Per Annum Cost (millions US\$2009) | Average Girls Covered Per Annum (thousands) |
| Africa                        | 37   | 5,986                                       | 25   | 3,939                                       |
| Americas                      | 38   | 6,059                                       | 1  | 202   |
| Eastern Mediterranean         | 31   | 5,022                                       | 1  | 213   |
| Europe                        | 11   | 1,708                                       | 5  | 810   |
| South-East Asia               | 33   | 5,347                                       | 10   | 1,540                                       |
| Western Pacific               | 20   | 3,245                                       | 8  | 1,344                                       |
| <b>Global Per Annum</b>       | <b>171</b>                                 | <b>27,367</b>                               | <b>50</b>                                  | <b>8,048</b>                                |
| <b>Global Total 2010-2015</b> | <b>857</b>                                 | <b>136,836</b>                              | <b>252</b>                                 | <b>40,238</b>                               |
| <i>China and India</i>        | <i>134</i>                                 | <i>22,261</i>                               |  |   |

<sup>21</sup> Jameel, Abdul, Latif (2007). Cheap and Effective Ways to Change Adolescents' Sexual Health Behavior. Massachusetts Institute of Technology. Poverty Action Lab. February 2007.

## TRACKING GLOBAL AID FLOWS TO ADOLESCENT GIRLS

Current innovations in global tracking of donor expenditures and government National Health Accounts (NHA) provide an opportunity to improve tracking of health resource flows to adolescent girls. Global tracking of donor expenditures has emphasized tracking of aggregate aid flows to countries and sectors, rather than flows to beneficiary groups. Aid to some sectors such as sexual and reproductive health can be assumed to flow primarily to females of child bearing ages, but in other sectors global aggregate aid flows to demographic groups are not available. Donor disaggregation and reporting of project data is inconsistent, and contingent upon the quality of monitoring and evaluation that may vary by project, and is typically found in project documents rather than collected systematically in centralized databases.

Donors, governments, and civil society organizations have an opportunity to work with one another to improve the way in which aid flows to adolescent girls' health are tracked, reported, and analyzed: 1) develop standardized gender- and age-responsive indicators with agreed upon age brackets and update monitoring and evaluation plans accordingly, 2) implement performance standards for those collecting and reporting data, 3) aggregate annual project spending and disaggregate spending by beneficiary sub-groups, 4) join initiatives such as IATI and/or advocate for development of gender and age reporting standards, 5) use social mapping and GIS tools to identify to whom and from where expenditures are flowing and analyze gaps both in sector spending to areas and groups to encourage more efficient use and targeting of resources, 6) strengthen capacity of women's ministries and civil society organizations to advocate for adolescent girls' health in setting priority policy objectives for NHA subaccounts and to institute and support electronic tracking and reporting mechanisms, and 7) use reported data on global and national spending for health of adolescent girls to contribute to analysis of spending on girls.

### *Global Tracking of Donor Expenditures*

Global tracking of donor expenditures to date has been oriented toward tracking aggregate global aid flows to countries and sectors, rather than aggregate global aid flows to specific beneficiary groups such as adolescent girls. Aid to some sectors, such as sexual and reproductive health, can be assumed to flow primarily to females of child bearing ages, but even in the cases of family planning services it is not always the case that resources are flowing directly to this beneficiary group, and particularly to those within this group that are most socially excluded and in hard to reach areas. Further, in other sectors such as education, infrastructure, or water and sanitation, it is not possible to identify at a global aggregate level how much of the aid is benefiting specific demographic groups.

Although more donors are moving toward disaggregating project beneficiaries by gender, and some by age, this is often inconsistent and contingent upon the quality of monitoring and evaluation planning and reporting guided by institutional social and gender policies. Further, information is mostly found in project documents that may be compared against project budgets, and is not often collected in centralized databases. Aggregate tracking of annual project expenditures on specific beneficiary groups disaggregated by sex and age is particularly lacking, thus presenting challenges to centralized data tracking of aid flows to adolescent girls globally.

Some donors, such as PEPFAR, have developed gender-responsive indicators that have prompted reporting of project beneficiaries that can be compared against project spending. PEPFAR is also in the process of developing gender- and age- responsive indicators with the Global Health Council and civil

society organizations that will make it possible to improve tracking of expenditures on adolescent girls at the project level in the future.<sup>22</sup>

Existing sources of global aid tracking information include the OECD DAC and CRS databases, country Aid Management Systems (AIMS), and donor websites and annual reports. Existing challenges to using aggregate aid reporting include: 1) a lack of data and information, 2) lack of availability of data in a readily accessible or comparable format, 3) fragmentation that imposes high costs on both users and providers of aid information, 4) donors managing data requests, 5) country systems relying on costly manual input, and 6) users unable to reconcile information from different sources.<sup>23</sup>

OECD's Development Assistance Committee (DAC), of which there are 23 members, serve as a centralized global source of aid flow and report quantities of aid by sector to recipient countries annually. The data covers 100% of ODA as defined by DAC and the

classifications are stable, making the data directly comparable between countries over time. DAC is designed to meet the needs of donors, which include monitoring spending against ODA targets, rather than the needs of recipients which may include data to analyze public budgeting and make policy decisions. It is difficult to determine the precise amount spent in different sectors because projects must be assigned to a single category to avoid double

**Box 1. OECD DAC Sector Spending Related to Adolescent Girls**

DAC sectors relevant to spending on adolescent girls include: basic nutrition, child soldiers (prevention and demobilization), family planning, health education, higher education, primary education, reproductive health care, secondary education, social mitigation of HIV/AIDS, social/welfare services, STI control including HIV/AIDS, and women's equality organizations and institutions.

In 2007, \$507.8 million was reported to be committed globally by donors to reproductive healthcare and \$251.8 million to family planning, representing 3.4 percent of total health ODA commitments and less than 1 percent of total ODA commitments in all sectors. It is not possible to ascertain from this overall sector spending how much of this has been invested in adolescent girls (age 10-19).

counting, and there is no detailed information that shows the location of the recipient project or beneficiaries of the aid. DAC members also separately report project-level information to the Creditor Reporter System (CRS), to which it is estimated that they report 90% of project level spending.<sup>24</sup>

Launched in 2008 and still in its formative stages, The International Aid Transparency Initiative (IATI) has drawn upon aid tracking mechanisms such as OECD DAC with the goal of making information about aid spending more accessible to use and understand in order to assist those in aid to improve tracking of what aid is being used for and what it is achieving. IATI is intended to provide a forum for donors, developing country governments, and civil society organizations to agree upon common information standards applicable to all aid flows. Inclusion of sex- and age-disaggregated beneficiary data is currently not being discussed as part of its standardized reporting and definitions for sharing information.<sup>25</sup>

<sup>22</sup> Personal communication with Nomi Fuchs-Montgomery of PEPFAR (July 2009).

<sup>23</sup> International Aid Transparency Initiative Review of Standards. May 5 2009.

<sup>24</sup> International Aid Transparency Initiative Review of Standards. May 5 2009.

<sup>25</sup> www.aidinfo.org

### **National Health Accounts**

National Health Accounts (NHAs) are used by over 100 governments to classify and track all health expenditures in the country in order to assist policy-makers in understanding their health systems and improving health system performance. Subaccounts are used to disaggregate national health expenditure information by specific health issues, which countries select based on policy priorities within a standardized framework. Because adolescent girls seldom are considered on countries' priority policy agenda, NHA expenditure by age and sex is not consistently reported, despite availability of the data.<sup>26</sup>

NHAs use a classification of expenditures and of actors within the health system to track where resources come from (contributions by donors, governments, civil society, and households) and where they go (entities managing health expenditures), to what types of services and goods the funds purchase (healthcare activities performed), who provides the services, what inputs are used for providing the services (including human resources, drugs, etc.), and who benefits from the services. Beneficiary groups may be classified into disease specific, socio-demographic, or geopolitical groups.<sup>27</sup>

NHA subaccounts further disaggregate national health expenditure information by specific health issues, such as HIV/AIDS, tuberculosis, malaria, reproductive health, and child health.<sup>28</sup> New subaccounts for health information systems and mental health are under development. NHA subaccounts are flexible enough in their definitions to accommodate country needs in tracking expenditures, but also follow a standard framework to ensure validity of data and facilitate country comparisons. Subaccounts are intended to be a routine and ongoing function of the government's health information system and are ideally completed on a regular basis every two to three years, compiling data from existing primary and secondary sources such as studies and reports and ongoing surveys (such as Demographic and Health Surveys) where possible.<sup>29</sup>

Programs such as the USAID funded 20/20 program are working with country partners and their ministries of health and planning to improve NHA data collection and reporting. It is currently not standard practice to disaggregate subaccounts by gender and age. Within broader classifications countries decide on further classifications depending on their policies, and in some countries where priority policy issues include targeting adolescent girls such data may be reported, but in most cases adolescents and adolescent girls are not part of country's priority policies that inform the data reporting of NHAs. In many cases beneficiary data by age and sex is being collected through various survey and data collection mechanisms, but the country may not have a policy interest in consistently reporting this data. In developing NHA subaccounts and the policy objectives that the NHA will inform, stakeholders include the national health ministry, NGOs, civil society, and women's ministries among others.<sup>30</sup>

Countries that sign the Conventions on the Rights of the Child commit themselves to allocating resources to children, including for publicly provided health care.<sup>31</sup> Signatories are also requested to report measures taken to report relevant disaggregated data by gender, age, and rural/ urban location, for example, where relevant. NHAs are a useful tool to track health spending and investments in

<sup>26</sup> <http://www.healthsystems2020.org/>

<sup>27</sup> <http://www.healthsystems2020.org/>

<sup>28</sup> National Health Accounts (NHA) Subaccounts: Tracking Health Expenditures to Meet the Millennium Development Goals

<sup>29</sup> Personal communication with Jeremy Snider of Abt Associates (July 2009).

<sup>30</sup> Personal communication with Jeremy Snider of Abt Associates (July 2009).

<sup>31</sup> Child Health Sub Accounts: Resource Tracking and Policy Planning (USAID August 2007) Health Systems 20/20

children, and NHA subaccounts in child health can be used to track spending on children. Data collected through NHAs allow policymakers to identify whether or not funds reach the intended targets, and how they promote transparency and accountability in child health spending. Countries including Bangladesh, Sri Lanka, Ethiopia, and Malawi have child health subaccounts. However, these accounts only track spending for children from birth up to five years in age, thus not capturing spending on adolescents ages 10-19.

**Box 2. Definition of NHA reproductive health subaccount category in Sri Lanka**

In Sri Lanka the NHA includes a category for “other reproductive health services” defined as “other categories of reproductive health services...intended to enable both women and men to exercise safely their reproductive health functions. They include services dealing with sub-fertility, sexual behavior, adolescent health, treatment and prevention of reproductive tract infections and conditions, including cancers of the reproductive system, menopausal problems, and genetic counseling services for the prevention of specific congenital abnormalities.”

Some countries have identified issues such as sexual and reproductive health as policy priorities that have subsequently been tracked through NHA subaccounts. In Rwanda, for example, it was identified through the Rwandan Integrated Living Conditions Survey that the current economic growth rate in Rwanda is insufficient to support rapid population growth resulting from high birth rates. As such, reproductive health is a top priority for policymakers, which is reflected in the Rwanda NHA subaccount for reproductive health (RH). In 2006 the Rwanda RH

subaccount showed that RH accounted for only 6% of total health expenditures in 2006. This information tracked by the NHA subaccount was in turn used by the government and health planners to advocate for and select family planning/reproductive health as one of the four priority areas in the 2008 Rwandan Joint Annual Health Work Plan.<sup>32</sup>

In Yemen, a USAID 20/20 funded program worked with Yemen Partners for Health Reform (YPHR) to better target family planning services.<sup>33</sup> YPHR is working in five underserved, rural governorates in Yemen to enhance health information as a foundation for better management of health resources and better governance, to build capacity in health financing, operations, and governance, and strengthen routine immunization and surveillance to prevent disease at a lower cost. YPHR addresses family planning services through identifying gaps in targeting and funding, developing data requirements for improving accessibility and equitable distribution of family planning services, and focusing on evidence-based decision-making using GIS-enhanced solutions. With these tools it identifies women and girls of child bearing age as an underserved population and supports improvement of delivery services to this population through improved transparency and accountability of HIS resources, data sources, and indicators. Data has been leveraged for governorate-level decision-making by targeting the director-general of health, health officials/ managers, statisticians, and hospital administrators to use an eHealth solutions program. This is an easy-to-use health care planning, targeting, management, budgeting, and evaluation tool set in a GIS environment. As a result, GIS mapping is being used to identify underserved populations by sex and age to target limited resources by avoiding duplication of family planning services' coverage area, justifying training facilities employing new family planning service capacity,

<sup>32</sup> USAID 20/20 Program. Directing Attention to Specific Health Issues: Rwanda Reproductive Health Subaccount.

<sup>33</sup> Yemen Partners for Reproductive Health. Power point Abdul Jabbar Ali Al Ghaithi, MD and Mark Landry, U.S. Department of State. November 7, 2007.



locating priority or underserved rural areas for education campaigns, and reducing health care costs by allocating and tracking family planning resources.<sup>34</sup>

### ***Recommendations for Improving Tracking of Aid Flows to Adolescent Girls***

Opportunities exist in current innovations taking place to improve both donor tracking of aid and in government reporting of health expenditures. Considering both the opportunities and the challenges of current innovations in global donor aid tracking and national health accounts, donors, governments, and civil society organizations are positioned to take action to improve reporting of health spending on girls. All stakeholders play a role in improving the way in which aid flows to adolescent girls' health is tracked, reported, and analyzed.

#### **Donors**

- Update monitoring and evaluation reporting requirements to ensure sex- and age-disaggregated data is systematically collected and reported by grantees and contractors and implement contract performance standards for data reporting;
- Require that disaggregation of beneficiaries by sex and age is tracked across all sectors, rather than only in interventions that specifically target a specific group (such as girls/women of reproductive age targeted for reproductive health);
- Adopt existing gender- and age-disaggregated indicators being developed and used by donors to ensure consistent reporting across donor organizations;
- Aggregate annual project spending and disaggregate beneficiary data to analyze to whom resources are being allocated and how they may be allocated more efficiently;
- Use tools encouraged by IATI such as social mapping (GIS) overlaid with project spending to identify where and to whom expenditures are flowing and analyze gaps in sector spending to both areas and groups to encourage more efficient use and targeting of resources;
- Use initiatives such as IATI as a platform by becoming members and advocating for development of consistent terminology for a direct and indirect "beneficiary" and age brackets that donors use for reporting; and
- Assist health ministries, women's ministries, and relevant civil society organizations in strengthening technical capacity to advocate for adolescent girls health in setting policy objectives for NHA subaccounts and to institute electronic tracking and reporting mechanisms.

#### **Governments**

- Consistently disaggregate National Health Account data by age and sex of beneficiary populations receiving aid across subaccounts, not limited to those subaccounts specific to one demographic group;
- Invest in development of electronic tracking systems for beneficiary data collection and health spending;
- Ensure stakeholders, including women, social ministries and civil society organizations, working with adolescent girls are involved in setting priorities for NHA subaccounts;
- Streamline local collection of beneficiary and spending data at national levels and coordinate with donor efforts;

---

<sup>34</sup> November 7, 2007 power point Abdul Jabbar Ali Al Ghaithi, MD and Mark Landry, U.S. Department of State

- Consider a subaccount category for adolescents ages 10-19 disaggregated by sex in addition to existing subaccount categories for children under five; and
- Become a signatory to the Conventions on the Rights of the Child and commit to allocating resources to children, including for publicly provided health care, and take measures to report relevant disaggregated data by gender, age, and rural/ urban location.

**Civil Society Organizations and NGOs**

- Advocate for donors to include gender and age in operational guidelines for IATI tracking system and for developing age brackets for data reporting;
- Advocate for systematic reporting and data collection of sex and age disaggregated data by government health ministries and NHAs;
- Adapt sex and age indicators in monitoring and evaluation for project work and regularly track and report project expenditures by beneficiary groups; and
- Use reported data on global and national spending for health of adolescent girls to contribute to field of analysis and identify data gaps.

## REFERENCES

Brazil Agita Program. Personal communication with author. July 2009.

De Benoist, et al (2008). Worldwide Prevalence of Anaemia 1993-2005. WHO Global Database on Anaemia. WHO/CDC. [http://whqlibdoc.who.int/publications/2008/9789241596657\\_eng.pdf](http://whqlibdoc.who.int/publications/2008/9789241596657_eng.pdf)

Diop, et al (2004). The TOSTAN Program Evaluation of a Community Based Education Program in Senegal. Population Council, TOSTAN. August 2004.  
[http://www.popcouncil.org/pdfs/frontiers/FR\\_FinalReports/Senegal\\_Tostan%20FGC.pdf](http://www.popcouncil.org/pdfs/frontiers/FR_FinalReports/Senegal_Tostan%20FGC.pdf)

Goldie, Sue J., et al (2008). Health and economic outcomes of HPV 16,18 vaccination in 72 GAVI-eligible countries. Vaccine 26 (2008) 4080-4093.

GAVI Alliance (2007). HPV Vaccine Adoption in Developing Countries: Cost and Financing Issues. International AIDS Vaccine Initiative and PATH. <http://www.iavi.org/HPVfinancing>;  
[www.path.org/publications](http://www.path.org/publications)

International Aid Transparency Initiative Review of Standards. May 5 2009.

Jameel, Abdul, Latif (2007). Cheap and Effective Ways to Change Adolescents' Sexual Health Behavior. Massachusetts Institute of Technology. Poverty Action Lab. February 2007.

Jamison, et al (2006). Disease Control Priorities in Developing Countries (Second Edition). IBRD/ The World Bank. 2006.

Johns Hopkins University with local partners. HEART (Helping Each Other Out) Program information received through personal communication (July 2009).

IAVI, PATH. HPV Vaccine Adoption in Developing Countries: Cost and Financing Issues. New York: IAVI; Seattle, WA: PATH; 2007. Available at <http://www.iavi.org/viewfile.cfm?fid=47496>

PEPFAR. Personal communication with Nomi Fuchs-Montgomery of PEPFAR (July 2009).

Bruce, Judith. Personal Communication with author. 2009. Population Council second phase of Guatemala "Abriendo Oportunidades" safe spaces program.

Saxenian, Helen, and Rob Hecht (2006). HPV Vaccines: Costs and Financing. Stop Cervical Cancer: Accelerating Global Access to HPV Vaccines (December 12-13, 2006). London: IAVI.

Stenberg, Karin. Measuring costs related to the provision of health services for young people. WHO Department of Child and Adolescent Health Department. Powerpoint Presentation February 2008.

Tostan CEP Program. Personal Communication

UNICEF (2009). State of the World's Children 2009.  
[http://www.unicef.org/sowc09/docs/SOWC09\\_Table\\_9.pdf](http://www.unicef.org/sowc09/docs/SOWC09_Table_9.pdf)

United Nations (2008). Human Development Indices: A Statistical Update (2008).

[http://hdr.undp.org/en/media/HDI\\_2008\\_EN\\_Tables.pdf](http://hdr.undp.org/en/media/HDI_2008_EN_Tables.pdf)

USAID. Directing Attention to Specific Health Issues: Rwanda Reproductive Health Subaccount.

USAID. National Health Accounts (NHA) Subaccounts: Tracking Health Expenditures to Meet the Millennium Development Goals.

USAID. Child Health Sub Accounts: Resource Tracking and Policy Planning (USAID August 2007) Health Systems 20/20.

World Bank (2009). Costing the Scale-up of Nutrition Programming. March 26, 2009 Draft.

World Health Organization (2009). Weekly epidemiological record. No. 1-2, 2009, 84, 1-16. January 9, 2009.

World Health Organization (2009). WHO Choice Database. Accessed June 2009.

<http://www.who.int/choice/interventions/en/>

Yemen Partners for Health. Power point Abdul Jabbar Ali Al Ghaithi, MD and Mark Landry, U.S. Department of State. November 7, 2007.

## Appendix A. Coverage Targets

| <b>Table A1. Estimated Population of Adolescent Girls (<i>thousands</i>) in Low and Low-Middle Income Countries (2010-2015)</b>                                    |                  |                  |                  |                              |
|--|------------------|------------------|------------------|------------------------------|
| <b>Region</b>  | <b>Age 10-14</b> | <b>Age 15-19</b> | <b>Age 10-19</b> | <b>Global Distribution %</b> |
| <b>Africa</b>  | 53,914           | 47,187           | 101,101          | 36%                          |
| <b>Americas</b>  | 16,852           | 16,721           | 33,573           | 12%                          |
| <b>Eastern Mediterranean</b>   | 30,726           | 28,543           | 59,269           | 21%                          |
| <b>Europe</b>  | 4,247            | 5,112            | 9,359            | 3%                           |
| <b>South-East Asia</b>   | 25,929           | 25,458           | 51,387           | 18%                          |
| <b>Western Pacific</b>   | 11,456           | 11,954           | 23,410           | 8%                           |
| <b>GLOBAL TOTAL</b>  | <b>143,124</b>   | <b>134,975</b>   | <b>278,099</b>   | <b>100%</b>                  |
| <b>China and India</b>   | <b>102,700</b>   | <b>107,755</b>   | <b>210,455</b>   | <b>43%</b>                   |
| <i>Estimates based on United Nations International Population Statistics (2008) projected population estimates with a medium variant fertility rate 2010-2015.</i> |                  |                  |                  |                              |

| <b>Table A2. Estimated Population of Adolescent Boys (<i>thousands</i>) in Low and Low-Middle Income Countries (2010-2015)</b>                                     |                  |                  |                  |                  |
|--|------------------|------------------|------------------|------------------|
| <b>Region</b>  | <b>Age 10-14</b> | <b>Age 15-19</b> | <b>Age 10-19</b> | <b>Age 20-24</b> |
| <b>Africa</b>  | 54,795           | 47,770           | 102,565          | 41,987           |
| <b>Americas</b>  | 17,470           | 17,239           | 34,709           | 16,291           |
| <b>Eastern Mediterranean</b>   | 32,292           | 29,955           | 62,247           | 29,142           |
| <b>Europe</b>  | 4,457            | 5,301            | 9,758            | 5,697            |
| <b>South-East Asia</b>   | 26,881           | 26,358           | 53,239           | 25,650           |
| <b>Western Pacific</b>   | 12,093           | 12,682           | 24,775           | 11,284           |
| <b>GLOBAL TOTAL</b>  | <b>147,988</b>   | <b>139,305</b>   | <b>287,293</b>   | <b>130,051</b>   |
| <b>China and India</b>   | <b>116,295</b>   | <b>120,791</b>   | <b>237,086</b>   | <b>121,617</b>   |
| <i>Estimates based on United Nations International Population Statistics (2008) projected population estimates with a medium variant fertility rate 2010-2015.</i> |                  |                  |                  |                  |

| <b>Table A3. Estimated Population of Adolescent Girls (<i>thousands</i>) Living under \$2 per day in Low and Low-Middle Income Countries (2010-2015)</b>  |                  |                  |                  |                              |
|---|------------------|------------------|------------------|------------------------------|
| <b>Region</b>   | <b>Age 10-14</b> | <b>Age 15-19</b> | <b>Age 10-19</b> | <b>Global Distribution %</b> |
| <b>Africa</b>   | 40,191           | 35,050           | 75,242           | 50%                          |
| <b>Americas</b>   | 3,850            | 3,814            | 7,664            | 5%                           |
| <b>Eastern Mediterranean</b>  | 11,606           | 10,749           | 22,355           | 15%                          |
| <b>Europe</b>   | 1,647            | 1,874            | 3,521            | 2%                           |
| <b>South-East Asia</b>  | 14,842           | 14,589           | 29,430           | 20%                          |
| <b>Western Pacific</b>  | 5,363            | 5,586            | 10,950           | 7%                           |
| <b>GLOBAL TOTAL</b>   | <b>77,499</b>    | <b>71,663</b>    | <b>149,162</b>   | <b>100%</b>                  |
| <b>China and India</b>  | <b>63,536</b>    | <b>64,924</b>    | <b>128,461</b>   | <b>46%</b>                   |
| <i>Estimates based on United Nations International Population Statistics (2008) projected population estimates with a medium variant fertility rate 2010-2015 and UN HDI (2008) % of population living below \$2/day.</i> |                  |                  |                  |                              |

| <b>Table A4. Estimated Population of Adolescent Boys (<i>thousands</i>) Living Under \$2 per day in Low and Low-Middle Income Countries (2010-2015)</b>   |                           |                           |                           |                              |
|---|---------------------------|---------------------------|---------------------------|------------------------------|
| <b>Region</b>   | <b>Total Boys (10-14)</b> | <b>Total Boys (15-19)</b> | <b>Total Boys (10-19)</b> | <b>Global Distribution %</b> |
| <b>Africa</b>   | 40,838                    | 35,462                    | 76,300                    | 50%                          |
| <b>Americas</b>   | 3,992                     | 3,927                     | 7,919                     | 5%                           |
| <b>Eastern Mediterranean</b>  | 12,218                    | 11,301                    | 23,519                    | 15%                          |
| <b>Europe</b>   | 1,710                     | 1,934                     | 3,645                     | 2%                           |
| <b>South-East Asia</b>  | 15,411                    | 15,139                    | 30,550                    | 20%                          |
| <b>Western Pacific</b>  | 5,661                     | 5,927                     | 11,588                    | 8%                           |
| <b>GLOBAL TOTAL</b>   | <b>79,830</b>             | <b>73,690</b>             | <b>153,521</b>            | <b>100%</b>                  |
| <b>China and India</b>  | <b>70,838</b>             | <b>72,029</b>             | <b>142,867</b>            | <b>48%</b>                   |
| <i>Estimates based on United Nations International Population Statistics (2008) projected population estimates with a medium variant fertility rate 2010-2015 and UN HDI (2008) % of population living below \$2/day.</i> |                           |                           |                           |                              |

| <b>Table A5. Estimated Population of Adolescent Girls (<i>thousands</i>) at Risk for Anemia in Low and Low-Middle Income Countries (2010-2015)</b>  |                  |                  |                  |                              |
|---|------------------|------------------|------------------|------------------------------|
| <b>Region</b>   | <b>Age 10-14</b> | <b>Age 15-19</b> | <b>Age 10-19</b> | <b>Global Distribution %</b> |
| <b>Africa</b>   | 31,253           | 27,307           | 58,561           | 45%                          |
| <b>Americas</b>   | 5,446            | 5,399            | 10,846           | 8%                           |
| <b>Eastern Mediterranean</b>  | 13,554           | 12,564           | 26,118           | 20%                          |
| <b>Europe</b>   | 1,681            | 1,987            | 3,667            | 3%                           |
| <b>South-East Asia</b>  | 11,702           | 11,496           | 23,198           | 18%                          |
| <b>Western Pacific</b>  | 4,463            | 4,584            | 9,047            | 7%                           |
| <b>GLOBAL TOTAL</b>   | <b>68,099</b>    | <b>63,338</b>    | <b>131,437</b>   | <b>100%</b>                  |
| <b>China and India</b>  | <b>42,064</b>    | <b>43,314</b>    | <b>85,378</b>    | <b>39%</b>                   |
| <i>Projected estimates calculated based on United Nations Statistics projected population estimates (2008) of girls 10-19 utilizing medium variant fertility estimates in each low and low-middle income country within each region and WHO estimates (2008) of % of pregnant women (15-49) with anemia by country.</i> |                  |                  |                  |                              |

| <b>Table A6. Estimated Population of Adolescent Girls (<i>thousands</i>) Out of Secondary School or At Risk for Not Transitioning to Secondary School in Low and Low-Middle Income Countries (2010-2015)</b>   |                  |                  |                  |                              |
|--|------------------|------------------|------------------|------------------------------|
| <b>Region</b>  | <b>Age 10-14</b> | <b>Age 15-19</b> | <b>Age 10-19</b> | <b>Global Distribution %</b> |
| <b>Africa</b>  | 37,993           | 33,179           | 71,171           | 50%                          |
| <b>Americas</b>  | 1,662            | 1,616            | 3,278            | 2%                           |
| <b>Eastern Mediterranean</b>   | 17,737           | 16,423           | 34,160           | 24%                          |
| <b>Europe</b>  | 376              | 445              | 820              | 0.6%                         |
| <b>South-East Asia</b>   | 12,426           | 12,226           | 24,651           | 17%                          |
| <b>Western Pacific</b>   | 3,454            | 3,729            | 7,183            | 5%                           |
| <b>GLOBAL TOTAL</b>  | <b>73,647</b>    | <b>67,616</b>    | <b>141,263</b>   | <b>100%</b>                  |
| <b>China and India</b>   | <b>48,704</b>    | <b>50,446</b>    | <b>99,150</b>    | <b>41%</b>                   |
| <i>Projected estimates calculated based on United Nations Statistics projected population estimates of girls 10-19 utilizing medium variant fertility estimates in each low and low-middle income country within each region and UNESCO estimates of % of girls out of secondary school by country based on latest annual enrollment data available.</i> |                  |                  |                  |                              |

Table A7. Percentage of Tobacco Use in High Prevalence Low and Low-Middle Income Countries

| Country                      | Adult Males | Adult Females | Male Youth | Female Youth | Country (Con't)        | Adult Males | Adult Females | Male Youth | Female Youth |
|------------------------------|-------------|---------------|------------|--------------|------------------------|-------------|---------------|------------|--------------|
| <b>Africa</b>                |             |               |            |              | Iraq                   | 26%         | 3%            | 18%        | 15%          |
| Central African Republic     |             |               | 30%        | 35%          | Morocco                | 30%         | 0%            | 13%        | 8%           |
| Comoros                      | 28%         | 14%           | 22%        | 15%          | Pakistan               | 35%         | 7%            | 21%        | 12%          |
| Congo, DR                    | 14%         | 3%            | 37%        | 29%          | Syrian Arab Republic   | 31%         | 22%           |            |              |
| Congo, Rep.                  | 12%         | 1%            | 26%        | 22%          | Tunisia                | 51%         | 2%            | 28%        | 9%           |
| Côte d'Ivoire                | 15%         | 2%            | 22%        | 10%          | <b>Europe</b>          |             |               |            |              |
| Gambia                       | 29%         | 3%            | 34%        | 37%          | Albania                | 41%         | 4%            | 17%        | 9%           |
| Ghana                        | 10%         | 1%            | 12%        | 11%          | Armenia                | 55%         | 4%            | 13%        | 3%           |
| Kenya                        | 27%         | 2%            | 15%        | 15%          | Georgia                | 57%         | 6%            | 36%        | 14%          |
| Lesotho                      |             |               | 26%        | 22%          | Kyrgyz Republic        | 47%         | 2%            | 10%        | 4%           |
| Madagascar                   |             |               | 33%        | 14%          | Moldova                | 46%         | 6%            | 21%        | 7%           |
| Mauritania                   | 22%         | 4%            | 32%        | 30%          | Ukraine                |             |               | 30%        | 22%          |
| Malawi                       | 24%         | 6%            | 19%        | 18%          | <b>South-East Asia</b> |             |               |            |              |
| Mali                         | 20%         | 3%            | 23%        | 9%           | Bangladesh             | 47%         | 4%            | 9%         | 5%           |
| Nigeria                      | 13%         | 1%            | 19%        | 11%          | Bhutan                 |             |               | 29%        | 12%          |
| Senegal                      | 20%         | 2%            | 20%        | 10%          | India                  | 33%         | 4%            | 17%        | 9%           |
| Sierra Leone                 |             |               | 20%        | 24%          | Indonesia              | 66%         | 5%            | 24%        | 4%           |
| Uganda                       | 21%         | 3%            | 17%        | 15%          | Maldives               | 45%         | 12%           | 9%         | 3%           |
| Zambia                       | 22%         | 5%            | 26%        | 26%          | Nepal                  | 35%         | 26%           | 13%        | 5%           |
| Zimbabwe                     | 26%         | 4%            | 15%        | 8%           | Thailand               | 40%         | 3%            | 22%        | 8%           |
| <b>Americas</b>              |             |               |            |              | Timor-Leste            |             |               | 55%        | 30%          |
| Bolivia                      | 34%         | 29%           | 25%        | 17%          | <b>Western Pacific</b> |             |               |            |              |
| Ecuador                      | 24%         | 6%            | 31%        | 26%          | Cambodia               | 41%         | 7%            | 4%         | 2%           |
| El Salvador                  |             |               | 24%        | 15%          | China                  | 60%         | 4%            | 7%         | 4%           |
| Colombia                     |             |               | 27%        | 28%          | Korea, Dem Rep.        | 59%         |               |            |              |
| Guatemala                    | 25%         | 4%            | 20%        | 14%          | Lao PDR                | 65%         | 16%           | 13%        | 5%           |
| Haiti                        |             |               | 22%        | 24%          | Micronesia             |             |               | 52%        | 40%          |
| Honduras                     |             | 3%            | 23%        | 18%          | Mongolia               | 46%         | 7%            | 26%        | 16%          |
| Nicaragua                    |             |               | 30%        | 21%          | Papua New Guinea       |             |               | 55%        | 40%          |
| Paraguay                     | 33%         | 15%           | 21%        | 13%          | Philippines            | 42%         | 10%           | 28%        | 17%          |
| <b>Eastern Mediterranean</b> |             |               |            |              | Samoa                  | 58%         | 23%           | 26%        | 20%          |
| Egypt                        | 29%         | 1%            | 16%        | 8%           | Tonga                  | 62%         | 16%           |            |              |
| Jordan                       | 63%         | 10%           | 34%        | 26%          | Vanuatu                | 49%         | 8%            | 34%        | 20%          |
| Iran                         | 30%         | 6%            | 33%        | 20%          | Vietnam                | 46%         | 3%            | 7%         | 2%           |

Percentage of tobacco use is reported from WHO World Health Statistics 2009 that are based on most recent national or regional tobacco use surveys. Hot spot countries are included based on either: 1) Prevalence of 25% or higher of adolescent boys or girls (age 13-15) currently using tobacco products; 2) Prevalence of 25% or higher of adult male or females (over the age of 15) currently using tobacco products; or 3) Countries in which the smoking prevalence of adolescent females (13-15) exceeds the prevalence of adult female smoking by more than 5% indicating an increased trend in adolescent girls' use of tobacco products.



| Table A8. Percentage of Women Married Before the Age of 18 (Ages 15-49) in High Prevalence Low and Low-Middle Income Countries |                  |       |       |                       |                  |
|--|------------------|-------|-------|-----------------------|------------------|
| Country  | National Average | Urban | Rural | Country               | Total (National) |
| Niger  | 75%              | 42%   | 84%   | Tanzania              | 41%              |
| Chad   | 72%              | 65%   | 73%   | Liberia               | 40%              |
| Mali   | 71%              | 60%   | 77%   | Senegal               | 39%              |
| Bangladesh   | 64%              | 58%   | 69%   | Madagascar            | 39%              |
| Guinea   | 63%              | 45%   | 75%   | Honduras              | 39%              |
| Central African Republic   | 61%              | 57%   | 64%   | Gambia, The           | 36%              |
| Mozambique   | 56%              | 41%   | 66%   | Cameroon              | 36%              |
| Sierra Leone   | 56%              | 34%   | 66%   | Côte d'Ivoire         | 35%              |
| Nepal  | 51%              | 41%   | 54%   | Mauritania            | 35%              |
| Malawi   | 50%              | 38%   | 53%   | Benin                 | 34%              |
| Ethiopia   | 49%              | 27%   | 55%   | Zimbabwe              | 34%              |
| Burkina Faso   | 48%              | 29%   | 61%   | Guatemala             | 34%              |
| Eritrea  | 47%              | 31%   | 60%   | Sudan                 | 34%              |
| India  | 47%              | 29%   | 56%   | São Tomé and Príncipe | 33%              |
| Uganda   | 46%              | 27%   | 52%   | Pakistan              | 32%              |
| Somalia  | 45%              | 35%   | 52%   | Yemen, Rep.           | 32%              |
| Afghanistan  | 43%              | –     | –     | Congo, Rep.           | 31%              |
| Nigeria  | 43%              | 27%   | 52%   | Comoros               | 30%              |
| Nicaragua  | 43%              | 36%   | 55%   | Haiti                 | 30%              |
| Zambia   | 42%              | 32%   | 49%   |                       |                  |

Percentage of females is reported from UNICEF State of the World's Children data based on most recent MICS, DHS, and other national surveys. Countries included are those with a reported national percentage of 30% or higher of females married before age 18.

| Table A9. Percentage of Females (Age 15-19) with FGC and Estimated Population of Adolescent Girls (thousands) at Risk for FGC (Age 10-12) in Hot Spot Low and Low-Middle Income Countries 2010-2015   |   |                                  |                                  |   |  |
|---|---|----------------------------------|----------------------------------|---|--|
| Region  | National Average Females 15-49 (%) with FGC | Urban Females 15-49 (%) with FGC | Rural Females 15-19 (%) with FGC | Females 15-49 (%) with one or more daughters with FGC | Estimated Number of Girls (10-12) At Risk of FGC (2010-2015) |
| <b>Africa</b>   |   |                                  |                                  |   |  |
| Guinea  | 0.96  | 0.94                             | 0.96                             | 0.57  | 760  |
| Sierra Leone  | 0.94  | 0.86                             | 0.97                             | 0.35  | 435  |
| Eritrea   | 0.89  | 0.86                             | 0.91                             | 0.63  | 349  |
| Mali  | 0.85  | 0.81                             | 0.87                             | 0.69  | 885  |
| Gambia, The   | 0.78  | 0.72                             | 0.83                             | 0.64  | 107  |
| Ethiopia  | 0.74  | 0.69                             | 0.76                             | 0.38  | 4,980  |
| Burkina Faso  | 0.73  | 0.76                             | 0.71                             | 0.25  | 931  |
| Mauritania  | 0.72  | 0.6                              | 0.84                             | 0.66  | 173  |
| Guinea-Bissau   | 0.45  | 0.39                             | 0.48                             | 0.35  | 56   |
| Chad  | 0.45  | 0.47                             | 0.44                             | 0.21  | 419  |
| Côte d'Ivoire   | 0.36  | 0.34                             | 0.39                             | 0.9   | 588  |
| Kenya   | 0.32  | 0.21                             | 0.36                             | 0.21  | 1,001  |
| Senegal   | 0.28  | 0.22                             | 0.34                             | 0.2   | 284  |
| Central African Republic  | 0.26  | 0.21                             | 0.29                             | 0.7   | 89   |
| Nigeria   | 0.19  | 0.28                             | 0.14                             | 0.1   | 2,263  |
| <b>Total Africa</b>   |   |                                  |                                  |   | <b>8,405</b>   |
| <b>Eastern Mediterranean</b>  |   |                                  |                                  |   |  |
| Somalia   | 0.98  | 0.97                             | 0.98                             | 0.46  | 726  |
| Egypt, Arab Rep.  | 0.96  | 0.92                             | 0.98                             | 0.28  | 4,903  |
| Djibouti  | 0.93  | 0.93                             | 0.96                             | 0.49  | 56   |
| Sudan   | 0.89  | 0.88                             | 0.9                              | 0.43  | 2,804  |
| Yemen, Rep.   | 0.23  | 0.26                             | 0.22                             | 0.2   | 443  |
| <b>Total Eastern Mediterranean</b>  |   |                                  |                                  |   | <b>8,488</b>   |
| <b>Total Global</b>   |   |                                  |                                  |   | <b>16,893</b>  |
| <p><i>Percentage of females is reported from UNICEF State of the World's Children data based on most recent MICS, DHS, and other national surveys. Countries included are those with a reported national percentage of 20% or higher of females with FGC. Estimated number of girls at risk (2010-2015) is calculated by multiplying the projected population of girls age 10-12 (2010-2015) by current percentage of females with FGC in each country.</i></p> |   |                                  |                                  |   |  |

Table A10. Percentage of Youth and Adults Overweight in High Prevalence Low and Low-Middle Income Countries

| Country                      | Children < 5 years (%) overweight | Male adults > 15 years (%) who are obese | Female adults > 15 years (%) who are obese | Youth (age 13-15) % overweight | Country (Con't)        | Children < 5 years (%) overweight | Male adults > 15 years (%) who are obese | Female adults > 15 years (%) who are obese | Youth (age 13-15) (%) overweight |
|------------------------------|-----------------------------------|--|--|--------------------------------|------------------------|-----------------------------------|--|--|----------------------------------|
| <b>Africa</b>                |                                   |  |  |                                | Jordan                 | 4.70%                             | 21.10%                                   | 20.10%                                     | 21.23%                           |
| Algeria                      | 15.40%                            |  |  |                                | Morocco                | 13.30%                            | 8.20%                                    | 11.00%                                     |                                  |
| Angola                       | 5.30%                             |  |  |                                | Yemen, Rep.            | 3.70%                             |  |  | 11.80%                           |
| Benin                        | 11.40%                            |  |  |                                | <b>Europe</b>          |                                   |  |  |                                  |
| Burkina Faso                 | 5.40%                             |  | 2.40%                                      |                                | Albania                | 25.20%                            |  |  |                                  |
| Cameroon                     | 8.70%                             |  | 8.20%                                      |                                | Armenia                | 11.70%                            |  | 15.50%                                     |                                  |
| Central African Republic     | 10.80%                            |  |  |                                | Azerbaijan             | 6.20%                             | 4.90%                                    | 17.90%                                     |                                  |
| Comoros                      | 21.50%                            |  |  |                                | Kyrgyz Republic        | 10.70%                            |  |  |                                  |
| Ghana                        | 2.60%                             |  | 8.10%                                      | 6.94%                          | Moldova                | 9.10%                             |  | 18.20%                                     |                                  |
| Guinea-Bissau                | 17.00%                            |  |  |                                | Tajikistan             | 6.70%                             |  |  |                                  |
| Malawi                       | 10.20%                            |  | 2.40%                                      |                                | Ukraine                | 26.50%                            | 11.30%                                   |  |                                  |
| Swaziland                    | 11.40%                            | 3.90%                                    | 23.10%                                     |                                | Uzbekistan             | 12.80%                            | 5.40%                                    | 7.10%                                      |                                  |
| Uganda                       | 4.90%                             |  | 4.10%                                      | 7.10%                          | <b>South-East Asia</b> |                                   |  |  |                                  |
| <b>Americas</b>              |                                   |  |  |                                | India                  | 1.90%                             | 1.30%                                    | 2.80%                                      | 10.82%                           |
| Brazil                       | 7.30%                             | 8.90%                                    | 13.10%                                     |                                | Indonesia              | 5.10%                             | 1.10%                                    | 3.60%                                      | 9.92%                            |
| Ecuador                      | 5.10%                             |  |  | 28.59%                         | Myanmar                |                                   |  |  | 5.06%                            |
| El Salvador                  | 5.80%                             |  |  |                                | Sri Lanka              | 5.20%                             |  |  | 4.49%                            |
| Guatemala                    | 5.60%                             |  |  |                                | Thailand               | 8.00%                             | 3.30%                                    | 10.20%                                     | 16.42%                           |
| Guyana                       | 5.50%                             | 14.30%                                   | 26.90%                                     |                                | Timor-Leste            | 5.70%                             |  |  |                                  |
| Honduras                     | 5.80%                             |  | 18.80%                                     |                                | <b>Western Pacific</b> |                                   |  |  |                                  |
| Nicaragua                    | 7.10%                             |  | 18.70%                                     |                                | China                  | 9.20%                             | 2.40%                                    | 3.40%                                      | 18.56%                           |
| Paraguay                     | 6.30%                             |  |  |                                | Mongolia               | 14.20%                            | 7.20%                                    | 12.50%                                     |                                  |
| <b>Eastern Mediterranean</b> |                                   |  |  |                                | Philippines            | 2.40%                             |  |  | 9.31%                            |
| Djibouti                     |                                   |  |  | 16.28%                         | Samoa                  |                                   | 44.90%                                   | 66.30%                                     |                                  |
| Egypt, Arab Rep.             | 14.10%                            |  | 46.60%                                     | 25.58%                         | Tonga                  |                                   | 56.10%                                   | 74.90%                                     |                                  |
| Iraq                         | 15.00%                            | 26.20%                                   | 38.20%                                     |                                | Vanuatu                |                                   | 14.40%                                   | 25.20%                                     |                                  |

Percent of children under five years old and adult males and females over the age 15 that are overweight are based on WHO Statistics (2009) from most recent national survey. Percent of youth age 13-15 that are overweight based on WHO/CDC Global Youth Health Survey. Hot spot countries are those with over 20% of adults obese or those with over 5% of children under age 5 or youth age 13-15 overweight for age.

**Table A11. Low and Low-Middle Income Countries Eligible for HPV Vaccination at an Internationally Subsidized Price\*\***

| Africa                |                  |                |                  |                       |             |
|-----------------------|------------------|----------------|------------------|-----------------------|-------------|
| Angola                | Chad*            | Gambia*        | Madagascar*      | Niger*                | Uganda*     |
| Benin*                | Comoros*         | Ghana*         | Malawi*          | Nigeria               | Zambia*     |
| Burkina Faso*         | Congo, Dem.*     | Guinea         | Mali*            | Rwanda*               | Zimbabwe*   |
| Burundi*              | Congo, Rep.      | Guinea-Bissau* | Mauritania*      | São Tomé and Príncipe |             |
| Cameroon              | Côte d'Ivoire    | Kenya*         | Mozambique*      | Senegal*              |             |
| Cape Verde            | Eritrea*         | Lesotho        | Sierra Leone*    | Tanzania*             |             |
| CAR*                  | Ethiopia*        | Liberia*       |                  | Togo*                 |             |
| Americas              |                  |                |                  |                       |             |
| Bolivia               | Guyana           | Haiti*         | Honduras         | Nicaragua             |             |
| Eastern Mediterranean |                  |                |                  |                       |             |
| Afghanistan*          | Djibouti         | Pakistan       | Somalia*         | Sudan                 | Yemen*      |
| Europe                |                  |                |                  |                       |             |
| Armenia               | Georgia          | Moldova        | Tajikistan*      | Ukraine               | Uzbekistan* |
| Azerbaijan            | Kyrgyz Republic* |                |                  |                       |             |
| South-East Asia       |                  |                |                  |                       |             |
| Bangladesh*           | India            | Myanmar        | Nepal*           | Sri Lanka             | Timor-Leste |
| Bhutan                | Indonesia        |                |                  |                       |             |
| Western Pacific       |                  |                |                  |                       |             |
| Cambodia*             | Lao PDR*         | Mongolia       | Papua New Guinea | Solomon Islands       | Vietnam*    |
| Korea, Dem Rep.*      |                  |                |                  |                       |             |

\*Indicates low income countries.

\*\*For a full list of all 72 GAVI-eligible countries, see: Goldie, Sue J., et al (2008). *Health and economic outcomes of HPV 16,18 vaccination in 72 GAVI-eligible countries. Vaccine 26 (2008) 4080-4093.* GAVI eligible countries are those countries with GNI per capita of less than \$1,000 and these countries are eligible for internationally subsidized vaccine prices. Two other countries, with higher GDP are also eligible—India and Indonesia.

## Appendix B. Detailed Cost Tables

| <b>Table B1. Projected Annual Cost Estimates (2010-2015) to Vaccinate Every 11 Year Old Cohort of Girls in Each Year in Low and Low-Middle Income Countries (millions US\$2009)</b>  |  |   |   |   |
|--|--|---|---|---|
| <b>Region</b>  | <b>Per Annum Cost Based on \$17.50 Per Girl in GAVI-Eligible Countries</b> | <b>Total Girls Covered Per Annum in GAVI-Eligible (thousands)</b> | <b>Per Annum Cost Based on \$35 Per Girl in Non-GAVI Eligible Countries</b> | <b>Total Girls Covered Per Annum in Non-GAVI Eligible (thousands)</b> |
| <b>Africa</b>  | 185  | 10,152  | 23  | 631   |
| <b>Americas</b>  | 7  | 398   | 108   | 2,973   |
| <b>Eastern Mediterranean</b>   | 65   | 3,596   | 93  | 2,549   |
| <b>Europe</b>  | 14   | 742   | 4   | 108   |
| <b>South-East Asia</b>   | 89   | 4,915   | 10  | 270   |
| <b>Western Pacific</b>   | 22   | 1,198   | 40  | 1,093   |
| <b>GLOBAL COST PER ANNUM</b>   | 382  | <b>21,002</b>   | 277   | <b>7,623</b>  |
| <b>GLOBAL COST 2010-2015</b>   | <b>1,911</b>   | <b>105,009</b>  | <b>1,387</b>  | <b>38,115</b>   |
| <b>China and India</b>   | 157  | <b>8,632</b>  | 433   | <b>11,908</b>   |
| <p><i>The per girl costs shown here of \$17.50 per girl in GAVI-eligible countries that include all of the low middle income countries and the majority of the low-middle income countries and is based on an assumption of an internationally subsidized vaccine price under hypothetical vaccination costs. For the low-middle income countries that are not eligible for the subsidized vaccine price, an assumed unit cost of \$35.00 is used.</i></p> |  |   |   |   |

| Intervention  | Africa        | Americas      | Eastern Med   | Europe        | South-East Asia | Western Pacific | GLOBAL        | China and India |
|---|---------------|---------------|---------------|---------------|-----------------|-----------------|---------------|-----------------|
| Excise tax on tobacco products: 600% of supply price (double the highest regional rate) | 48            | 7             | 56            | 10            | 28              | 31              | 180           | 242             |
|   | <i>\$0.10</i> | <i>\$0.08</i> | <i>\$0.11</i> | <i>\$0.16</i> | <i>\$0.05</i>   | <i>\$0.12</i>   | <i>\$0.13</i> | <i>\$0.09</i>   |
| Clean indoor air law enforcement  | 125           | 31            | 190           | 37            | 121             | 126             | 629           | 986             |
|   | <i>\$0.26</i> | <i>\$0.39</i> | <i>\$0.39</i> | <i>\$0.56</i> | <i>\$0.23</i>   | <i>\$0.49</i>   | <i>\$0.46</i> | <i>\$0.36</i>   |
| Comprehensive ban on tobacco advertising  | 52            | 14            | 77            | 15            | 44              | 47              | 249           | 365             |
|   | <i>\$0.11</i> | <i>\$0.17</i> | <i>\$0.16</i> | <i>\$0.22</i> | <i>\$0.08</i>   | <i>\$0.18</i>   | <i>\$0.19</i> | <i>\$0.13</i>   |
| Information dissemination and mass media  | 103           | 26            | 150           | 29            | 95              | 99              | 501           | 584             |
|   | <i>\$0.21</i> | <i>\$0.32</i> | <i>\$0.31</i> | <i>\$0.45</i> | <i>\$0.18</i>   | <i>\$0.25</i>   | <i>\$0.34</i> | <i>\$0.22</i>   |
| TOTAL ANNUAL PACKAGE COST   | <b>1,189</b>  | <b>470</b>    | <b>2,182</b>  | <b>529</b>    | <b>2,434</b>    | <b>799</b>      | <b>7,604</b>  | <b>2177</b>     |
|   | <i>\$2.43</i> | <i>\$5.83</i> | <i>\$4.46</i> | <i>\$8.08</i> | <i>\$4.64</i>   | <i>\$3.14</i>   | <i>\$5.72</i> | <i>\$3.89</i>   |
| TOTAL FIVE YEAR PROGRAM COST  | <b>5,947</b>  | <b>2,351</b>  | <b>10,908</b> | <b>2,647</b>  | <b>12,171</b>   | <b>3,996</b>    | <b>38,020</b> | <b>10,884</b>   |

*Estimated costs are based on average per capita costs as identified by the WHO Choice database (reported in italics) by region.*  
*\*The revenue received from taxation of tobacco products will exceed the cost to implement the cost and in effect the revenue generated from taxation will more than cover the total intervention costs.*

| Intervention   | Africa        | Americas      | Eastern Med   | Europe         | South-East Asia | Western Pacific | Global Average | China and India |
|--|---------------|---------------|---------------|----------------|-----------------|-----------------|----------------|-----------------|
| Excise tax on tobacco products: 600% of supply price (double the highest regional rate)* | \$0.40        | \$0.39        | \$0.58        | \$1.28         | \$0.30          | \$0.65          | \$0.60         | \$0.54          |
| Clean indoor air law enforcement   | \$1.05        | \$1.82        | \$1.98        | \$4.50         | \$1.29          | \$2.58          | \$2.20         | \$2.20          |
| Comprehensive ban on tobacco advertising   | \$0.44        | \$0.80        | \$0.80        | \$1.80         | \$0.48          | \$0.96          | \$0.88         | \$0.82          |
| Information dissemination  | \$0.86        | \$1.49        | \$1.56        | \$3.60         | \$1.02          | \$2.03          | \$1.76         | \$1.31          |
| Estimated Number (thousands) of Adolescent Boys and Girls (10-19) Covered (2010-2015)    | 119,839       | 17,255        | 95,887        | 8,121          | 93,471          | 48,686          | 383,259        | 447,541         |
| TOTAL PACKAGE UNIT COST  | <b>\$2.74</b> | <b>\$4.50</b> | <b>\$4.92</b> | <b>\$11.18</b> | <b>\$3.09</b>   | <b>\$6.21</b>   | <b>\$5.44</b>  | <b>\$4.86</b>   |

*The cost per adolescent boy and girl is estimated by dividing the total estimated cost of the tobacco intervention program by the estimated number of boys and girls. \*The revenue received from taxation of tobacco products will exceed the cost to implement the cost and in effect the revenue generated from taxation will more than cover the total intervention costs.*

**Table B4. Projected Annual (2010-2015) Cost Estimates to Provide a Comprehensive Sexuality Education Package to Adolescent Girls (Age 10-19) Enrolled in School in Low and Low-Middle Countries ( Millions US\$2009)**

| Region                          | Train teachers on programs for sexuality, gender, and human rights education (\$2.06 per girl) | Debates on sexuality, gender and human rights and essay writing contests on ways students can protect (\$1.03 per girl) | Video/ media about sexuality, gender, and human rights education (\$1.03 per girl) | Debates and essays on impacts of childbearing (\$1.10 per girl) | Relative risk information campaign (\$0.80 per girl) | Total Health, Sexuality, and Gender Education Package Per Annum (\$6.02 per girl) | Average Number of Girls Targeted Per Annum (thousands) |
|---------------------------------|--|---|--|---|--|---|--|
| Africa                          | 13   | 6   | 6  | 7   | 5  | 37  | 5,986  |
| Americas                        | 13   | 6   | 6  | 7   | 5  | 38  | 6,059  |
| Eastern Mediterranean           | 11   | 5   | 5  | 6   | 4  | 31  | 5,022  |
| Europe                          | 4  | 2   | 2  | 2   | 1  | 11  | 1,708  |
| South-East Asia                 | 11   | 6   | 6  | 6   | 4  | 33  | 5,347  |
| Western Pacific                 | 7  | 3   | 3  | 4   | 3  | 20  | 3,245  |
| <b>GLOBAL TOTAL</b>             | <b>59</b>  | <b>29</b>   | <b>29</b>  | <b>31</b>   | <b>23</b>  | <b>171</b>  | <b>27,367</b>  |
| <b>GLOBAL TOTAL (2010-2015)</b> | <b>293</b>   | <b>147</b>  | <b>147</b>   | <b>157</b>  | <b>114</b>   | <b>857</b>  | <b>136,836</b>   |
| <i>China and India</i>          | 46   | 23  | 23   | 24  | 18   | 134   | 22,261   |

*Unit costs are based on programmatic experience from implementing a life skills education program in Kenya (Kremer 2007). Cost estimates assumes one year of treatment per girl living under \$2/day in low and low-middle income countries.*

**Table B5. Estimated Average Annual Costs (2010-2015) to Implement Community Awareness Programs to Reduce Harmful Traditional Practices for Adolescent Girls (10-12) At Risk for FGC or (10-19) Early Child Marriage in High Prevalence Low and Low-Middle Income Countries (millions US\$2009)**

|   | Africa | Americas | Eastern Med | South-East Asia | Average Annual Cost Globally | Total Cost 2010-2015 | India  |
|---|--------|----------|-------------|-----------------|------------------------------|----------------------|--------|
| <b>Average Per Annum Cost (Low) \$62.19 Per Girl</b>      | 464    | 20       | 222         | 175             | 882                          | 4,408                | 690    |
| <b>Average Per Annum Cost (Mean) \$80.85 Per Girl</b>     | 603    | 26       | 137         | 273             | 1,039                        | 5,196                | 897    |
| <b>Per Annum Cost (High) \$99.50 per girl</b>             | 742    | 32       | 169         | 336             | 1,279                        | 6,395                | 1,104  |
| <b>Average Number Girls Reached Per Annum (thousands)</b> | 7,454  | 323      | 3,578       | 2,821           | 14,176                       | 70,880               | 11,098 |

*Costs per girl are estimated based on total program and direct beneficiary data from a range of Tostan program costs (\$25K- \$40K per program that reaches approximately 50 direct adult and youth males and females and 670 indirect beneficiaries per village/ program).*

| Region                   | Educational and Marketing Materials (40%) | Human Resources (35%) | Research (14%) | Logistics (11%) | Average Annual Cost for Full Program (\$0.01 per capita) | Average Population Per Annum in Hot Spot Countries (thousands) | Average Number of Girls (10-19) Covered Per Annum (thousands) | Average Cost Per Girl Annually |
|--------------------------|---|-----------------------|----------------|-----------------|--|--|---|--------------------------------|
| Africa                   | 721                                       | 630                   | 252            | 198.14          | <b>1,801</b>   | 180,129  | 22,507  | 0.08                           |
| Americas                 | 1,080                                     | 945                   | 378            | 296.96          | <b>2,700</b>   | 269,962  | 23,264  | 0.12                           |
| Eastern Mediterranean    | 791                                       | 692                   | 277            | 217.49          | <b>1,977</b>   | 197,721  | 19,605  | 0.10                           |
| Europe                   | 432                                       | 378                   | 151            | 118.72          | <b>1,079</b>   | 107,924  | 8,219   | 0.13                           |
| South-East Asia          | 1,559                                     | 1,364                 | 546            | 428.75          | <b>3,898</b>   | 389,769  | 31,593  | 0.12                           |
| Western Pacific          | 421                                       | 368                   | 147            | 115.67          | <b>1,052</b>   | 105,151  | 10,263  | 0.10                           |
| GLOBAL PER ANNUM         | <b>5,003</b>                              | <b>4,377</b>          | <b>1,751</b>   | <b>1,376</b>    | <b>12,507</b>  | 1,250,656  | 115,451   | 0.11                           |
| GLOBAL TOTAL (2010-2015) | <b>25,013</b>                             | <b>21,886</b>         | <b>8,755</b>   | <b>6,879</b>    | <b>62,533</b>  | 1,250,656  | 115,451   | 0.55                           |
| <i>China and India</i>   | <i>10,761</i>                             | <i>9,416</i>          | <i>3,766</i>   | <i>2,959</i>    | <i>26,902</i>  | <i>2,690,190</i>   | <i>210,455</i>  | <i>0.65</i>                    |

| Region                 | Per Annum Cost Based on \$84.24 Per Unit | Per Annum Cost Based on \$115.78 Per Unit | Per Annum Cost Based on \$147.32 Per Unit | Total Males (15-24) Covered Per Annum (thousands) | Total Poor Adolescent Girls (10-19) Benefiting | Average Cost Per Girl Benefiting |
|------------------------|--|---|---|---|--|----------------------------------|
| Africa                 | \$1,161                                  | \$1,596                                   | \$2,030                                   | 13,251  | 15,048   | \$106                            |
| Americas               | \$134                                    | \$184                                     | \$234                                     | 1,526   | 1,533  | \$120                            |
| Eastern Mediterranean  | \$383                                    | \$526                                     | \$669                                     | 4,370   | 4,471  | \$118                            |
| Europe                 | \$67                                     | \$92                                      | \$117                                     | 766   | 704  | \$131                            |
| South-East Asia        | \$518                                    | \$711                                     | \$905                                     | 5,908   | 5,886  | \$121                            |
| Western Pacific        | \$196                                    | \$270                                     | \$343                                     | 2,238   | 2,190  | \$123                            |
| GLOBAL COST PER ANNUM  | \$2,458                                  | \$3,379                                   | \$4,299                                   | <b>28,059</b>                                     | 29,832   | \$113                            |
| GLOBAL COST 2010-2015  | <b>\$12,291</b>                          | <b>\$16,893</b>                           | <b>\$21,495</b>                           | <b>140,293</b>                                    | <b>149,162</b>                                 | \$113                            |
| <i>China and India</i> | <i>\$2,388</i>                           | <i>\$3,282</i>                            | <i>\$4,176</i>                            | <i>28,350</i>                                     | <i>25,692</i>                                  | \$128                            |

*Range of unit costs are based on low and high cost per participant for six months of Program H in Brazil.*



| <b>Table B8. Estimated Annual Average (2010-2015) Cost Estimates to Provide Adolescent Girls (Age 10-19) Living Under Two Dollars Per Day in Low and Low-Middle Income Countries with Access to Youth-Friendly Health Services (Millions US\$2009)</b> |                                       |  |                                       |  |  |  |
|--|---------------------------------------|--|---------------------------------------|--|--|--|
| <b>Region</b>  | <b>SRH and Counsel (\$5 per unit)</b> | <b>Family Planning/ Contraception (\$2 per unit)</b> | <b>STI Treatment (\$.50 per unit)</b> | <b>Average Counsel and Test for HIV (\$1 per unit)</b> | <b>Total Package of Services (\$8.50 per unit)</b> | <b>Girls Covered Per Annum (thousands)</b> |
| <b>Africa</b>  | 78                                    | 31   | 8                                     | 16   | 133  | 15,048                                     |
| <b>Americas</b>  | 8                                     | 3  | 1                                     | 2  | 14   | 1,533                                      |
| <b>Eastern Mediterranean</b>   | 23                                    | 9  | 2                                     | 5  | 40   | 4,471                                      |
| <b>Europe</b>  | 4                                     | 1  | 0                                     | 1  | 6  | 704  |
| <b>South-East Asia</b>   | 31                                    | 12   | 3                                     | 6  | 52   | 5,886                                      |
| <b>Western Pacific</b>   | 11                                    | 5  | 1                                     | 2  | 19   | 2,190                                      |
| <b>GLOBAL COST PER ANNUM</b>   | 155                                   | 62   | 16                                    | 31   | 264  | 29,832                                     |
| <b>GLOBAL COST 2010-2015</b>   | <b>776</b>                            | <b>310</b>   | <b>78</b>                             | <b>155</b>   | <b>1,319</b>                                       | <b>149,162</b>                             |
| <b>China and India</b>   | 134                                   | 53   | 13                                    | 27   | 227  | <b>25,692</b>                              |
| <i>Unit costs are based on the average difference in the unit cost of services provided to youth vs. non-youth in Uganda (Stenberg 2008 Power Point).</i>  |                                       |  |                                       |  |  |  |