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Youth Data Collection in DHS Surveys:

An Overview

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Youth Data Collection in DHS Surveys: An Overview

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Contents

Tables ..... **v**

Figures ..... **v**

Executive Summary ..... **vii**

1 Introduction **1**

2 Focus on Youth **1**

3 Priority Youth Indicators **2**

4 Youth Data Collection in The DHS Program **2**

4.1 DHS Household and Individual Interviews *2*

4.2 Modules and Other Host-Country Modifications *5*

4.3 Availability of Youth Data in MEASURE Phase III DHS Surveys *5*

4.4 Utilization of DHS Youth Data *10*

5 Constraints and Challenges in Responding to Expanded Needs for Youth Data **11**

5.1 Adding Youth Age 10-14 to DHS Samples *11*

5.2 Expanding Youth-Relevant Content in Core DHS Questionnaires and Modules *14*

6 Addressing the Youth Data Challenge within The DHS Program **18**

6.1 Greater Awareness and Use of DHS Youth Data *18*

6.2 Development of Youth Indicators *19*

6.3 Strategic Additions to DHS Household and Facility Surveys *19*

6.4 Implementation of Special Youth Data Collection Initiatives *19*

References **21**

Appendixes **25**

Appendix 1. Adolescent and Youth Sexual Reproductive Health Indicators *25*

Apendix 2. Quantitative Indicators for Assessing the World Programme of Action for Youth *26*

Tables

Table 1. Summary of youth sample sizes, biomarker testing, and youth-relevant modules in MEASURE DHS Phase III surveys 7

Table 2. Results of an illustrative analysis of the potential effects on DHS samples of adding young women age 10-14 13

Figures

Figure 1. Median duration of DHS interview (minutes), women age 15-29 15

Figure 2. Median duration of DHS interview (minutes), men age 15-29 16

Executive Summary

International development assistance programs are placing an increasing emphasis on youth. As a result, there is growing demand for information about youth for planning, monitoring, and assessing youth initiatives. This paper reviews the contribution that The Demographic and Health Surveys (DHS) Program is currently making to address the data needs of youth programs. The paper then considers constraints and challenges as well as potential opportunities within The DHS Program for responding to the expanding demand for data on youth.

With regard to the youth-relevant content in its surveys, The DHS Program collects extensive information on youth sexual and reproductive health indicators and also provides a number of key measures for monitoring youth welfare, particularly in the areas of poverty and education. Many DHS surveys also include special modules that collect data relevant to young women's experience of domestic violence. DHS data for youth are disseminated widely through the survey reports, the program's website, and other special dissemination and analysis efforts.

Expanding the information relevant to youth obtained in DHS surveys would involve (1) adapting the age range covered in surveys to include respondents under age 15 and/or (2) modifying the content of existing core DHS instruments to accommodate additional questions on issues relevant to youth. There are serious constraints and challenges to making the changes in DHS surveys that either of these approaches would involve.

Interviewing youth age 10-14 in DHS surveys would require the integration of specialized, in-depth or qualitative data collection approaches with the program's standard interview methodology. This would necessitate significant modifications to DHS samples and add other burdens at the training and fieldwork stages. The impact of adding youth to DHS samples would be especially challenging. For example, in 26 countries that have recently completed DHS surveys, the samples would have been, on average, more than 25 percent larger if female youth age 10-14 had been included in the survey without reducing number of women age 15-49 interviewed. On the other hand, keeping the overall DHS sample sizes constant while adding youth age 10-14 would have resulted in around a 20 percent reduction in the numbers of women age 15-49 interviewed. The benefits gained from interviewing youth age 10-14 are not likely to outweigh the increased costs and potentially adverse impacts on data quality of reducing the proportion of respondents age 15-49, particularly when retrospective data obtained from youth age 15-19 may be more reliable than data obtained from youth age 10-14.

Adding more youth-relevant questions to the DHS core questionnaire would be more feasible than interviewing youth age 10-14. However, this approach also faces a number of challenges. A major constraint is that DHS interviews are already lengthy, which severely limits the number of questions that can be added to the core questionnaire. There are other constraints as well, particularly the recognition that DHS surveys may not be the most appropriate tool for obtaining data in some areas identified as priorities for youth programs. Expanding the collection of data on experience of violence by youth, which is among the priority concerns of youth programs, would be especially challenging within the DHS context, since it involves extensive questioning to obtain accurate measures and may require different interviewers and data collection techniques than are standard in the DHS.

Despite these constraints and challenges, there are a number of ways in which The DHS Program could usefully respond to the expanding need for data on youth. First, the program should explore ways to promote greater awareness and use of the data on youth already available in DHS surveys. The program also could participate in the efforts to define new youth indicators and to consider strategic additions to

DHS household and facility surveys in order to obtain additional youth indicators. Finally, The DHS Program could support special data collection efforts focusing on priority youth issues.

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1 Introduction

This paper provides an overview of the information on adolescents and youth obtained in The Demographic and Health Surveys (DHS) Program and addresses the constraints and the opportunities presented by the growing demand for expanded information on this key demographic group. This review is particularly timely in view of the policy on youth issued in 2012 by the U.S. Agency for International Development (USAID): "*Youth and Development Policy: Realizing the Demographic Opportunity*." The USAID youth policy stresses the need for strengthening efforts to "collect age disaggregated data and utilize youth specific indicators" to monitor and evaluate expanded youth programming (USAID 2012, p.17). Other international donors are also advocating for more attention to research on youth. UNICEF, for example, in its 2012 *Report on the Progress of Children*, focused on the state of the world's youth and called both for better use of available data on adolescents and for efforts to address information gaps, in order to improve planning and monitoring of youth-oriented services (UNICEF 2012).

Household surveys are the primary data collection tools in The DHS Program. There are four basic types of household surveys supported in the program: the comprehensive DHS surveys, the more limited and focused Malaria Indicator Surveys (MIS) and AIDS Indicator Surveys (AIS), and specialized surveys implemented to investigate methodological issues or to address specific data needs at the country level. This review focuses on the role of the standard DHS surveys as a primary source of information of youth-relevant data. However, it is important to note that both MIS and AIS surveys provide information useful for looking at youth-relevant issues in the Presidents' Malaria Initiative (PMI) and the President's Emergency Plan for AIDS Relief (PEPFAR).

In addition to looking at the role that DHS household surveys play in providing data on youth, this report also briefly reviews the potential of Service Provision Assessment Surveys (SPAs)—the other key data collection tool of The DHS Program—to contribute to the rising demand for information relevant to youth. SPAs are conducted in a representative sample of health facilities in a country to assess the readiness of the country's health care system to provide key health services. Finally, The DHS Program also supports a qualitative research component that may be useful in supporting efforts to address methodological questions or contribute to increased understanding of youth-related survey findings.

2 Focus on Youth

Adolescence is defined as the period between puberty and adulthood. Although the chronological period covered by adolescence is imprecise, since the age at both events varies among individuals, adolescence generally is considered to include age 10-19. Youth programs often address a wider age range, however, including age 20-24 in addition to age 10-19 or, in the case of the USAID youth policy, encompassing age 10-29 "as a broader youth cohort" for the focus of USAID programs (USAID 2012). This paper generally uses the broader USAID definition in considering youth data collection within The DHS Program.

The sheer size of the 10-29 age group helps to explain the increased focus on youth within the international development assistance community. In 2012 there were an estimated 2.1 billion people age 10-29 in less developed countries, nearly 30 percent of the world's total population (U.S. Census Bureau 2013). USAID and other development partners point to investments in youth education, employment, and health as crucial to achieving overall development goals (USAID 2012; UNICEF 2012; UNFPA 2007; World Bank 2006). With respect to youth health, a recent Lancet series on adolescent health emphasized that a focus on youth is vital in addressing critical health issues, including reducing the burden of non-communicable diseases for which behaviors that emerge in adolescence are key risk factors (Sawyer et al.

2012). Finally, USAID and other development partners recognize the necessity of assessing and addressing the burden of violence that youth face.

3 Priority Youth Indicators

Although there is an emerging consensus on the importance of obtaining youth data for program planning, monitoring, and evaluation, there is not yet an agreed-upon set of well-defined indicators to guide data collection efforts. What is clear is that the areas in which users will need data are broad and cross-cutting. The USAID youth policy identifies four priority areas for investment in youth: (1) economic opportunity; (2) youth learning; (3) youth health; and (4) peace, security, and democracy, including a major focus on the reduction of violence (USAID 2012). All of these priority areas will require data for program planning and evaluation. In addition, monitoring gender equality is a cross-cutting theme within the USAID youth policy.

Looking more specifically at adolescent health, the Lancet series (Patton et al. 2012) identified five priority areas for monitoring: (1) health outcomes relating to major causes of youth deaths (e.g., traffic accidents, suicide, and homicide) and disability (e.g., mental illness); (2) health-risk behaviors and states (e.g., exposure to violence, violent behavior, sexual risk behaviors, drug and alcohol abuse, and malnutrition); (3) risk and protective factors (e.g., parental connectedness and neighborhood environment); (4) social role transitions, including markers of major life changes that influence health risks (e.g., the initiation of sexual activity), and (5) health policy interventions. In addition to these, there are other recommendations with respect to youth indicators to assess specific health programs. For example, MEASURE Evaluation PRH has identified youth-oriented reproductive health indicators that include measures at both the population and facility levels (MEASURE Evaluation PRH 2013).

Perhaps the most comprehensive framework for youth indicators to date was proposed in 2011 at an expert meeting hosted by the Department of Economic and Social Affairs at the United Nations Secretariat in collaboration with other UN agencies (United Nations 2012). The meeting identified youth indicators spanning eight priority areas: education, employment, poverty and hunger, health, drug abuse, juvenile delinquency, globalization, and information and communication technologies.

Finally, the calls for improved data on youth set as a special priority the collection of information on youth age 10-14, for which available information is considerably more limited than for older adolescents or young adults (USAID 2012; UNICEF 2012).

4 Youth Data Collection in The DHS Program

To understand the scope of the youth data obtained by The DHS Program, it is useful to review information from the household and individual interviews conducted in all standard DHS surveys and from modules or other special data collection efforts that countries may choose to implement. The review highlights the broad range of data currently available from the DHS across the diverse areas identified as priorities for youth program design, monitoring, and evaluation.

4.1 DHS Household and Individual Interviews

In all standard DHS household surveys, an interview is conducted first with one or more key informants in a household, typically the head of the household or the spouse of the household head. This interview identifies usual household members and any visitors and obtains information on basic demographic and

social characteristics for these individuals. Data obtained from the household schedule are an important source of information on youth: the household interview yields data on educational attainment and current school attendance for youth, and on factors such as parental survivorship and co-residence and birth registration that are important in assessing vulnerability for youth under age 18. The DHS household interview also collects information on key housing characteristics (e.g., availability of electricity, type of toilet facilities, and drinking water source) and on ownership of a variety of household possessions. These data are used to assess the wealth status of households, which in turn can provide an understanding of how poverty may affect youth.

Biomarker data, obtained in most DHS surveys from the household instrument, also provide information for assessing the key aspects of the well-being of youth. Height and weight measurements and anemia testing for women age 15-49 are part of the standard DHS household instrument. A number of countries also have included anthropometric measurement and anemia testing for men, and a few countries (e.g., Egypt) have added height and weight measurement and anemia testing for youth age 10-14. Many DHS surveys also include additional biomarker testing, most frequently HIV testing.

In addition to the household interview, DHS surveys always conduct extensive individual interviews of women age 15-49. Most standard DHS surveys also include interviews with men age 15-54 (or 15-59). In general, DHS surveys cover all women and men within the eligible age ranges, although a few surveys limit eligibility to ever-married or currently married individuals. The samples of men tend to be smaller than those of women, with men most often interviewed in only a subsample of the DHS household sample.

The core DHS Woman's Questionnaire obtains information on key background characteristics (e.g., age, marital status, educational level, and employment status) and includes questions on a wide range of other topics, including reproductive behavior and intentions, contraceptive knowledge and use, knowledge of HIV/AIDS and other sexually transmitted infections (STIs), age at first sex and at marriage, high-risk sexual behavior, use of maternity care services for recent births, child survivorship, the health of children under age 5, women's status and empowerment, and other health issues, including tobacco use. The core Man's Questionnaire is similar to the Woman's Questionnaire but is shorter because it does not include a detailed reproductive history and the extensive information on maternal and child health issues that the woman's interview collects.

The majority of the youth-relevant data from DHS surveys is only available for youth age 15 and older. However, the DHS Household Questionnaire asks adult respondents about matters that are useful in understanding the situation of youth age 10-14, as well as older youth, including information on household living conditions and wealth, parental survivorship and co-residence, and school attendance. In addition, retrospective information obtained in the individual interviews in DHS surveys provides insight into the extent to which youth may engage before age 15 in activities that are of major interest in youth programs, including sexual activity, marriage, or childbearing in early adolescence.

The DHS standard household interviews and individual interviews together currently provide the data needed to track many key youth indicators, particularly sexual and reproductive health measures, but also indicators related to youth learning and youth welfare (see box). In fact, the standard DHS surveys collect data relevant for tracking more than half of the 37 indicators proposed by MEASURE Evaluation for assessing youth reproductive health programs (see Appendix 1). The DHS also collects data relating to 14 of the 34 core indicators and 6 of the 15 supplementary indicators proposed by experts for tracking progress in the World Programme of Action for Youth (see Appendix 2).

ILLUSTRATIVE KEY YOUTH INDICATORS COLLECTED IN DHS SURVEYS

EDUCATION AND WELFARE[1]

- education level attained
- net enrollment (attendance) ratio and gender parity index for primary and secondary education
- orphanhood among children under age 18
- household socioeconomic status (wealth quintiles)
- access to improved water and sanitation

HEALTH

Fertility and Family Planning[2]

- age at first sex and first marriage[3]
- adolescent and youth fertility rates
- age at first birth
- fertility preferences (percentage wanting no more children, ideal number of children)[3]
- contraceptive use rate
- unmet need for family planning

Maternal Health[2]

- antenatal care coverage and timing of care by trimester
- tetanus toxoid coverage among pregnant women
- proportion of births taking place in a health facility
- proportion of births attended by skilled medical personnel
- postnatal care coverage

Nutrition[2, 4]

- nutritional status (body mass index)
- prevalence of anemia

Sexual Risk Behavior[2, 3]

- prevalence of multiple partners
- condom use with non-marital non-cohabiting partners
- number of sexual partners in the past 12 months and concurrent partners
- age mixing

HIV/AIDS[2, 3]

- awareness of means of HIV prevention
- rejection of misconceptions about HIV transmission and symptoms
- indicators of HIV stigma
- HIV testing behavior

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[1] Age ranges for which data available for youth vary, with educational attainment and household welfare indicators available for all youth age 10-29
[2] Data available for female youth age 15-29
[3] Data available for male youth age 15-29 in many surveys
[4] Data available for male youth age 15-29 in some surveys

4.2 Modules and Other Host-Country Modifications

Countries may include special modules or questions or otherwise adapt the DHS survey to obtain information relevant to specific programmatic needs. The DHS Program itself has a number of standard modules covering topics that are of concern in many countries. One of the DHS modules with data of particular relevance to youth is the domestic violence (DV) module. The standard DV module collects extensive information on various forms of violence (physical, sexual, and emotional) inflicted on ever-married women[1] by their husbands (partners). In addition, the standard DV module includes a limited number of questions asked of never-married women as well as ever-married women on the experience of physical violence and sexual violence since age 15 at the hands of any perpetrator. A few countries have included a DV module for men.

A number of countries add standard modules from UNICEF's Multiple Indicator Cluster Survey (MICS) program to DHS surveys, particularly in countries where a DHS survey is being conducted in lieu of an MICS survey. The MICS child labor and child discipline modules, which are added to the DHS Household Questionnaire, are of most relevance to youth. The child labor module obtains information on work in which children age 5-17 were engaged in the week before the survey. The child discipline module collects data on various disciplinary practices that household members may have used in the month preceding the interview to address behavior problems among children age 1-14.

In a few cases, countries may field a special survey to obtain data for program planning and monitoring. Indonesia is the most extensive recent example of a country adaption of a standard DHS survey to investigate youth issues. The 2002-2003, 2007, and 2012 Indonesia DHS (IDHS) surveys included a special component obtaining data on adolescent and young adults (BPS 2004; Statistics Indonesia et al. 2008; Statistics Indonesia et al. 2013). The adolescent and young adult component of the IDHS surveys focused on reproductive health, but also asked questions on special health risks for adolescents, including use of tobacco, alcohol, and drugs. These surveys targeted all never-married women and never-married men age 15-24 identified in the household-listing component of the IDHS surveys. Specially trained teams of youth interviewers were recruited and trained to conduct the adolescent and young adult component in the 2002-2003 and 2007 surveys. In the 2012 IDHS, no special interviewer recruitment was undertaken for the woman's component, and the questions for never-married young women were integrated into the Woman's Questionnaire. There was a special questionnaire for never-married male youth, which was administered by the same male interviewers as for the currently married men's component of the IDHS.

4.3 Availability of Youth Data in MEASURE Phase III DHS Surveys

To date, more than 200 DHS/AIS/MIS surveys have been supported in six rounds of The DHS Program. Table 1 details the coverage of the youth population in DHS/MIS/AIS surveys that have completed data collection in the MEASURE DHS Phase III project. The data illustrate the breadth of surveys and the size of samples for which recent information relevant to youth issues is available. For many countries, data are also available from surveys conducted in earlier rounds of The DHS Program, allowing trend analyses of many youth indicators.

Self-reported data (data collected through individual interviews) are available for all young men and women age 15-29 in almost all surveys in Table 1. In a few countries, however, DHS surveys covered only ever-married and currently married women and/or men, limiting the information available for youth by excluding the never-married. Respondents younger than age 15 were interviewed only in the woman's component of Bangladesh DHS, which lowered the age range for eligibility to include ever-married

[1] Includes women in formal and informal unions.

women age 12-14, out of a concern to capture information on childbearing behavior among very young women in the country.[2]

With the exception of HIV testing in those countries for which tracking HIV prevalence is a primary concern, Table 1 shows that biomarker data are available more often for women than men. For example, of the 34 surveys completed to date in MEASURE DHS Phase III, 32 surveys included anthropometric measurement for women, compared with only 4 surveys for men. Anemia testing was carried out for women in 28 surveys and for men in 10 surveys.

Reflecting country priorities, the surveys in the table also vary in the extent to which they include modules providing data on key youth concerns. Domestic violence data were obtained for women in 18 DHS surveys, and 3 surveys collected domestic violence data from men. Thirteen surveys included a child labor module, and 4 surveys included the child discipline module.

[2] Fewer than 100 women (less than 1 percent) age 12-14 were found to have ever married. As a result, no data for the age group could be presented in the survey report.

Table 1. Summary of youth sample sizes, biomarker testing, and youth-relevant modules in MEASURE DHS Phase III surveys

Region, country, and survey year	Individual interviews: total sample (weighted)[1]		Individual interviews: youth age 15-29 (weighted)[1]		Biomarkers: Height and weight measures		Biomarkers: Anemia		Biomarkers: HIV		Biomarkers: Malaria		Biomarkers: Other tests		Youth-relevant modules
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	
DHS Surveys															
Asia/Near East/Europe and Eurasia															
Armenia DHS 2010	5,922	1,584	2,843	812											CD, CL
Bangladesh DHS 2011[2, 3]	17,749	3,397	8,878	891	X	X	X						BP GL	BP GL	
Cambodia DHS 2010	18,754	8,239	10,151	4,642	X		X								
Indonesia DHS 2012[4]	45,607	9,306	2,019	1,500											
Jordan Interim DHS 2009	11,109		3,259		X		X								DV-W, CD (partial)
Jordan DHS 2012[5]	11,352		3,491		X		X								DV-W, CD (partial)
Kyrgyz Republic DHS 2012	8,208	2,413	4,429	1,245	X		X						BP	BP	DV-W
Nepal DHS 2011	12,674	4,121	7,151	2,244	X		X								DV-W
Pakistan DHS 2012[3,5]	13,558	3134	5,435	776	X										DV-W
Tajikistan DHS 2012	9,656		5,572		X										
Timor-Leste DHS 2009-10	13,137	4,076	7,384	2,223	X		X								DV-W
Sub-Saharan Africa															
Benin DHS 2011-12	16,599	5,180	9,001	2,304	X		X	X	X	X			BP	BP	CL
Burkina Faso DHS 2010	17,087	7,307	9,582	3,424	X		X	X	X	X					DV-W, CL
Burundi DHS 2010	9,389	4,280	5,799	2,248	X		X	X	X	X					CL
Cameroon DHS 2011	15,426	7,191	9,405	3,892	X		X		X	X					DV-W, DV-M, CL
Côte d'Ivoire DHS 2012	10,060	5,135	5,898	2,514	X		X	X	X	X	X				DV-W, CL
Ethiopia DHS 2010-11	16,515	14,110	10,087	7,629	X	X	X	X	X	X					CL
Guinea DHS 2012	9,142	3,782	5,267	1,872	X		X	X	X	X					CL
Lesotho DHS 2009	7,624	3,317	4,581	1,932	X		X		X	X			BP	BP	
Malawi DHS 2010	23,020	7,175	13,960	4,086	X		X		X	X					DV-W
Mali DHS 2013	10,424	4,399	5,814	1,802	X		X		X	X					DV-W, CL
Mozambique DHS 2011	13,745	4,035	7,790	2,066	X		X								DV-W, DV-M
Nigeria DHS 2013[6]	33,385	17,359	21,722	9,268	X		X	X	X	X	X				

(Continued...)

Table 1. – *Continued*

Region, country, and survey year	Individual interviews: total sample (weighted)[1]		Individual interviews: youth age 15-29 (weighted)[1]		Biomarkers										Youth-relevant modules
					Height and weight measures		Anemia		HIV		Malaria		Other tests		
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	
Rwanda DHS 2010	13,671	6,329	8,122	3,646	X	X			X	X	X				DV-W, CL
Senegal DHS-MICS 2010-11	15,688	4,929	9,395	2,768	X	X	X	X	X	X					CL
Senegal Continuous 2013	8,636		5,334												CL
Tanzania DHS 2010	10,139	2,527	5,749	1,402	X								Vitamin A, iron, urinary iodine		DV-W
Uganda DHS 2011	8,674	2,295	5,246	1,233	X		X						Vitamin A		DV-W, DV-M
Zimbabwe DHS 2010-11	9,171	7,480	5,472	4,343	X		X	X	X	X					DV-W
Latin America/Caribbean															
Haiti DHS 2012	14,287	9,493	8,605	5,099	X		X	X	X	X					DV-W, CD, CL
Honduras DHS 2011-12	22,757	7,120	12,785	3,372	X		X								DV-W
Peru Continuous 2009	24,213		11,845		X		X						BP		
Peru Continuous 2010	22,946		11,041		X		X						BP		
Peru Continuous 2011	22,517		10,860		X		X						BP		
Peru Continuous 2012	23,888		11,327		X		X						BP		
MIS/AIS Surveys															
Angola MIS 2011	8,589		5,725												
Burundi MIS 2012	5,149		3,206												
Kenya MIS 2010[7]	5,749		3,298								X	X			
Liberia MIS 2009	4,397		2,496												
Madagascar MIS 2011[8]	8,169		4,549												
Malawi MIS 2012	2,906		1,726												
Nigeria MIS 2010	6,344		3,529												
Senegal MIS 2008-09	19,441		11,820												
Tanzania AIS/MIS 2011-12	10,967	8,352	6,204	4,653					X	X					

(Continued...)

Table 1. – *Continued*

Region, country, and survey year	Individual interviews: total sample (weighted)[1]		Individual interviews: youth age 15-29 (weighted)[1]		Biomarkers										Youth-relevant modules
					Height and weight measures		Anemia		HIV		Malaria		Other tests		
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	
Special Surveys															
Ghana MICS 2011	10,627	5,341	3,321	1,492											
Lao (MICS) 2011-12	22,476	9,951	11,674	5,176	X		X								
Rwanda Scale-up[9]	2,613	1,204	2,056	1,055											

Note: Includes surveys for which final reports issued as of May 2014.

BP = Blood pressure; GL = Blood Glucose; DV-W = Domestic Violence Woman; DV-M Domestic violence Men; CD = Child discipline; CL = Child Labor

[1] Interviews are with all women age 15-49 or all men age 15-54 or 15-59 unless otherwise noted.

[2] Ever-married women age 12-49

[3] Ever-married men

[4] Currently married men

[5] Ever-married women age 15-49

[6] Malaria testing conducted only for pregnant women

[7] Included malaria testing for youth age 10-14

[8] Survey conducted only in malaria transmission zones

[9] Tested methodologies for estimating the size of subpopulations at higher risk of HIV transmission

4.4 Utilization of DHS Youth Data

The fact that the majority of tables in DHS survey reports present findings separately for five-year age groups facilitates access to DHS data on youth. Moreover, this allows DHS results for most youth indicators in the report to be compared with information for older respondents, and also enables differences between younger and older youth to be examined.

The DHS Program has supported initiatives specifically focused on youth, for example, the Youth Corner on the program website. Other examples are recent comparative reports on trends in sexual and reproductive behaviors among adolescent women and men age 15-19 (Kothari et al. 2012) and current levels and trends of unmet need for family planning among women age 15-24 (MacQuarrie 2014). In addition, the program has provided support at the country level for a number of youth-relevant analyses and dissemination activities (see box).

DHS results are currently being used extensively by organizations involved in youth-related research and advocacy. Recent examples include (1) a 2012 report on adolescents (UNICEF 2012); (2) a 2012 status report on the situation of adolescents and young children in sub-Saharan Africa (UNFPA and PRB 2012); (3) a 2013 data sheet on the world's youth (PRB 2013); and (4) a guide to understanding and using sexual and reproductive health indicators recently prepared by the Guttmacher Institute and the International Planned Parenthood Federation (Anderson et al. 2013), for which The DHS Program provided direct assistance in the production of some indicators. The United Nations Population Fund (UNFPA) and the Population Council have also collaborated on a series of fact sheets about adolescents and young people that employed DHS as well as other data from MICS and other surveys (Population Council 2013).

Examples of DHS Country-level Youth-related Publications

Ethiopia – With support from the Daniel and Lucile Packard Foundation, an atlas spotlighting youth reproductive health indicators from the 2011 Ethiopia DHS was published, and special booklets were produced highlighting the trends in demographic and health indicators for young adults (MEASURE DHS 2013a) and exploring the relationship between girl's education and family planning (MEASURE DHS 2013b).

Nepal – A further analysis study used data from the 2011 Nepal DHS to look at the trends and determinants of sexual and reproductive health indicators among adolescents and youth (Khatiwada et al. 2013).

East Timor – A special Youth Key Findings was prepared, summarizing results for youth age 15-24 from the 2009 East Timor DHS.

To view or download these materials, go to the DHS website at:

www.dhsprogram.com.

Finally, DHS datasets are available for researchers to download through the program's website. More than 1,000 dataset requests received by The DHS Program from September 2008 to March 2013 were for research studies on adolescents or on youth issues. DHS also has maintained a record of articles published in peer-reviewed journals. Although the database is not comprehensive, it provides a helpful tool for accessing published research using DHS data. Currently, the journal article database provides links to 44 articles relating to youth research issues.[3]

[3] View journal articles at http://www.dhsprogram.com/Publications/Journal-Articles-by-Topic.cfm.

5 Constraints and Challenges in Responding to Expanded Needs for Youth Data

The DHS Program is currently collecting a considerable body of data on youth. Expanding the information relevant to youth obtained in the program would involve (1) adapting the age range covered in surveys to include respondents under age 15 and/or (2) modifying the content of existing core DHS survey instruments to accommodate additional questions on youth-relevant issues. Making either of these changes would present a number of serious constraints and challenges.

5.1 Adding Youth Age 10-14 to DHS Samples

Directly interviewing youth age 10-14 in DHS surveys would require major adjustments in DHS survey methodology. As the following discussion highlights, considerable experimentation is needed to develop effective age-appropriate data collection approaches for young adolescents. Many of the recommended approaches for obtaining data, particularly on sensitive topics like sexual activity, cannot be readily integrated into the standard face-to-face DHS interview format. The inclusion of young adolescents also would necessitate changes in DHS samples and implementation procedures that would impact interviewer workloads and increase survey costs. Overall, the added benefits in terms of improved understanding of youth issues are not likely to offset the increased burden on DHS surveys of interviewing youth age 10-14.

Interviewing youth age 10-14 would require specialized data collection approaches

Early adolescence is a period of major transition and maturation, and the pace and timing of the physical, emotional, and other changes in that transition vary considerably from one young person to another. Brady (2011) acknowledges the special research challenges that early adolescence presents, noting that "documenting and addressing the needs of younger adolescents will require new methods as it is not simply a matter of transferring an existing set of questions and research approaches to an earlier age group. Research methods that have been successful in eliciting sensitive information from older adolescents are not necessarily appropriate for younger adolescents. Questions need to be short, clear, and appropriate to the age, developmental stages, and experiences of adolescents and cannot be the same across all age groups" (Brady 2011, pp. 2-3). Other discussions of the appropriate approaches for obtaining data from young adolescents also point to problems in employing structured face-to-face interviews, and stress use of in-depth interviews, observation, and other research modalities that encourage active participation of young adolescents in the data collection process (e.g., game-based methods) (Institute for Reproductive Health, 2010; Chung et al. 2006). ICF International's own experience in assisting the Guttmacher Institute with special surveys of youth age 12-24 in four African countries[4] highlights the problems encountered in asking younger adolescents structured questions about sensitive topics, particularly sexual activity. An ICF staff member responsible for helping to design and implement the surveys noted that "the vast majority of young adults age 12-14 were unmarried and had never had sexual intercourse. Asking them questions on sexual activity was difficult, because the respondents felt embarrassed, shy and very reluctant to answer questions, did not answer truthfully or did not answer at all…" (Pav Govindasamy, personal communication, May 5, 2014).

[4] For a summary of the results of the four surveys, see Biddlecom et al. 2007. For results for each of the four country surveys, see Burkina Faso – Guiella et al. 2006; Ghana – Awausabi-Asare et al. 2006; Malawi – Munthali et al. 2006; and Uganda – Neema et al. 2006.

Interviewing youth age 10-14 would necessitate significant modifications in DHS sample designs

Due to recent high fertility, in most DHS countries youth 10-14 represent a relatively large share of the population compared with older cohorts. As a result, including youth age 10-14 in DHS surveys would require significant changes in DHS sample designs. Table 2 uses information on the composition of the household population in 26 countries completing DHS surveys in MEASURE DHS Phase III, to illustrate the impact adding female youth age 10-14 would have on DHS samples under two of the most likely scenarios. Scenario 1 assumes that the sample size of women age 15-49 would be maintained unchanged when adding youth age 10-14. In this scenario the overall size of the DHS samples in the 26 countries would increase by an average of more than 25 percent. Obviously, survey costs would rise substantially in Scenario 1, but it poses other issues as well. Sample sizes in DHS surveys are already large, in response to country and donor interest in obtaining information not only at the national and regional levels but also at lower administrative levels. In turn, to complete DHS surveys within reasonable time frames, the number of teams used for the survey fieldwork has risen. In some DHS surveys the field staff exceeds 200 members. Training the large number of field staff on the complex DHS survey instruments and maintaining close control and supervision of the teams once they go to the field represent significant challenges for DHS implementing organizations. Expanding DHS survey samples to include youth would compound these problems.

Scenario 2 in Table 2 assumes that youth age 10-14 would be included in the DHS surveys but that the overall size of the DHS sample would be held constant. This would avoid the problems associated with increased sample sizes but would involve other challenges. As Table 2 shows, to accommodate the addition of young adolescent women, the number of women age 15-49 included in the samples in the 26 countries would have to be reduced by an average of more than 20 percent. While Scenario 2 would have relatively minimal implications for survey costs, it would result in wider confidence intervals for key indicators that are traditionally based on women age 15-49 (e.g., the total fertility rate and the contraceptive prevalence rate). It would also affect the confidence limits for key child health indicators such as immunization rates, since fewer childbearing women would be in the sample. These effects would be most apparent for subnational estimates, which have become increasingly important in DHS surveys. Measures to mitigate the impact might be taken, e.g., interviewing young women only in a subsample of DHS households. However, such an approach would also have drawbacks, e.g., adding complexities to the survey interview process and necessitating more complicated weighting schemes.

Interviewing youth age 10-14 would present other challenges

Ethical concerns, including the need to obtain parental consent, ensure that youth themselves fully understand and freely consent to participate, and provide privacy during data collection, are other challenges that would occur if youth age 10-14 were to be added to DHS surveys (UNICEF 2012; Schenk and Williamson 2005; Save the Children 2004). Familiarizing interviewers with the ethical demands and with techniques for obtaining parental and youth consent would add to the length of interviewer training. The process of obtaining parental or guardian consent for the participation of youth age 10-14 could lead to higher refusal rates among respondents age 15 and older if it causes unease with the entire DHS survey process among the adults asked for their consent.

Interviewing young adolescents would definitely add to callback rates, since typically large proportions of youth age 10-14 attend school and thus in many households are less likely to be at home during a DHS interviewer's first visit. The added time necessary to find and obtain informed consent to interview young adolescents would increase the length of fieldwork and thus would increase overall survey costs. Perhaps more significantly, interviewing young adolescents, especially on sensitive topics, would represent a significantly heavier burden on the DHS field staff, potentially contributing to greater interviewer fatigue and thus lowering the quality of the results, not only for young adolescents but for all respondents.

Table 2. Results of an illustrative analysis of the potential effects on DHS samples of adding young women age 10-14

	Percentage of de facto female household population in age group			Scenario 1 - Young women age 10-14 added and number of women age 15-49 unchanged	Scenario 2 - Young women age 10-14 added and number of women age 15-49 reduced
DHS survey	**10-14**	**15-49**	**10-49**	**Percentage increase in size of total sample**	**Percentage reduction in size of sample of women age 15-49**
Armenia 2010	5.6	48.4	54.0	11.6	-10.4
Benin 2011-12	14.2	40.6	54.8	35.0	-25.9
Burkina Faso 2010	13.6	41.8	55.4	32.5	-24.5
Burundi 2010	13.0	44.5	57.5	29.2	-22.6
Cambodia 2010	11.4	50.1	61.5	22.8	-18.5
Cameroon 2011	12.1	44.1	56.2	27.4	-21.5
Cote d'Ivoire 2011-12	13.0	45.2	58.2	28.8	-22.3
Ethiopia 2011	13.8	44.5	58.3	31.0	-23.7
Guinea 2012	14.6	40.6	55.2	36.0	-26.4
Haiti 2012	11.7	49.8	61.5	23.5	-19.0
Honduras 2011-12	12.4	51.2	63.6	24.2	-19.5
Indonesia 2012	9.5	52.3	61.8	18.2	-15.4
Kyrgyz Republic 2012	9.7	47.6	57.3	20.4	-16.9
Lesotho 2009	13.6	44.6	58.2	30.5	-23.4
Malawi 2010	14.3	40.8	55.1	35.0	-26.0
Mozambique 2011	13.6	41.9	55.5	32.5	-24.5
Nepal 2011	12.4	50.5	62.9	24.6	-19.7
Nigeria 2008	11.6	44.7	56.3	26.0	-20.6
Peru 2012	9.5	50.5	60.0	18.8	-15.8
Rwanda 2010	12.4	46.8	59.2	26.5	-20.9
Senegal 2011-12	12.3	44.4	56.7	27.7	-21.7
Tajikistan 2012	10.9	51.1	62.0	21.3	-17.6
Tanzania 2010	13.8	42.5	56.3	32.5	-24.5
Timor-Leste 2009-10	13.7	41.7	55.4	32.9	-24.7
Uganda 2011	14.6	41.0	55.6	35.6	-26.3
Zimbabwe 2010-11	13.3	46.4	59.7	28.7	-22.3
Average Increase/Reduction				27.4	-21.3

The benefits gained from interviewing youth age 10-14 may not outweigh the costs

It may not be necessary to directly interview youth age 10-14 to obtain valid data on behavior during early adolescence. For example, in discussing the utility of school-based data on adolescents, Patton et al. (2012) suggest that key health-risk behaviors such as tobacco and alcohol use or obesity are not common in younger adolescents, so that the main interest is in information on the prevalence of these conditions in older adolescents. A WHO review of research gaps relating to the sexual and reproductive health of young adolescents also suggests that retrospective data obtained from older adolescents may be more reliable than data obtained from youth under age 15, since older youth are more mature and thus may be more comfortable in providing information on sensitive topics (WHO 2011).

5.2 Expanding Youth-Relevant Content in Core DHS Questionnaires and Modules

The methodological challenges and the significant monetary and other potential costs involved in adding youth age 10-14 to DHS samples make it very unlikely that the age range of eligibility for standard DHS surveys could be expanded to include young adolescents. More feasible is the possibility of expanding youth-relevant content in core DHS questionnaires and modules. However, a number of issues limit the extent to which youth-relevant content could be added to DHS data collection tools. As will be discussed below, a major constraint is simply the current large size and complexity of the DHS core questionnaires. There are also other constraints—particularly that DHS may not be the most appropriate tool for obtaining data in areas identified as priorities for youth programs. Finally, when considering adding youth-relevant questions to the DHS, it is important to consider whether or not other surveys or data collection activities may be better options to provide the needed data.

The current size and complexity of DHS questionnaires are major constraints to adding to the youth-relevant content

The questionnaires, modules, and biomarker testing involved in DHS surveys are both lengthy and challenging for field staff to implement in households, making it very difficult for The DHS Program to respond to calls for additional questions on any topic. During the MEASURE DHS Phase III project, there was a concerted effort to reduce the length of DHS core questionnaires, and the overall size of the Phase III core questionnaires is somewhat smaller than the questionnaires used in MEASURE DHS Phase II. Nevertheless, the DHS Phase III core questionnaires remain quite long, covering a wide range of topics. For example, the DHS Phase III core Woman's Questionnaire contains more than 300 numbered questions. Some of these questions involve multiple items, or in the case of the maternal or child health sections of the questionnaire may be asked for more than one birth or young child. As Table 1 shows, many surveys also include one or more additional modules and extensive biomarker data, adding to the overall length of the DHS data collection in individual households.

While not all of the questions in a DHS survey instrument are asked of all respondents, the average DHS interview continues to be quite long. Figures 1 and 2 show the median duration of the DHS interview for female and male youth age 15-29 in 17 recent DHS surveys. In 13 of the surveys the median duration of the DHS interviews with young women exceeded 40 minutes, and in 6 surveys, it was 50 minutes or more. Interviews with young men were typically shorter; nonetheless, in the majority of surveys shown in Figure 2 the median duration of interview with young men exceeded 20 minutes.

Figure 1. Median duration of DHS interview (minutes), women age 15-29

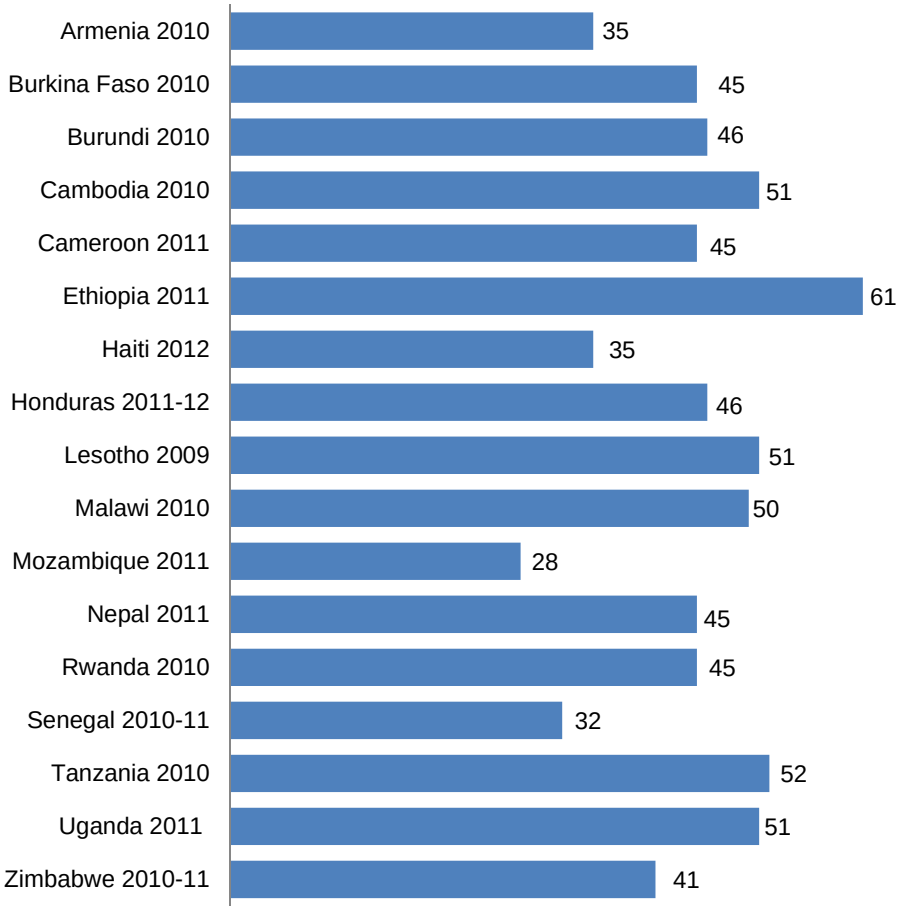
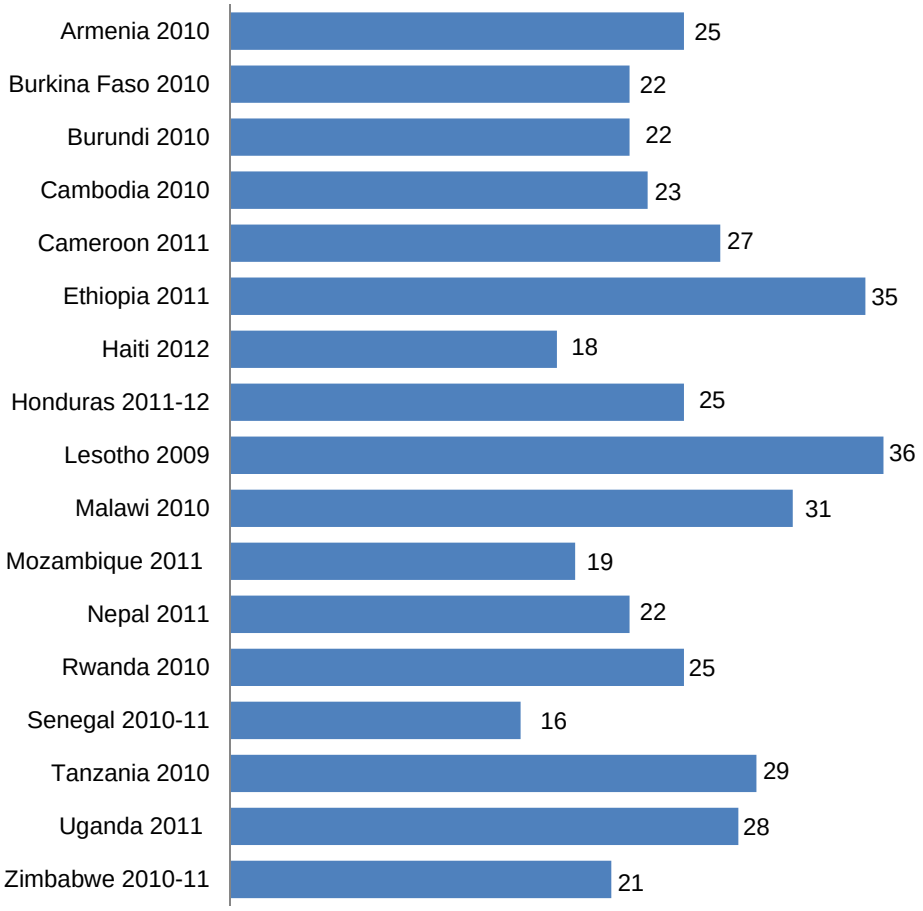


Figure 2. Median duration of DHS interview (minutes), men age 15-29



The average DHS interview durations and the fact that youth age 15-29 represent almost 60 percent of DHS samples make it difficult to expand the youth content of the DHS surveys substantially without adversely affecting the length and cost of fieldwork. For example, it is estimated that, if a special module adding 10 minutes of interview time had been included for youth age 15-29 in the 17 DHS surveys shown in Figures 1 and 2, the time spent on the module would have been equivalent to interviewing 14 percent more respondents.[5] There are significant issues concerning cost and data quality associated with increases in the DHS sample size of this magnitude. Given the ever-growing pressure to expand DHS samples to provide reliable subnational estimates for key indicators, it is unlikely that the funding to support an expansive youth data collection effort would be available. Therefore, any content relevant to youth

[5] More than 190,000 youth age 15-29 were interviewed in the 17 surveys. Interviewing those youth for an average of 10 more minutes would have added nearly 32,000 person hours to the total time field staff spent administering the DHS questionnaires in the surveys. Taking into account the average interview duration for women and men age 15-49 across the 17 surveys (52 minutes and 29 minutes, respectively), this would be equivalent to interviewing an additional 26,000 women and 18,000 men, an increase of 14 percent over the more than 325,000 respondents in the 17 surveys. Even if the module was administered only to youth age 15-24, the time added to the DHS interviews would have been equivalent to increasing the DHS samples in the 17 countries by an average of almost 10 percent.

considered for addition to the DHS standard questionnaires will have to be limited in scope and strategic in focus.

DHS may not be the right tool to provide data for some priority youth indicators

As noted earlier, interest in expanded data on youth covers a large number of broad, cross-cutting topics. The advantage of DHS surveys obviously lies in providing data relating specifically to youth health issues. Even within the health area, however, there are a number of indicators of priority interest to youth programs for which DHS is not the right tool. For example, DHS surveys are not well suited to obtaining mortality data for youth, especially the cause-specific mortality rates mentioned in several discussions of youth data needs.[6] Compared with mortality levels among children under age 5, mortality levels among youth are quite low, and, thus extremely large samples would be needed, even in settings where overall adult mortality levels are relatively high, to obtain reliable age- and cause-specific death rates for youth.

DHS surveys also are not the best tool for collecting information from youth on highly stigmatized or illicit behavior, such as abortion or illegal drug use. The results of the Adolescent Reproductive Health component of the 2012 Indonesia DHS survey illustrate that obtaining reliable data on such topics through a DHS survey is difficult (Statistics Indonesia et al. 2013). For example, although around one in four never-married women age 15-24 said they knew someone who had terminated an unwanted pregnancy, virtually no young women reported that they themselves had had an abortion.

Concerns about privacy and confidentiality are likely to be factors inhibiting the reporting of sensitive data in the DHS. As noted earlier, data collection approaches other than the DHS structured face-to-face interview format may also be more appropriate for eliciting sensitive data from youth.

The collection of information on violence from unmarried youth represents a particular challenge

There are frequent calls for The DHS Program to expand collection of information from youth about experience of violence. As discussed previously, the current focus on violence in DHS surveys is domestic or intimate partner violence experienced by ever-married women, with only limited information obtained on violence perpetrated by individuals other than spouses from either never-married or ever-married women.

Extending the domestic violence module to obtain more information on violence among young, never-married respondents would present multiple challenges. For one thing, the rapport between a respondent and an interviewer is key in obtaining accurate, reliable information on violence. The standard DHS interview structure is inherently more conducive to building rapport between interviewers and older respondents. For many of the questions asked in the DHS—have you had children, used contraception, received maternity care, accessed health care for children—the majority of young, never-married respondents either answer “no” or are not asked because they have not yet borne children. As a result, DHS interviewers spend far less time with never-married women than with ever-married women. Given the more limited face-to-face interaction with interviewers, they may be less open to sharing information in response to the multiple questions on specific acts of violence that form the core of the DHS module and that are considered crucial to eliciting accurate information on the experience of violence (Kishor and Johnson 2004). Efforts to expand the number of questions directed to never-married young women to improve rapport face the cost and other constraints that, as discussed above, are inherent in adding a substantial number of questions to the already lengthy and complex DHS questionnaires.

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[6] For example, item 16 in Appendix 2, which presents recommendations for indicators to track progress on the World Programme of Action for Youth (United Nations 2012).

Moreover, the interest in data on violence affecting youth typically encompasses the experience not only of young women but also of young men—including the full range of violence youth may experience within and outside their home environment. DHS is even more constrained by the existing size and complexity of its data collection tools. Expanding the nature and scope of the data collected on violence also would compound the ethical challenges DHS already faces in administering the DV module, including the need to obtain free, informed consent, ensure privacy, and protect respondents and field staff. The collection of accurate data on violence also may require the use of alternative data collection methods that, as has already been noted, are not readily integrated into the standard DHS interview format. For all of these reasons, separate surveys of youth may be more appropriate tools for obtaining the expanded information on violence that is of interest in youth initiatives.

The DHS is not the only source available to obtain needed data on youth

In weighing the addition of youth-relevant content to the DHS, it is also important to consider the availability of alternative data sources. For example, the World Health Organization (WHO) and the US Centers for Disease Control and Prevention (CDC), in collaboration with UNICEF, UNESCO and UNAIDS, conduct the Global School-based Student Health Survey (GSHS), which has been carried out in more than 100 countries worldwide (WHO 2014). The GSHS surveys are conducted in schools among adolescents age 13-17 and obtain information on a range of issues relating to adolescent health, including alcohol and drug use, tobacco use, violence and unintentional injury, sexual risk behaviors, and mental health.[7] In addition, data on youth smoking behavior is available for a number of countries from the Global Tobacco Surveillance System, which includes both household-based and school-based survey components (CDC et al. 2014). Labor force surveys, income and expenditure, and other specialized surveys conducted in many countries also offer data on key youth topics such as employment and poverty. These surveys are often implemented following guidelines of international agencies, including the International Labor Organization and the World Bank, helping to ensure standardization and cross-country comparability.

6 Addressing the Youth Data Challenge within The DHS Program

The DHS Program already contributes significantly to the body of available information on youth. In the new round of the program—DHS-7—there are a number of areas where the program may expand its response to the increased demand for information on youth. The final youth agenda for DHS-7 will be set at the global level, in consultation with the USAID management team, and at the country level, in consultation with the USAID Mission and host country partners. However, some preliminary suggestions for ways in which the program may contribute to the expanding need for youth data are presented in the following sections.

6.1 Greater Awareness and Use of DHS Youth Data

One of the most cost-effective ways of addressing the demand for youth data could be to identify activities that enhance the availability and use of key youth indicators that The DHS Program already collects. At the beginning of DHS-7, the various tools for disseminating and promoting use of DHS data should be reviewed to identify ways in which the large body of information on youth obtained in the

[7] School-based data collection systems have problems of coverage in comparison with population-based systems, since they represent only the population enrolled in school, and thus in many countries substantial proportions of youth are not represented in the results because school enrollment rates are low.

program can be improved. In particular, attention should be paid to ways in which the Youth Corner on the DHS website could be enhanced. Consideration also should be given to ways in which other DHS web-based tools might be modified to facilitate access to youth data. At the country level, partnerships with host-country institutions, other USAID cooperating agencies, and international developmental partners, could be sought to produce youth-oriented dissemination materials. DHS-7 also includes a mandate for expanded analytical studies, and this mandate offers the potential for undertaking analyses at the global and country levels that would enhance understanding of the situation of youth.

6.2 Development of Youth Indicators

The DHS Program has contributed significantly in assisting stakeholders to develop sound indicators to track program progress in a broad range of areas (e.g., maternal and child health, family planning, HIV/AIDS, malaria, and water and sanitation). As noted above, efforts are ongoing to define priority youth indicators, and the Lancet series on adolescent health specifically mentions the need for a reference group to help guide adolescent indicator development and research (Patton et al. 2012). The DHS Program currently participates in the Interagency Youth Working Group, and it will be important to become involved in any additional entities that are formed to help guide the development of youth indicators.

6.3 Strategic Additions to DHS Household and Facility Surveys

The addition of a large number of new questions on youth-relevant topics to the DHS household survey core questionnaires is clearly not practical. DHS questionnaires are already lengthy, sample sizes are large, and overloading the surveys would risk the overall quality of DHS results. However, at the start of DHS-7, there will be a review of all requests for additions and changes to the DHS core instrument content. During that review, it may be possible to consider a limited number of questions to address areas identified as priorities for youth data collection. For example, one topic of interest in youth programs is data on access to and use of computers, the Internet, and social media (United Nations 2012). Adding questions on this topic is likely to yield useful data for planning communication and other programs for both youth and older age groups. The DHS-7 questionnaire review may also consider if there are areas where additional questions to obtain retrospective information from youth age 15-19 on their behavior when they were age 10-14 may usefully contribute to the demand for expanded information on youth age 10-14.

Consideration also could be given to how DHS Service Provision Assessment surveys might respond to the demand for youth data. Like the DHS household surveys, SPAs are constrained by the size of the core instruments. However, there are some areas where the core SPA instruments might be modified to obtain information relevant to key youth health initiatives, for example, with data on the availability of the human papillomavirus (HPV) vaccine in facilities (Patton et al. 2012).

6.4 Implementation of Special Youth Data Collection Initiatives

DHS-7 might also contribute to improved youth data by supporting one or more special youth-oriented surveys. For example, a survey with the particular aim of better understanding the situation of youth age 10-14 might be fielded in a country with extensive USAID-supported youth programming. In the design of any special youth surveys, consideration should be given to testing ways to improve the collection of sensitive data from youth, including alternative approaches to standard face-to-face interviews (Mensch et al. 2008; Plummer et al. 2004).

A strong qualitative research component will be an important part of any special youth data collection initiatives undertaken in DHS-7. Special qualitative studies also could be undertaken to help understand

and interpret youth-relevant findings from standard DHS surveys in countries where youth programming is deemed of special interest.

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Appendixes

Appendix 1. Adolescent and Youth Sexual Reproductive Health Indicators

Indicators	
1.	Existence of supportive adolescent and youth sexual and reproductive health policies
2.	Adolescents are/were involved in the design of materials and activities and in the implementation of the program
3.	Number of young people trained as peer educators
4.	Percent of young people trained as peer educators who are active during a reference period
5.	Number/percent of health workers trained to provide adolescent and youth-friendly services
6.	Percent service delivery points providing youth friendly services
7.	Sexual and reproductive health education curriculum conformity to "best practices"
8.	Number/percent of schools offering comprehensive sex education
9.	Percent of adults in community who have a favorable view of the program
10.	Percent of adolescents aware of the program
11.	Number/percent of adolescents served or reached by the program
12.	*Sexual and reproductive health knowledge*
13.	Percent of adolescents who have "positive" attitudes toward key sexual and reproductive health issues
14.	*Percent of adolescents who are confident that they could refuse sex if they didn't want it*
15.	*Percent of adolescents who are confident that they could get their partner(s) to use contraceptives/condoms if they desired*
16.	*Percent of youth who believe they could seek sexual and reproductive health information and services if they needed them*
17.	*Use of specified sexual and reproductive health services by young people*
18.	*Age at first intercourse*
19.	*Percent adolescents who have ever had sex*
20.	Number/percent of adolescents who have experienced coercive or forced sex
21.	Number of youth who have ever received money or other form of exchange for sex
22.	*Age mixing in sexual partnerships among young women*
23.	*Number of sexual partners among sexually active adolescents during a specified reference period*
24.	*Percent of adolescents who were ever diagnosed and treated for an STI* [1]
25.	Percent of girls vaccinated with 3 doses of HPV vaccine by age 15 years
26.	*HIV prevalence among young people (15-24)*
27.	*Condom availability for young people (15-24)*
28.	*Percent of sexually active young people who used a condom at first/last sex*
29.	*Percent of sexually active, unmarried adolescents who consistently use condoms*
30.	Percent of adolescents who regularly use drugs/alcohol
31.	Percent of adolescents who feel "connected" with their parents/family

(Continued...)

Appendix 1. – *Continued*

Indicators	
32.	*Percent of sexually active young people who used contraception at first/last sex*
33.	*Contraceptive prevalence rate among young people*
34.	*Unmet need for family planning among adolescents*
35.	*Percent of adolescents who have ever been pregnant* or caused a pregnancy
36.	*Antenatal care use at age less than 20 years*
37.	*Adolescent birth rate*

Source: MEASURE Evaluation PRH 2013.

Note: Indicators for which information is obtained in standard DHS household surveys are shown in italics.

[1]Information on experience of STI/STI symptoms and treatment behavior obtained for 12-month period before the DHS survey.

Appendix 2. Quantitative Indicators for Assessing the World Programme of Action for Youth

Priority areas	Core indicators	Supplementary indicators
Education	1. *Youth literacy rates, each sex* (MDG 2.3) 2. Transition rate from primary education to secondary education, each sex 3. *Gross enrolment ratio in secondary education, each sex* 4. *Enrolment rates of youth* 5. Gross graduation ratio for upper secondary education, each sex 6. *Gross enrolment ratio in tertiary education, each sex*	1. Proficiency in reading, mathematics and in science, each sex 2. *Educational attainment of the population 15-24 years*
Employment	7. Youth unemployment rate, each sex 8. Ratio of youth to adult unemployment rates 9. Youth labor force participation rate, each sex 10. Youth neither in education nor employment (NEET), each sex, urban and rural 11. Working poor youth, each sex (MDG 1.6)	3. Youth employment-to-population ratio 4. Youth in vulnerable employment
Poverty and hunger	12. Percentage of young people living in extreme poverty (MDG 1.1) /below national poverty lines 13. *Percentage of youth deprived of adequate shelter, each sex* 14. *Percentage of youth deprived of sanitation, urban and rural (MDG 7.9)* 15. *Percentage of youth deprived of protected water supply, urban and rural (MDG 7.8)*	5. *Access to electricity* 6. Access to transportation

(Continued...)

Appendix 2. – *Continued*

Priority areas	Core indicators	Supplementary indicators
Health*	16. Youth mortality due to road traffic injuries, violent causes (homicide and conflict- related) and self-inflicted injury (suicide), each sex 17. Maternal mortality ratio for all women ages 15-49 (MDG 5.1) 18. *Adolescent birth rate (women age15-19) (MDG 5.4)* 19. *Proportion of births to mothers 15-24 attended by skilled health personnel, urban and rural (MDG 5.2)* 20. *Modern contraceptive use among sexually active youth 15-24 (MDG 5.3)* 21. Percentage of youth who have "binged" on alcohol one or more times during their life, each sex 22. Percentage of young people who have smoked one or more cigarettes in the past 30 days, each sex 23. *Percentage of young people considered overweight (>1 standard deviation above mean by World Health Organization guidelines), each sex*	7. *Percentage of women aged 15-24 who are married or in union and who have met their need for family planning* 8. *Percentage of youth considered underweight (>1 standard deviation below age and sex average, using World Health Organization guidelines)* 9. Percentage of youth who report being physically active for at least 60 minutes per day, in the last 7 days 10. Percentage of youth who reported any serious injuries (road traffic, violence) in last twelve months 11. *Percentage of youth 15-24 who have used health services at least once in the last 12 months*
Drug abuse	24. Annual prevalence of illicit drug use and drug dependence among youth by drug type, each sex 25. Number of youth held in custody by civil authorities in connection with drug related crimes (annual), each sex	12. Percentage of youth who report cannabis use at least once in the past month
Juvenile delinquency	26. Number of population 15-24 years in criminal detention as juveniles, each sex	
Globalization	27. Youth migrants (number and as a percentage of total youth), each sex 28. Student outbound mobility ratio at the tertiary level, each sex	
Information and communication technologies	29. Percentage of youth with daily access to a mobile telephone, urban and rural 30. Percentage of youth who used a computer at any location in the last week or month, each sex, urban and rural 31. Percentage of youth who used the Internet from any location in the last week or month, each sex (MDG 8.16)	13. Provisions for the protection of youth from harmful aspects of ICTs 14. Disaggregation of youth Internet use by location of use and by activity

(Continued...)

Appendix 2. – *Continued*

Priority areas	Core indicators	Supplementary indicators
HIV/AIDS	32. *HIV prevalence rate among youth, each sex (MDG 6.1)* 33. *Percentage of youth with comprehensive correct knowledge of HIV/AIDS, each sex (MDG 6.3)* 34. *Percentage of youth who used a condom at last high-risk sex (MDG 6.2)*	15. *Percentage of sexually active youth accessing HCT and knowing the result*

Source: United Nations 2012

Note: Indicators for which information relevant to the indicator is already obtained in standard DHS household surveys are shown in italics.