

**Guyana
Demographic
and Health
Survey
2009**

**Preliminary
Report**

**Bureau of Statistics
Georgetown, Guyana**

**Ministry of Health
Georgetown, Guyana**

**MEASURE DHS
ICF Macro
Calverton, Maryland, USA**

This report summarizes the results of the 2009 Guyana Demographic and Health Survey (2009 GDHS), implemented by the Bureau of Statistics (BOS) and the Ministry of Health, with technical assistance from ICF Macro. Funds for the survey were provided in their entirety by the local mission of the United States Agency for International Development (USAID/Guyana) under the MEASURE DHS program.

The 2009 GDHS is part of the worldwide MEASURE DHS program, which is designed to assist developing countries to collect, analyze and disseminate data on fertility, family planning, and maternal and child health.

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Ministry of Health



Guyana
Demographic and Health Survey
2009

PRELIMINARY REPORT

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CONTENTS

Page

TABLES AND FIGURES	iv
BASIC INDICATORS 2009.....	v
PEPFAR INDICATORS 2009.....	vi
1 INTRODUCTION	1
Objectives	1
Organization.....	1
Sample Design	1
Questionnaires	2
Pretest Activities, Training, and Fieldwork	3
Data Processing.....	3
Response Rates	3
2 BACKGROUND CHARACTERISTICS OF RESPONDENTS.....	6
3 FERTILITY LEVELS AND PREFERENCES.....	8
Current Fertility	8
Fertility Preferences.....	9
4 FAMILY PLANNING.....	11
5 MATERNAL AND CHILD HEALTH	14
Antenatal and Delivery Care.....	14
Vaccination Coverage.....	17
Prevalence and Treatment of Acute Respiratory Infection (ARI), Fever, and Diarrhea.....	19
Malaria Indicators	20
6 INFANT FEEDING AND NUTRITIONAL STATUS.....	24
Breastfeeding and Supplementation.....	24
Nutritional Status of Children.....	25
Prevalence of Anemia in Children and Women.....	28
Presence of Iodized Salt in the Household.....	30
7 INFANT AND CHILD MORTALITY.....	31
8 HIV/AIDS-RELATED KNOWLEDGE AND ATTITUDES	32
Knowledge of HIV/AIDS and Methods of Prevention.....	32
Multiple Sexual Partners and Higher-Risk Sex	36

TABLES AND FIGURES

	Page
Table 1.1	Sample allocation 2
Table 1.2	Results of the household and individual interviews 4
Table 1.3	Number of women and men interviewed by residence and region 5
Table 2.1	Background characteristics of respondents 6
Table 3.1	Current fertility 8
Table 3.2	Fertility preferences by number of living children..... 10
Figure 3.1	Total Fertility Rates for the Three Years Preceding the Survey, by Residence 9
Table 4.1	Current use of contraception 12
Figure 4.1	Contraceptive Use among Currently Married Women, by Residence 13
Table 5.1	Maternal care indicators for the five years preceding the survey..... 16
Table 5.2	Vaccinations at any time before the survey 18
Table 5.3	Prevalence of acute respiratory infection (ARI), fever, and diarrhea 19
Table 5.4	Treatment of acute respiratory infection (ARI), fever, and diarrhea..... 20
Table 5.5	Malaria indicators by urban-rural residence..... 22
Table 5.6	Malaria indicators by Coastal-Interior residence 23
Figure 5.1	Tetanus Vaccination and Delivery Care from a Health Professional, by Residence 15
Figure 5.2	Vaccinations at Any Time Before the Survey among Children 18-29 Months 18
Table 6.1	Breastfeeding status by child's age 25
Table 6.2	Nutritional status of children..... 27
Table 6.3	Prevalence of anemia in children and women..... 29
Table 6.4	Presence of iodized salt in household 30
Figure 6.1	Children Under Five Stunted and Underweight, by Residence..... 28
Table 7.1	Early childhood mortality 31
Table 8.1	Knowledge of AIDS..... 33
Table 8.2.1	Knowledge of HIV prevention methods by residence and region 35
Table 8.2.2	Knowledge of HIV prevention methods by demographic characteristics..... 36
Table 8.3	Multiple sexual partners and higher-risk sexual intercourse in the past 12 months: women 38
Table 8.4	Multiple sexual partners and higher-risk sexual intercourse in the past 12 months: men 39
Figure 8.1	Knowledge that Condom Use and Limiting Sexual Intercourse to One Uninfected Partner can Reduce the Risk of HIV/AIDS, by Residence and Region 35
Figure 8.2	Prevalence of Higher-risk Sexual Intercourse among Women and Men Who Had Sexual Intercourse in the Past 12 Months, by Residence and Region 40
Figure 8.3	Prevalence of Condom Use at Last Higher-Risk Sexual Intercourse among Women and Men Who Had Higher-risk Sexual Intercourse in the Past 12 Months, by Residence and Region..... 40

Fertility Levels and Preferences

Total fertility rate for three years preceding the survey (average number of children at end of reproductive life)	2.8
Percentage of women who want no more children (includes sterilized women).....	61.2
Percentage of women who want more children soon	14.0
Percentage of women who want more children later	15.5

Contraceptive Knowledge and Use among All Women and Currently Married Women

Percentage of currently married women using any method	42.5
Percentage of currently married women using modern methods	40.0

Antenatal and Delivery Care for Women with Births in the Five Years Preceding the Survey

Percentage of women who received an antenatal check-up from a health professional	92.1
Percentage of women whose last birth was protected against neonatal tetanus	33.2
Percentage of live births in the five years preceding the survey delivered by a health professional	91.9
Percentage of live births in the five years preceding the survey delivered in a health facility	89.0

Vaccinations at Any Time (from health card and mother's report)

Percentage of children age 18-29 months who received BCG vaccine at any time	94.1
Percentage of children age 18-29 months who received Pentavalent 3 vaccine at any time	84.7
Percentage of children age 18-29 months who received Polio 3 vaccine at any time	70.0
Percentage of children age 18-29 months who received MMR vaccine at any time	66.6
Percentage of children age 18-29 months who received Yellow Fever vaccine at any time	79.0
Percentage of children age 18-29 months who received all vaccines at any time ¹	47.4

Treatment for Children under Five Years of Age with Symptoms of Acute Respiratory Infection (ARI) and Diarrhea in Two Weeks Preceding the Survey

Percentage of children with symptoms of ARI for whom treatment was sought from a health facility or provider.....	65.3
Percentage of children with fever for whom treatment was sought from a health facility or provider	59.0
Percentage of children with diarrhea for whom treatment was sought from a health facility or provider	58.8
Percentage of children with diarrhea who were given a solution made from packets of oral rehydration salts (ORS)	49.8
Children with diarrhea who received oral rehydration therapy (ORT) ²	59.0

Malaria Indicators

Percentage of households with at least one Insecticide Treated Net (ITN)	25.6
Percentage of children under 5 who slept under an ITN the night before the interview	24.5
Percentage of pregnant women age 15-49 who slept under an ITN the night before the interview	30.1
Among children under age 5 with fever in the two weeks preceding the survey, percentage who took antimalarial drugs	6.4
Among children under age 5 with fever in the two weeks preceding the survey, percentage who took antimalarial drugs the same day/next day after developing fever	4.3

Infant Feeding and Nutritional Status

Percentage of children under four months exclusively breastfeeding	42.4
Percentage of children under four months breastfeeding and consuming plain water only.....	1.5
Percentage of children under four months using a bottle with a nipple	33.7
Percentage of children under five years stunted (short for their age)	18.2
Percentage of children under five years severely stunted.....	5.1
Percentage of children under five years underweight	10.5
Percentage of children under five years severely underweight	1.6
Percentage of children age 6-59 months with anemia.....	39.3
Percentage of households with adequately iodized salt ³	10.5

Mortality in the Five-Year Period Preceding the Survey (deaths per 1,000 births)

Infant mortality rate (deaths in the first year per 1,000 births).....	38
Under-five mortality rate (deaths in the first five years of life per 1,000 births).....	40

AIDS- Related Knowledge and Attitudes

	Women	Men	Total
Percentage of respondents age 15-49:			
Who have heard of AIDS	97.0	97.4	97.2
With knowledge of using condoms as a specific way to avoid AIDS	81.3	83.9	82.4
With knowledge of limiting number of partners as a specific way to avoid AIDS	82.3	84.7	83.3
With knowledge of abstaining from sexual intercourse as a specific way to avoid AIDS	78.2	77.8	78.0
Who had higher-risk sexual intercourse in the last 12 months ⁴	16.7	29.2	21.9
Using condoms at high-risk sexual intercourse in the last 12 months (among married respondents) ³	52.2	71.5	62.9

¹One dose of BCG, three doses of Pentavalent, three doses of polio OPV vaccines, two doses of MMR, and one dose of the Yellow Fever vaccine. The Pentavalent vaccine is also known as DPT+Hib+HepB.

²ORS packets, pre-packaged liquid, or recommended home fluids

³Salt containing 15 part per million (ppm) of iodine or more. Excludes households where salt was not tested.

⁴Sexual intercourse with a partner who was neither a spouse nor who lived with the respondent, among those who had sexual intercourse

Number	Indicator	Women	Men	Total
P3.4.N	Average number of medical injections per person per year	0.95	0.95	0.95
P3.5.N	Proportion of women and men age 15-49 reporting that the last health care injection was given with a syringe and needle taken from a new, unopened package	95.4	95.5	95.5
P8.8.N	Percentage of young women and men age 15-24 who both correctly identified ways of preventing the sexual transmission of HIV and who rejected major misconceptions about HIV transmission (comprehensive knowledge) ¹	54.1	46.6	51.1
P8.9.N	Percentage of never-married young people age 15-24 who have never had sexual intercourse	63.1	45.1	54.6
P8.10.N	Percentage of young women and men age 15-24 who had sexual intercourse before age 15	10.1	18.9	13.6
P8.11.N	Percentage of women and men age 15-49 who had sexual intercourse with more than one partner in the past 12 months	1.3	9.9	4.9
P8.12.N	Percentage of women and men age 15-49 who had more than one sexual partner in the past 12 months and reported use of a condom at last sexual intercourse	47.9	65.4	62.7
P8.13.N	Percentage of women and men age 15-49 with more than one ongoing sexual partnership at the point in time six months before the interview	u	u	u
P8.14.N	Percentage of women and men age 15-49 who had two or more concurrent partners within the past 12 months	u	u	u
P8.15.N	Percentage of young women age 15-19 who had nonmarital sexual intercourse with a man 10 or more years older than themselves in the past 12 months, among young women who had nonmarital sexual intercourse in the past 12 months	7.2		
P8.16.N	Percentage of never-married young people age 15-24 who had sexual intercourse in the past 12 months	29.2	45.0	36.6
P8.17.N	Percentage of youth who have ever had sexual intercourse	59.0	61.4	60.0
P8.18.N	Percentage of young people age 15-24 who used a condom the first time they ever had sex, among those who ever had sex			
	15-19	46.3	59.7	51.9
	20-24	45.5	49.6	47.2
P8.19.N	Percentage of young women and men age 15-24 who report that they could get condoms on their own	67.2	83.5	73.8
P8.20.N	Percentage of never-married young people age 15-24 who used a condom at last sexual intercourse, among all single, sexually active young people surveyed ²	58.7	79.8	70.9
P8.21.N	Percentage of adults who are in favor of young people being educated about the use of condoms in order to prevent HIV/AIDS	81.3	85.7	83.1
P8.22.N	Percentage of the general population with accepting attitudes toward people living with HIV and AIDS (PLHA)	20.1	23.9	21.7
P11.2.N	Percentage of women and men age 15-49 who received an HIV test in the past 12 months and who know their results	27.0	21.6	24.8
C5.8.N	Percentage of orphaned and vulnerable children age 0-17 whose households received free basic external support in caring for the child	u	u	u

u = Not available at the time of the preliminary report

¹ Comprehensive knowledge means knowing that consistent use of condom during sexual intercourse and having just one uninfected and faithful partner can reduce the chances of getting the AIDS virus, knowing that a healthy-looking person can have the AIDS virus, and rejecting the two most common local misconceptions about AIDS transmission or prevention. The two most common local misconceptions are that AIDS can be transmitted by mosquito bites and that a person can contract HIV by sharing food with a person who has AIDS.

² "Sexually active" means "sexual intercourse in the past year"

1 INTRODUCTION

Objectives

The 2009 Demographic and Health Survey in Guyana (**2009 GDHS**) is a nationally representative sample survey of women and men designed to provide information on fertility, family planning, child survival, and the health of women and children.

The primary objectives of the **2009 GDHS** are to collect information of the following topics:

- Characteristics of households and household members
- Fertility and reproductive preferences; infant and child mortality; and family planning
- Health-related matters such as breastfeeding, antenatal care, children's immunizations, and childhood diseases
- Marriage; sexual activity; awareness and behavior about AIDS and other sexually transmitted infections (STIs);
- The nutritional status of mothers and children.

Other objectives of the **2009 GDHS** were:

- To support dissemination and utilization of the results in planning, managing, and improving family planning and health services in the country
- To enhance the survey capabilities of the institutions involved in order to facilitate implementation of surveys of this type in the future.

Organization

The **2009 GDHS** was conducted by the Bureau of Statistics (BOS) and the Ministry of Health (MOH). ICF Macro (Macro International) of Calverton, Maryland, provided technical assistance to the project through its contract with the U.S. Agency for International Development (USAID). Funding to cover technical assistance by ICF Macro and local costs was provided in its entirety by the USAID Mission in Georgetown.

Sample Design

The sample for the **2009 GDHS** covered the population residing in private households. Administratively, Guyana is divided into 10 regions, with 71 percent of the population in rural areas. Table 1.1 shows the percent distribution of the population by urban-rural residence and region. The table also shows the number of households and clusters allocated by region and by the main sample domains—urban, rural, Coastal urban, Coastal rural, Interior. All women and men age 15-49 who were either permanent residents of the households selected for the **2009 GDHS** sample or visitors who were present in the household on the night before the survey were eligible to be interviewed in the survey.

- The rural areas of Regions 3, 4, and 6 are the most densely populated. Regions 1, 7, 8, and 9 each account for less than 4 percent of the rural population, and Region 5 accounts for 10 percent. On the other hand, Region 4 includes almost two-thirds (64 percent) of the urban population.
- A minimum of 400 households were allocated to each region. The largest number of households was allocated to Region 4 (1,600) and Region 6 (1,000). Around 600-650 households were allocated to each of Regions 2, 3, and 10.
- Out of a total of 6,590 households selected for the survey, around 3,000 were allocated to the Coastal rural domain.

Table 1.1 Sample allocation

Percent distribution of the population by urban-rural residence, the number of households allocated by main sample domains, and the number of primary sampling units allocated by main sample domains, according to region, Guyana 2009

Region	Population distribution		Number of households allocated				Number of primary sampling units			
	Urban	Rural	Coastal urban	Coastal rural	Interior	Total	Coastal urban	Coastal rural	Interior	Total
Region 1		4.4			400	400			20	20
Region 2	5.8	6.8	230	410		640	12	20		32
Region 3		19.4		650		650		33		33
Region 4	63.6	32.6	755	845		1,600	38	42		80
Region 5		9.9		500		500		25		25
Region 6	17.0	16.4	394	606		1,000	20	30		50
Region 7		3.0			400	400			20	20
Region 8		1.8			400	400			20	20
Region 9		3.7			400	400			20	20
Region 10	13.7	1.9	378		222	600	19		11	30
Total	100.0	100.0	1,757	3,011	1,822	6,590	88	151	91	330

Questionnaires

Three questionnaires were used for the **2009 GDHS**: the Household Questionnaire, the Women's Questionnaire and the Men's Questionnaire. The content of these questionnaires was based on the model questionnaires developed by the MEASURE DHS program. In consultation with USAID/Guyana, technical institutions, and local and international organizations, the content of the model questionnaires was modified to reflect relevant issues in population, family planning, and other health issues in Guyana.

The Household Questionnaire is used to list all the usual members and visitors in the selected households:

- Basic information is collected on the characteristics of each person listed including age, sex, education, and relationship to the head of the household. As a result, women and men who are eligible for the individual interview can be identified.
- Characteristics of the household's dwelling unit, such as the source of water, type of toilet facilities, materials used for the floor of the house, ownership of various durable goods, and ownership and use of mosquito nets.
- Height and weight measurements of women age 15-49 and children under the age of six, as well as the results of anemia testing.

The Women's Questionnaire is used to collect information from all women age 15-49. Eligible women were asked questions on the following topics:

- Background characteristics (e.g., education, residential history, media exposure)
- Birth history
- Knowledge and use of family planning methods
- Fertility preferences
- Antenatal and delivery care for children born since January 2004
- Breastfeeding and infant feeding practices
- Vaccinations and illnesses for children born since January 2004
- Marriage and sexual activity
- Woman's work and husband's background characteristics
- Childhood mortality
- Awareness and behavior regarding AIDS and other sexually transmitted infections (STIs)

The Men's Questionnaire was administered to all men age 15-49 living in households included in the **2009 GDHS** sample. The Men's Questionnaire collected information similar to that of the Women's questionnaire but was shorter because it did not include the reproductive history or questions on maternal and child health and nutrition.

- Background characteristics (e.g., education, residential history, media exposure)
- Reproduction and basic health questions about last birth
- Knowledge and use of family planning methods
- Fertility preferences
- Marriage and sexual activity
- Employment and gender roles
- Awareness and behavior regarding AIDS and other sexually transmitted infections (STIs).

Pretest Activities, Training, and Fieldwork

A training of trainers took place in early December, 2008. One hundred and twelve candidates (50 men and 62 women) participated in the main survey training of interviewers, supervisors and field editors which took place December 9-19, 2008 and January 12-22, 2009. Special training sessions for supervisors and editors were conducted January 19-21. All participants received training in interviewing techniques and became acquainted with the contents of the survey questionnaires. The training was conducted following standard DHS procedures and included class presentations, mock interviews, and tests in which the actual GDHS questionnaires were used. During the last week of January, selected participants (the editors in each team) received instruction on the use of measuring boards and scales for collecting anthropometric measurements (height and weight) of women and young children and on how to conduct anemia testing. Because the beginning of fieldwork was delayed, a refresher training course was conducted February 24-26, 2009.

Data collection for the **2009 GDHS** took place over a five-month period from March 1, 2009 to late July 2009 and was carried out by 16 interviewing teams. In total, 96 fieldworkers completed work first in the Coastal enumeration districts (regions 2, 3, 4, 5, and 10). Later, 60 were selected to work in the Interior (regions 1, 7, 8, 9, and 10). Each team consisted of one team supervisor, one field editor, two female and two male interviewers, and one driver. Bureau of Statistics staff was responsible for coordinating and supervising fieldwork activities. Two nurses supervised the anthropometry and anemia testing. ICF Macro staff participated in the survey, assisting with questionnaire design, training for data collection, data processing and tabulation, field supervision of interviews, and training in anthropometry and anemia testing.

Data Processing

The processing of the GDHS questionnaires began March 16, 2009, shortly after the beginning of fieldwork. Completed questionnaires were periodically submitted to BOS offices in Georgetown, where they were edited by data processing personnel who had been trained specifically for this task by ICF Macro staff. Data processing was done concurrently with fieldwork using CSPRO, a program specially developed for use in complex surveys. The concurrent processing of the data was an advantage because field check tables were produced periodically to advise field teams of any problems that were detected during data processing. Data processing was completed in late August, 2009.

Response Rates

The number of households selected, occupied, and interviewed; the number of eligible respondents (women and men) interviewed; and response rates (percentage of interviews) for the whole country (10 regions) are shown in Table 1.2.

- Out of 6,042 households occupied, a total of 5,632 households were interviewed, for a response rate of 93 percent.
- In the households interviewed, a total of 5,547 eligible women were identified. Interviews were completed with 4,996 of these women, for a response rate of 90 percent.
- Out of 4,553 eligible men identified in the same households, only 3,522 men were successfully interviewed, for a response rate of 77 percent.
- The primary reason for nonresponse among eligible women and men was the failure to find individuals at home despite repeated visits to the household. The substantially lower response rate for men reflects the more frequent and longer absences of men from the household, principally related to employment and lifestyle activities.

Table 1.2 Results of the household and individual interviews

Number of households and individual interviews, and response rates (percentage of interviews), according to residence and region, Guyana 2009

Residence and region	Households				Women			Men		
	Number of households selected	Number of households occupied	Number of households interviewed	Household response rate	Number of eligible women	Number of eligible women interviewed	Women response rate	Number of eligible men	Number of eligible men interviewed	Men response rate
Residence										
Urban	1,779	1,670	1,518	90.9	1,558	1,420	91.1	1,230	1,013	82.4
Georgetown	760	694	598	86.2	614	554	90.2	485	394	81.2
Other	1,019	976	920	94.3	944	866	91.7	745	619	83.1
Rural	4,597	4,372	4,114	94.1	3,989	3,576	89.6	3,323	2,509	75.5
Coastal										
Urban	4,714	4,477	4,123	92.1	4,078	3,738	91.7	3,378	2,697	79.8
Urban	1,779	1,670	1,518	90.9	1,558	1,420	91.1	1,230	1,013	82.4
Rural	2,935	2,807	2,605	92.8	2,520	2,318	92.0	2,148	1,684	78.4
Interior	1,662	1,565	1,509	96.4	1,469	1,258	85.6	1,175	825	70.2
Region										
1	387	383	370	96.6	345	287	83.2	288	179	62.2
2	623	605	574	94.9	534	505	94.6	438	386	88.1
3	645	609	565	92.8	564	520	92.2	423	326	77.1
4	1,600	1,491	1,319	88.5	1,314	1,179	89.7	1,111	861	77.5
5	489	479	452	94.4	431	404	93.7	393	319	81.2
6	977	937	881	94.0	881	817	92.7	771	614	79.6
7	367	351	334	95.2	330	290	87.9	221	165	74.7
8	308	304	302	99.3	302	256	84.8	248	169	68.1
9	382	335	322	96.1	317	280	88.3	261	195	74.7
10	598	548	513	93.6	529	458	86.6	399	308	77.2
Total	6,376	6,042	5,632	93.2	5,547	4,996	90.1	4,553	3,522	77.4

The weighted and unweighted numbers of women and men in the **2009 GDHS** are shown in Table 1.3. The weighted numbers are shown because weighting is necessary for the calculation of most indicators—percent distributions, percentages, and rates. This is because the sample was not allocated by region according to the actual distribution of the population. Instead, the sample was allocated in such a way as to provide a sufficient number of respondents for each region to allow calculation of most survey variables at the regional level. The unweighted numbers are the actual number of interviews. Some subgroups shown may include comparatively small numbers of respondents (e.g., respondents with no education and those in some religious and ethnic groups). In some tables in this report, estimates for these subgroups are not shown if the unweighted number of cases is less than 25, and estimates based on 25 to 49 unweighted cases are shown preceded by a parenthesis.

- Although only 1,179 women were interviewed in Region 4, they end up representing 2,168 in the total sample. On the other hand, the 280 women interviewed in Region 9 will only represent 78 in the total sample.
- The regional distribution of the population shows no marked differences by sex, with around 30 percent of women and men living in urban areas (two-thirds in Georgetown). Approximately 90 percent of the population (both sexes) lives in Coastal areas and two-thirds in rural areas.

Table 1.3 Number of women and men interviewed by residence and region
Percent distribution of women age 15-49 and men age 15-49, by residence and region, Guyana 2009

Residence and region	Women			Men		
	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number
Residence						
Urban	29.5	1,475	1,420	27.0	949	1,013
<i>Georgetown</i>						
<i>urban</i>	19.4	967	554	17.6	619	394
<i>Other urban</i>	10.2	508	866	9.4	330	619
Rural	70.5	3,521	3,576	73.0	2,573	2,509
Coastal	90.0	4,495	3,738	88.7	3,126	2,697
Urban	29.5	1,475	1,420	27.0	949	1,013
Rural	60.4	3,019	2,318	61.8	2,176	1,684
Interior	10.0	501	1,258	11.3	396	825
Region						
Region 1	3.2	162	287	4.5	160	179
Region 2	5.9	293	505	5.1	179	386
Region 3	13.8	687	520	11.9	420	326
Region 4	43.4	2,168	1,179	43.7	1,540	861
Region 5	7.1	353	404	7.7	271	319
Region 6	15.6	780	817	16.7	587	614
Region 7	2.1	104	290	1.7	61	165
Region 8	1.9	95	256	1.9	68	169
Region 9	1.6	78	280	1.6	57	195
Region 10	5.6	277	458	5.1	178	308
Total	100.0	4,996	4,996	100.0	3,522	3,522

2 BACKGROUND CHARACTERISTICS OF RESPONDENTS

A description of the background characteristics of the women and men interviewed in the 2009 GDHS is essential for interpreting the findings presented in this report. Regarding age, respondents were asked two questions in the individual interview to assess their age: "In what month and year were you born?" and "How old were you at your last birthday?" Interviewers were trained in probing techniques for situations in which respondents did not know their age or date of birth; and as a last resort, interviewers were instructed to record their best estimate of the respondent's age.

Table 2.1 shows the percent distribution of respondents by age, marital status, education, religion, and ethnic group. Weighted and unweighted numbers are shown; the unweighted numbers refer to the actual number of interviews.

Background characteristic	Women			Men		
	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number
Age						
15-19	20.3	1,016	1,016	19.6	689	720
20-24	15.4	767	775	14.5	511	497
25-29	13.2	658	658	13.1	462	460
30-34	12.9	643	661	14.8	521	487
35-39	14.0	699	697	13.3	470	482
40-44	12.5	624	624	13.0	457	463
45-49	11.8	589	565	11.7	413	413
Marital status						
Never married	30.8	1,540	1,512	39.2	1,382	1,377
Married	33.8	1,687	1,803	30.6	1,078	1,159
Living together	24.7	1,233	1,203	21.5	757	725
Divorced/separated	9.1	454	398	8.3	291	247
Widowed	1.6	82	80	0.4	14	14
Education						
No education	1.4	68	81	1.7	60	56
Primary	19.1	952	1,042	20.2	711	741
Secondary	71.4	3,568	3,500	69.8	2,459	2,451
More than secondary	8.2	409	373	8.3	292	274
Religion						
Christian	66.2	3,306	3,520	55.5	1,956	2,095
Hindu	26.2	1,307	1,137	31.4	1,106	981
Muslim	6.1	306	271	8.0	282	262
Rastafarian	0.2	12	7	1.2	42	38
Not religious	1.1	53	48	3.5	123	131
Other	0.1	4	6	0.3	11	12
Missing	0.1	6	7	0.1	3	3
Ethnic group						
African	29.5	1,475	1,242	26.5	933	848
Indian	43.4	2,168	1,847	49.6	1,748	1,557
Amerindian	9.0	449	932	8.2	291	561
Portuguese	0.1	5	7	1.1	38	26
Chinese	0.0	2	3	0.1	2	3
Mixed	17.9	892	959	14.3	504	520
Other	0.1	3	2	0.1	4	6
Missing	0.0	2	4	0.0	2	1
Total	100.0	4,996	4,996	100.0	3,522	3,522

Note: Education categories refer to the highest level of education attended, whether or not that level was completed.

- According to Table 2.1, the size of age groups for both sexes decreases with increasing age, reflecting the young age structure of the population of Guyana. Respondents age 15-19 represent one-fifth of the total 15-49 population.
- About one-third of women and men are currently married and an additional one in four women and one in five men are in “informal” unions. As a result, 58 percent of women and 52 percent of men are in union.
- The proportion never-married is higher for men (39 percent) than for women (31 percent). The difference can be attributed to the older age at first marriage among males compared with females. Eleven percent of women and 9 percent of men are divorced, separated, or widowed.
- About one-fifth of women and men have completed primary education. Seven in 10 respondents have attended secondary school, and 8 percent of both women and men have more than secondary education.
- The largest ethnic group in Guyana is Indians: 43 percent of women and 50 percent of men are of Indian descent. More than one-quarter of respondents are in the African ethnic group (30 percent of women and 27 percent of men), and slightly less than 10 percent of respondents reported that they are Amerindian. Eighteen percent of women and 14 percent of men said they are of mixed ethnic background.

3 FERTILITY LEVELS AND PREFERENCES

The fertility measures presented in this section are based on the reported reproductive histories of women age 15-49 interviewed in the 2009 GDHS. Each woman was asked the number of sons and daughters living with her, the number living elsewhere, and the number who had died. She was then asked for a history of all her births, including the month and year each child was born, the name, and the sex; if the child was deceased, she was asked the age at death, and if the child was alive, she was asked the current age and whether he/she was living with the mother. On the basis of this information, fertility measures for age-specific fertility, total fertility, and completed fertility (number of children ever born to women age 40-49) can be calculated.

Current Fertility

The current level of fertility is important because of its direct relevance to population policies and programs. Age-specific fertility rates (births per 1,000 women) are presented in Table 3.1 for the country as a whole and for urban and rural areas. Rates for the three years preceding the survey were calculated to provide the most current information, to reduce sampling errors, and to avoid problems noted in some surveys of the displacement of births from five to six years before the survey.

Numerators for the age-specific fertility rates in Table 3.1 are calculated by isolating live births that occurred in the period 1-36 months preceding the survey (determined from the date of interview and date of birth of the child) and classifying them by age of the mother at the time of birth. The denominators for the rates are the number of woman-years lived in each of the specified five-year age groups during the period 1-36 months preceding the survey. The sum of the age-specific fertility rates, i.e., the total fertility rate (TFR), represents the current level of fertility in Guyana (see Figure 3.1).

The numerator for the general fertility rate (GFR) is the total number of births in the period, including births to women under 15 and 45-49. The denominator is the number of woman-years lived between the ages of 15 and 44 during the period. The crude birth rate (CBR) is calculated by summing the product of the age-specific rates multiplied by the proportion of women in the specific age group out of the total de facto population, male and female, listed in the households included in the sample.

Table 3.1 Current fertility

Age-specific and total fertility rates, the general fertility rate, and the crude birth rate for the three years preceding the survey, by residence, Guyana 2009

Age group/rate	Urban-rural residence				Coastal-Interior residence				Total
	Urban			Total rural	Coastal			Total Interior	
	Total urban	Georgetown urban	Other urban		Total Coastal	Coastal urban	Coastal rural		
15-19	50	53	41	123	83	50	99	238	101
20-24	119	106	147	180	149	119	162	282	163
25-29	94	67	133	125	102	94	105	228	116
30-34	96	105	78	104	87	96	83	246	102
35-39	60	62	56	53	48	60	42	129	55
40-44	7	9	4	16	9	7	10	58	13
45-49	0	0	0	6	3	0	5	18	4
Total fertility rate ¹	2.1	2.0	2.3	3.0	2.4	2.1	2.5	6.0	2.8
General fertility rate ²	69	66	74	105	81	69	87	210	94
Crude birth rate ³	17	17	18	24	20	17	21	42	23

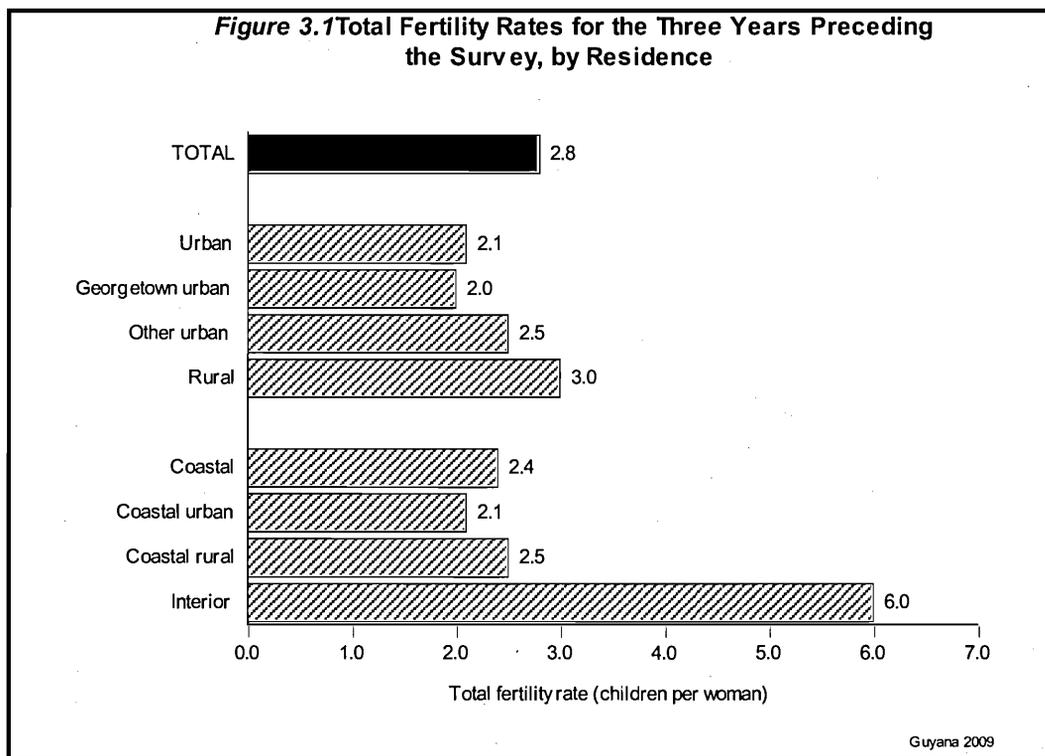
Note: Rates are for the period 1-36 months preceding the survey. Rates for age group 45-49 may be slightly biased due to truncation.

¹ Total fertility rate for ages 15-49, expressed per woman

² General fertility rate for ages 15-44, expressed per 1,000 women

³ Crude birth rate, expressed per 1,000 population

- According to Table 3.1, if fertility were to remain constant in Guyana, women would bear, on average, 2.8 children by the end of their reproductive span.
- Fertility is close to replacement level in urban areas (2.1 children per woman), higher in the rural areas (3.0 children per woman), and substantially higher in the Interior (6.0 children per woman). The higher TFR for women in the Interior is seen for all age groups.



Fertility Preferences

In the 2009 GDHS several questions were asked to ascertain women's fertility preferences: their desire to have a (or another) child, the length of time they wanted to wait before having a child, and the number of children they consider to be ideal. In combination with information on contraceptive use, the survey results can be used to estimate unmet need and the demand for family planning, either to space or to limit births.

Women were asked, "Would you like to have another child or would you prefer not to have any more children?" If they wanted another child, they were asked, "How long would you like to wait from now before the birth of another child?" These questions were appropriately phrased if the woman had not yet had any children, and if the woman was pregnant, she was asked about her desire for more children after the baby she was expecting. Women who have been sterilized for contraceptive purposes were classified as wanting no more children. The results on fertility preferences are shown in Table 3.2 by number of living children.

- More than half of all women (56 percent) reported not wanting more children, and another 5 percent are sterilized. The proportion of women who reported not wanting more children increases with the number of living children, from 21 percent among women with one child to 81 percent among women with six or more children.
- Among women with six or more children, a total of 96 percent reported that they are sterilized or want no more children.

- One-third (32 percent) of currently married women want to have another child; the women are about equally divided between those wanting to have another child soon (14 percent) and those wanting to wait two or more years (15 percent), with 3 percent undecided when.
- The proportion of women who want to have another child soon decreases rapidly from two-thirds (66 percent) among those with no children to one-fourth (24 percent) among women with one child to 8 percent among women with two children.

Desire for children	Number of living children ¹							Total
	0	1	2	3	4	5	6+	
Have another soon ²	66.1	23.8	7.9	3.8	3.6	2.8	1.9	14.0
Have another later ³	16.3	42.9	15.3	7.0	4.2	1.8	0.3	15.5
Have another, undecided when	6.9	4.5	3.4	1.2	1.0	1.1	0.3	2.8
Undecided	2.9	5.4	6.6	4.4	3.2	1.1	0.7	4.3
Want no more	3.8	20.6	62.7	72.5	77.0	83.7	80.7	55.9
Sterilized ⁴	0.0	0.9	2.2	8.6	8.6	8.8	15.2	5.3
Declared infecund	4.1	1.5	1.1	1.9	2.3	0.4	0.8	1.7
Missing	0.0	0.5	0.7	0.6	0.1	0.2	0.1	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	265	552	719	625	336	190	232	2,920

¹ Includes current pregnancy
² Wants next birth within 2 years
³ Wants to delay next birth for 2 or more years
⁴ Includes both female and male sterilization

4 FAMILY PLANNING

The prevalence of contraceptive use is the indicator most commonly used to measure the success of family planning programs, and it is widely recognized as one of the main determinants of fertility. Table 4.1 shows levels of contraceptive use among currently married women in Guyana by residence, region, age, education, and number of living children. The results in Table 4.1 permit an examination of differences in the method mix among current users of contraception in various subgroups. Contraceptive use is summarized in Figure 4.1 by place of residence.

- Forty-three percent of women who are currently married or in union are currently using a contraceptive method: modern methods (40 percent) and traditional methods (3 percent). The methods most commonly used are the male condom (13 percent), the pill (9 percent), and the IUD (7 percent). Female sterilization and injectables are each used by 5 percent of women. The 2009 prevalence rate of 43 percent represents an increase of eight percentage points since 2005 (35 percent). Most of the increase was in condom use, injectables, and female sterilization; pill use actually declined by three percentage points.
- The level of contraceptive use increases with the level of education from 22 percent among women with no education to 46 percent among women with more than secondary education. The level of use increases initially with the number of living children (up to 4 children). Similarly, the level of use increases with women's age, from 30 percent among women age 15-19 to a maximum of 50 percent among women age 30-34.
- The prevalence of contraceptive use is similar in urban and rural populations in the Coastal area (43 and 44 percent, respectively), but it is much lower in the Interior (31 percent). The method mix in these urban and rural populations is slightly different: rural women are more likely to use the condom, the pill, and the IUD (13, 12, and 8 percent, respectively) while urban women are more likely to use the condom, the IUD, and female sterilization (18, 8, and 7 percent, respectively).
- Condoms are the contraceptive method preferred by the most educated women (18 percent) while women with five or more children prefer sterilization (13 percent).

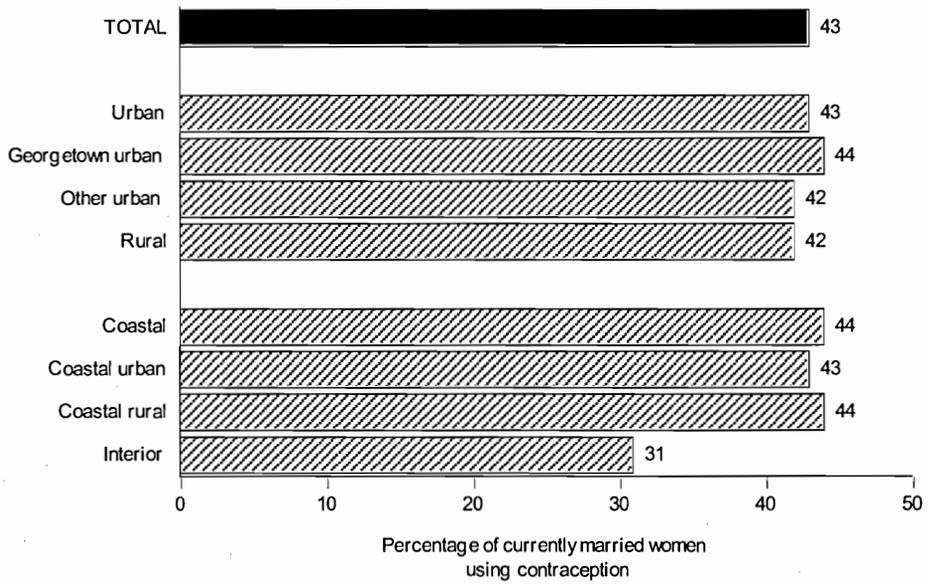
Table 4.1 Current use of contraception

Percentage of currently married women using specific contraceptive methods, by background characteristics, Guyana 2009

Background characteristic	Modern method									Traditional method				Not using a method	Number of women
	Using any method	Any modern method	Female sterilization	Pill	IUD	Injections	Implants	Condom	LAM	Any traditional method	Periodic abstinence	Withdrawal	Folk method		
Residence															
Urban	43.0	40.4	7.0	4.5	7.9	2.7	0.0	18.0	0.0	2.6	0.8	1.8	0.1	57.0	649
Georgetown urban	43.5	40.8	5.5	2.6	9.8	2.7	0.0	20.3	0.0	2.7	0.8	1.9	0.0	56.5	392
Other urban	42.2	39.6	9.3	7.4	5.1	2.7	0.0	14.6	0.0	2.6	0.8	1.6	0.2	57.8	257
Rural	42.3	39.8	4.8	10.5	7.2	5.4	0.3	11.4	0.3	2.5	0.7	1.3	0.5	57.7	2,271
Coastal	44.0	41.4	5.5	9.7	8.1	3.7	0.2	13.9	0.2	2.6	0.7	1.5	0.4	56.0	2,562
Urban	43.0	40.4	7.0	4.5	7.9	2.7	0.0	18.0	0.0	2.6	0.8	1.8	0.1	57.0	649
Rural	44.4	41.8	5.0	11.5	8.2	4.0	0.3	12.5	0.3	2.6	0.7	1.3	0.5	55.6	1,913
Interior	31.4	29.3	3.6	5.0	1.8	12.8	0.1	5.8	0.1	2.1	0.8	0.8	0.5	68.6	357
Region															
Region 1	22.2	20.7	2.2	8.0	1.1	5.5	0.3	3.4	0.3	1.6	0.3	0.9	0.4	77.8	128
Region 2	40.8	38.2	8.6	5.7	9.6	5.6	0.0	8.7	0.0	2.6	0.7	1.7	0.2	59.2	192
Region 3	49.6	46.3	3.5	13.4	9.9	3.5	0.8	14.8	0.0	3.3	1.8	0.7	0.9	50.4	424
Region 4	41.1	38.7	4.6	6.8	7.5	2.8	0.2	16.5	0.3	2.4	0.5	1.7	0.2	58.9	1,121
Region 5	48.4	46.4	5.0	13.8	10.9	5.8	0.0	10.9	0.0	2.0	0.0	2.0	0.0	51.6	218
Region 6	44.3	41.7	7.0	13.5	7.1	3.7	0.0	9.8	0.3	2.7	0.5	1.3	0.8	55.7	523
Region 7	34.6	29.8	1.6	2.2	5.2	12.1	0.0	8.7	0.0	4.8	3.2	1.1	0.5	65.4	65
Region 8	43.8	43.8	6.8	3.1	1.5	26.0	0.0	6.4	0.0	0.0	0.0	0.0	0.0	56.2	71
Region 9	18.6	15.0	1.6	2.3	0.5	5.6	0.3	4.6	0.0	3.6	0.6	1.1	1.9	81.4	57
Region 10	50.4	48.2	11.9	6.4	2.3	11.1	0.0	16.4	0.0	2.2	1.2	1.1	0.0	49.6	121
Age															
15-19	29.8	29.8	2.8	6.1	0.6	3.5	0.0	16.6	0.0	0.0	0.0	0.0	0.0	70.2	166
20-24	38.7	36.2	0.6	8.9	3.3	6.9	0.0	15.2	1.4	2.5	0.8	1.6	0.1	61.3	398
25-29	42.8	40.3	2.6	10.8	8.1	6.8	0.2	11.7	0.0	2.5	0.5	2.0	0.0	57.2	458
30-34	50.4	48.3	2.3	11.7	9.1	7.2	0.0	17.8	0.1	2.1	0.3	1.3	0.5	49.6	492
35-39	46.9	44.3	5.8	10.9	9.9	4.9	0.3	12.5	0.0	2.6	0.2	1.7	0.7	53.1	517
40-44	45.7	41.9	10.4	9.9	7.1	2.2	0.4	11.5	0.0	3.8	1.6	1.1	1.1	54.3	460
45-49	32.7	30.0	10.8	3.1	8.0	0.9	0.3	7.0	0.0	2.7	1.5	1.0	0.2	67.3	429
Education															
No education	21.9	20.5	1.7	1.2	2.8	4.9	0.0	9.9	0.0	1.4	0.0	0.0	1.4	78.1	62
Primary	40.4	38.3	7.0	8.3	6.5	4.5	0.3	11.3	0.3	2.2	0.3	1.5	0.4	59.6	746
Secondary	43.6	41.2	4.9	10.3	7.5	4.9	0.2	13.1	0.2	2.4	0.8	1.2	0.4	56.4	1,938
More than secondary	46.3	39.9	3.5	2.6	10.8	4.7	0.0	18.3	0.0	6.4	2.5	3.9	0.0	53.7	173
Number of living children															
0	15.9	12.4	0.0	2.6	0.0	0.7	0.0	9.1	0.0	3.5	1.0	2.4	0.0	84.1	311
1-2	42.1	39.9	1.7	9.6	7.0	4.4	0.0	16.8	0.3	2.2	0.5	1.2	0.5	57.9	1,260
3-4	50.5	47.6	8.7	11.3	10.5	5.2	0.5	11.0	0.2	2.9	1.0	1.4	0.5	49.5	935
5+	45.5	43.6	12.6	7.9	6.6	8.1	0.3	8.0	0.0	1.9	0.7	0.9	0.3	54.5	414
Total 2009	42.5	40.0	5.3	9.2	7.3	4.8	0.2	12.9	0.2	2.5	0.7	1.4	0.4	57.5	2,920
Total 2005	34.6	33.6	3.0	12.2	7.6	3.8	0.1	6.1	0.1	1.0	0.7	0.1	0.1	65.4	1,414

Note: If more than one method is used, only the most effective method is considered in this tabulation. Currently married includes respondents in consensual union (living together)
LAM = Lactational amenorrhea method

Figure 4.1 Contraceptive Use among Currently Married Women, by Residence



Guyana 2009

5 MATERNAL AND CHILD HEALTH

This chapter presents findings in four areas of maternal and child health: maternal care (antenatal and delivery), children's vaccinations, common childhood illnesses and their treatment, and malaria indicators. In the **2009 GDHS**, information was collected on all live births that occurred since January 2004, roughly a five-year period preceding the survey. For maternal care, if more than one source of care was reported for a pregnancy, the interviewer was instructed to record all responses, but only the provider with the highest qualifications was considered in the tabulations.

Vaccination coverage is shown for children age 18-29 months by type of vaccinations received at any time prior to the survey. Differences in vaccination coverage between subgroups of the population are useful in planning immunization programs.

Information was collected on treatment practices and contact with health services among children with three common childhood illnesses—diarrhea, acute respiratory infection (ARI), and fever. The results are useful for assessing the impact of national programs aimed at reducing the impact of these three illnesses. Treatment rates for diarrhea with oral rehydration therapy or increased fluids can be used to measure the success of health programs that encourage these practices. Likewise, information on the prevalence and treatment of ARI and fever is useful in assessing coverage of health services and in planning how they can be improved.

The following malaria indicators are included at the end of this section: possession and use of mosquito nets, preventive malaria treatment during pregnancy, and treatment of children with fever using antimalarial drugs.

Antenatal and Delivery Care

The findings on antenatal care (ANC) are presented according to the type of provider, number of ANC visits, the stage of pregnancy at time of first ANC visit, and the contents of the antenatal care. The contents of antenatal care include provision of information on the signs of pregnancy complications and where to go if complications occur, and whether the woman was given a tetanus toxoid vaccination and the number of doses received. A baby is considered protected against neonatal tetanus if the mother received two doses of tetanus toxoid during pregnancy. However, if a woman was vaccinated during a previous pregnancy, she may only require one dose for the current pregnancy, depending on the number of injections she has ever received and the timing of the last injection.

Delivery services are shown according to the type of person assisting at delivery and the place of delivery. Coupled with information on neonatal and infant mortality rates, this information can be used to identify subgroups of women whose live births are "at risk" because of nonuse of maternal health services and to provide information to improve services.

The Women's Questionnaire also includes questions on children delivered by C-section, prematurity, birth weight, and the size of the infant at birth. This information is useful for programs aimed at decreasing infant mortality through the reduction of low birth weight infants. The results, however, are not included in this preliminary report.

Selected indicators on antenatal care for the most recent birth and delivery care for births in the five years preceding the survey are shown in Table 5.1 by background characteristics and in Figure 5.1 by place of residence. Antenatal care indicators for the most recent birth include the percentage of women who received a checkup from a health professional and the percentage whose last live birth was protected against neonatal tetanus. Delivery care indicators (for all births) include the percentage of live births in the five years preceding the survey delivered by a health professional and the percentage delivered in a health facility.

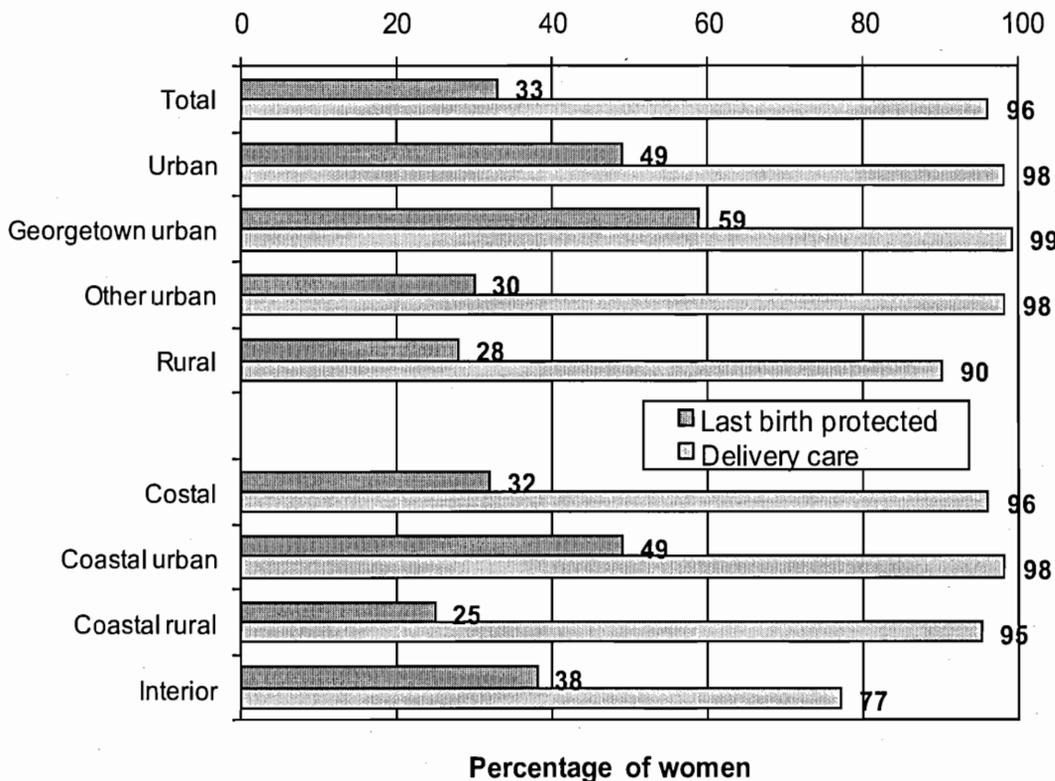
Antenatal care from a health professional

- Among women who had a birth in the five years preceding the survey, 92 percent received antenatal care from a health professional for their most recent birth. Older mothers (35+ years) are less likely to receive antenatal care than younger mothers. While 86 percent of women with no education received antenatal care from a health professional, 95 percent of women with more than secondary education received antenatal care.
- Urban women are more likely than rural women to have received antenatal care from a health professional (98 and 90 percent, respectively). Antenatal care was received by only 78 percent of women in the Interior.

Protection against neonatal tetanus

- Among women who had a birth in the five years preceding the survey, 33 percent of last births were protected against neonatal tetanus. Coverage increases with mother's age and level of education. For example, among mothers under 20 years, 29 percent of last births were protected, compared with 39 percent of births to women age 35 years or older.
- Protection against neonatal tetanus is much higher in urban areas than in rural areas (49 and 28 percent, respectively). However, in urban areas outside of Georgetown, only 30 percent of births are protected against neonatal tetanus.

Figure 5.1 Tetanus Vaccination and Delivery Care from a Health Professional, by Residence



Delivery care for all births

- Overall, 89 percent of births in the five years preceding the survey were delivered in a health facility and 92 percent were assisted by trained medical personnel. For births in rural areas, delivery in a health facility is ten percentage points lower than for births in urban areas (87 and 97 percent, respectively). In the Interior, only 71 percent of births are delivered in a health facility.
- The differentials by education are greater for delivery care than for antenatal care. Although antenatal and delivery care are almost universal for women with more than secondary education (95 and 98 percent, respectively), only 71 percent of births to women with no education were delivered by a health professional whereas 86 percent of the same women received antenatal care from a health professional.

Table 5.1 Maternal care indicators for the five years preceding the survey

Percentage of women who had a live birth in the five years preceding the survey who received antenatal care from a health professional for the last live birth and whose last live birth was protected against neonatal tetanus; and among all live births in the five years before the survey, percentage delivered by a health professional and percentage delivered in a health facility, by background characteristics, Guyana 2009

Background characteristic	Antenatal care for most recent birth			Delivery care for all births		
	Percentage with antenatal care from a health professional ¹	Percentage whose last live birth was protected against neonatal tetanus ²	Number of women with a live birth	Percentage delivered by a health professional ¹	Percentage delivered in a health facility	Number of births in the past five years
Residence						
Urban	98.0	48.7	346	98.2	97.2	425
<i>Georgetown urban</i>	98.8	59.1	223	98.5	97.2	265
<i>Other urban</i>	96.6	29.8	123	97.7	97.1	159
Rural	90.1	28.2	1,080	90.1	86.7	1,462
Coastal	95.2	32.2	1,160	96.2	94.0	1,477
<i>Urban</i>	98.0	48.7	346	98.2	97.2	425
<i>Rural</i>	94.0	25.2	815	95.4	92.7	1,053
Interior	78.2	37.5	265	76.5	71.1	409
Region						
Region 1	91.6	37.1	103	77.2	74.2	164
Region 2	71.1	38.2	80	87.9	85.6	108
Region 3	94.5	15.1	189	94.6	94.3	234
Region 4	98.1	41.8	534	98.3	96.3	666
Region 5	94.5	25.7	105	94.8	91.4	139
Region 6	97.2	22.7	194	95.7	91.1	253
Region 7	74.4	39.9	48	90.6	85.7	65
Region 8	82.0	55.3	47	72.1	64.5	72
Region 9	35.3	33.3	38	57.0	46.0	62
Region 10	95.1	26.4	88	94.2	93.4	124
Mother's age at birth						
<20	92.3	29.2	302	93.6	89.8	456
20-34	93.0	33.3	944	92.0	89.5	1,221
35+	86.7	39.2	179	87.6	84.5	209
Education						
No education	85.9	29.7	40	71.1	72.3	60
Primary	90.2	33.3	290	88.0	83.7	416
Secondary	92.6	32.9	989	93.5	90.9	1,282
More than secondary	94.7	36.8	106	98.0	95.6	129
Total	92.1	33.2	1,425	91.9	89.0	1,886

¹ Doctor, nurse/midwife, auxiliary/single trained midwife or medex

² Includes mothers with two or more injections during the pregnancy for the last live birth, or two or more injections (the last within 3 years of the last live birth), or three or more injections (the last within 5 years of the last live birth), or four or more injections (the last within ten years of the last live birth), or five or more injections prior to the last live birth

Vaccination Coverage

The 2009 GDHS collected information on vaccination coverage for all children born since January 2004 (a period of a little over five years); however, the findings presented here are limited to children who were alive at the time of the survey. According to the World Health Organization's guidelines, to be considered fully vaccinated a child should receive the following vaccinations: BCG, measles, and three doses each of DPT and polio. BCG is for protection against tuberculosis, and DPT is for protection against diphtheria, pertussis, and tetanus. In Guyana, by age six months, a child should have received one dose of BCG, three doses of Pentavalent (DPT+Hib+HepB), and three doses of polio OPV. By age 12 months, a child should have received two doses of measles, mumps, and rubella (MMR) vaccine and one dose of yellow fever vaccine. It should be noted that the measles and rubella vaccines are not given separately in Guyana but as part of the MMR vaccine. Polio 0 is not administered in Guyana.

Information on vaccination coverage was collected in two ways: from a health card and from the mother's report.¹ When a mother was able to present a health card to the interviewer, this was used as the source of information. The interviewer recorded vaccination dates directly from the card to the questionnaire. In addition to the vaccination information obtained from the card, information was also collected from the mother. If a health card was available but a vaccination was not recorded on the card, the mother was asked to recall whether that particular vaccination had been given. If there was no card for the child, the mother was asked to recall whether the child had received BCG, polio (including the number of doses), and measles vaccinations. For children without a written record of immunizations, there was no inquiry about DPT coverage because DTP coverage was assumed to be the same as the mother's report for polio coverage. (Polio and DPT are usually given at the same time.)

Table 5.2 shows the percentage of children age 18-29 months who received specific vaccinations by the time of the survey (according to the health card or mother's report), by background characteristics. Differentials by residence are shown in Figure 5.2.

- In general, the results show that vaccination programs in Guyana have yet to reach many children.
- Although levels of coverage for BCG and three doses of DPT are high (94 and 85 percent, respectively), only 47 percent of children in Guyana are considered fully vaccinated because of lower levels of coverage for MMR (67 percent), Polio 3 (70 percent), and yellow fever (79 percent).
- Surprisingly, the proportion of fully immunized children age 18-29 months in the Georgetown urban area (49 percent) is substantially lower than the proportion in other urban areas (57 percent). Georgetown urban also has the lowest percentage of children with a vaccination card.

¹ For about 3.4 percent of children the mothers claimed that the health card was at a health facility. In total, for only 2.0 percent of children these cards were actually seen.

Figure 5.2 Vaccination Coverage at Any Time Before the Survey among Children 18-29 Months

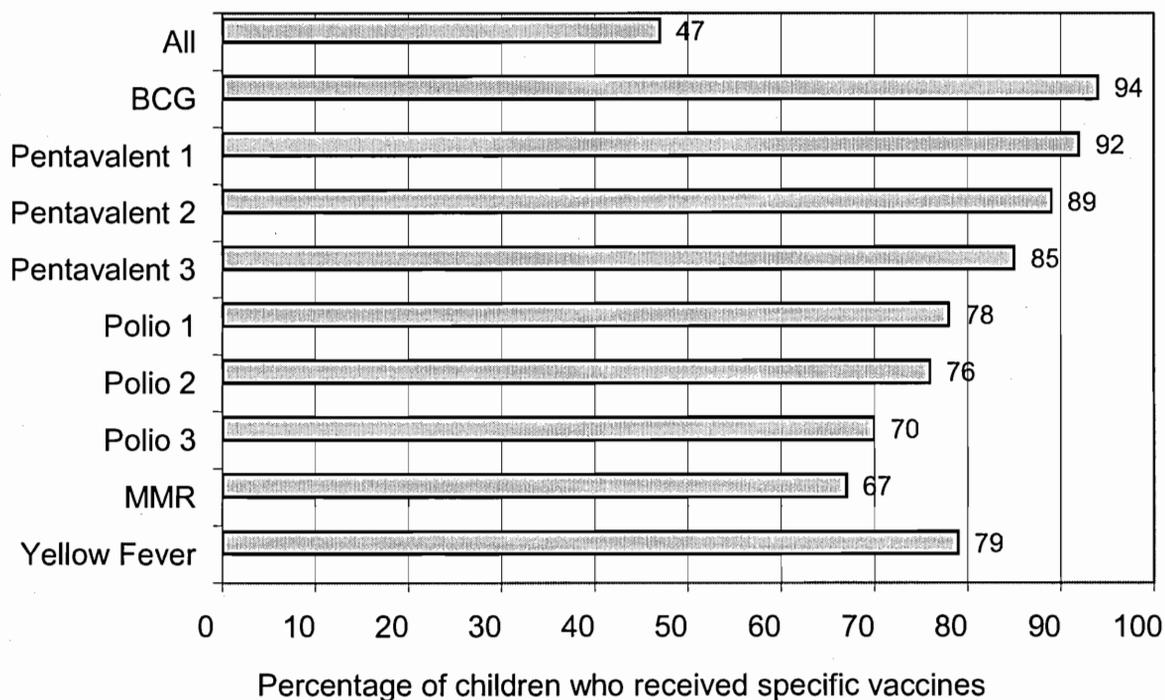


Table 5.2 Vaccinations at any time before the survey

Percentage of children age 18-29 months who received specific vaccines at any time before the survey (according to a health card or the mother's report), and percentage with a health card, by background characteristics, Guyana 2009

Background characteristic	Percentage of children who received:											Percentage with health card seen ³	Number of children
	BCG	Pentavalent vaccine ¹			Polio			MMR	Yellow fever	All ²	None		
		1	2	3	1	2	3						
Residence													
Urban	96.1	97.5	94.3	87.8	77.1	75.7	67.2	78.6	87.1	52.3	2.5	84.9	85
Georgetown urban	96.7	96.7	91.4	80.5	79.2	77.0	62.7	78.8	86.2	48.9	3.3	77.2	51
Other urban	95.2	98.7	98.7	98.7	73.9	73.9	73.9	78.3	88.3	57.3	1.3	96.5	34
Rural	93.6	90.3	87.5	83.8	78.8	75.8	70.9	63.2	76.7	46.1	5.2	88.4	299
Coastal													
Urban	96.1	97.5	94.3	87.8	77.1	75.7	67.2	78.6	87.1	52.3	2.5	84.9	85
Rural	94.8	91.7	88.8	87.1	79.1	75.8	71.6	62.9	79.7	43.9	4.4	87.7	202
Interior	91.0	87.4	84.7	76.8	78.1	75.6	69.3	63.9	70.4	50.7	7.0	90.0	97
Sex													
Male	92.4	90.4	88.8	82.1	76.9	74.4	68.5	63.9	77.5	43.5	6.2	87.0	190
Female	95.9	93.4	89.3	87.2	79.9	77.1	71.5	69.3	80.5	51.3	3.1	88.3	194
Education													
No education	*	*	*	*	*	*	*	*	*	*	*	*	7
Primary	93.2	93.7	87.4	81.8	88.4	85.8	78.2	61.9	78.8	49.0	4.7	90.0	88
Secondary	95.0	91.9	90.4	87.6	76.1	73.2	69.6	67.5	79.4	47.4	4.1	89.4	263
More than secondary	(95.1)	(92.2)	(86.1)	(68.4)	(76.8)	(76.8)	(54.5)	(85.3)	(82.6)	(49.2)	(3.2)	(66.3)	26
Total	94.1	91.9	89.0	84.7	78.4	75.8	70.0	66.6	79.0	47.4	4.6	87.7	384

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk (*) indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

¹ Pentavalent vaccine is also known as DPT+Hib+HepB

² BCG, MMR, Yellow Fever and three doses each of Pentavalent and polio vaccines

³ For about 2 percent of children cards were seen at a health facility

Prevalence and Treatment of Acute Respiratory Infection (ARI), Fever, and Diarrhea

Acute respiratory infection (ARI) is one of the leading causes of morbidity and mortality among young children. Although improvements in nutrition are regarded as the most effective strategy for reducing ARI, early detection and treatment can reduce deaths. The prevalence of ARI, fever, and diarrhea in the two weeks preceding the survey among children under five years is shown in Table 5.3. Table 5.4 shows the percentage of children under five who were sick with symptoms of ARI (cough accompanied by short, rapid breathing), fever, or diarrhea for whom treatment was sought from a health facility or provider, by background characteristics. The table also shows, for children with diarrhea, the percentage who received ORS (a solution made from oral rehydration salts) and the percentage who received any oral rehydration therapy (ORT).

Prevalence of Acute Respiratory Infection (ARI), Fever, and Diarrhea

- According to Table 5.3, five percent of children under five years were sick with symptoms of ARI in the two weeks preceding the survey, 20 percent were sick with fever, and 10 percent were sick with diarrhea.
- The lowest prevalence of symptoms of ARI, fever and diarrhea was seen in Georgetown urban: 2, 11, and 5 percent, respectively. The highest prevalence of the three illnesses was in Region 8: 12, 26, and 16 percent, respectively. Children in Region 8 are six times as likely as children in Georgetown urban to have ARI, twice as likely to have fever, and three times as likely to have diarrhea. The highest level of diarrhea is in Region 1 (20 percent) and the lowest in Region 10.
- By age group, ARI, fever, and diarrhea are highest among children age 6-11 months. The prevalence of the three illnesses decreases with increasing age.

Treatment of Acute Respiratory Infection (ARI), Fever, and Diarrhea

- According to Table 5.4, treatment was sought from a health facility or provider for 65 percent of children who were sick with ARI, and 59 percent of children who were sick with fever or diarrhea. While the number of cases is too small to analyze according to most of the background characteristics, there is some indication that treatment-seeking for the three childhood illnesses is more common in the Interior.
- Among children under five years with diarrhea, 50 percent were treated with ORS and 59 percent received some form of oral rehydration therapy (ORT). The highest level of diarrhea treatment was found in the Interior (70 percent for ORS and 75 percent for ORT).

Table 5.3 Prevalence of acute respiratory infection (ARI), fever, and diarrhea

Percentage of children under five years who were sick with symptoms of acute respiratory infection (ARI), fever, or diarrhea in the two weeks preceding the survey, by background characteristics, Guyana 2009

Background characteristic	ARI symptoms ¹	Fever	Diarrhea	Number of children
Residence				
Urban	3.4	15.2	6.1	405
Georgetown urban	2.3	10.7	5.1	252
Other urban	5.1	22.6	7.7	154
Rural	5.1	21.5	11.0	1,410
Coastal	4.1	19.8	8.7	1,421
Coastal urban	3.4	15.2	6.1	405
Coastal rural	4.4	21.7	9.8	1,015
Interior	6.8	21.2	14.1	395
Region				
Region 1	7.1	20.2	19.7	157
Region 2	4.9	16.7	7.5	106
Region 3	6.9	19.5	9.5	229
Region 4	3.0	19.0	7.0	637
Region 5	2.4	21.8	13.6	129
Region 6	3.9	21.5	10.8	245
Region 7	6.1	26.0	8.9	62
Region 8	12.2	25.7	15.5	71
Region 9	1.7	13.7	9.3	61
Region 10	6.5	22.8	6.4	118
Age in months				
<6	1.0	17.2	7.1	221
6-11	6.0	25.2	17.5	194
12-23	5.1	26.0	14.8	343
24-35	4.9	20.5	8.3	404
36-47	5.3	18.9	8.3	311
48-59	5.1	14.0	5.8	343
Sex				
Male	4.9	21.2	10.8	895
Female	4.5	19.1	9.0	920
Education				
No education	4.9	11.8	7.6	56
Primary	5.2	22.5	18.2	397
Secondary	4.3	19.9	7.8	1,234
More than secondary	6.2	18.5	4.8	128
Total	4.7	20.1	9.9	1,815

¹ Sick with a cough accompanied by short, rapid breathing

Table 5.4 Treatment of acute respiratory infection (ARI), fever, and diarrhea

Among children under five years who were sick with symptoms of acute respiratory infection (ARI) or fever in the two weeks preceding the survey, percentage for whom treatment was sought from a health facility or provider; and among children under five years who were sick with diarrhea during the two weeks preceding the survey, percentage for whom treatment was sought from a health facility or provider, percentage given a solution made from packets of oral rehydration salts (ORS), and percentage given any oral rehydration therapy (ORT), by background characteristics, Guyana 2009

Background characteristic	Treatment of ARI		Treatment of fever		Treatment of diarrhea			Number of children with diarrhea
	Percentage for whom treatment was sought from a health facility or provider ¹	Number of children with ARI/fever	Percentage for whom treatment was sought from a health facility or provider ¹	Number of children with ARI/fever	Percentage for whom treatment was sought from a health facility or provider ¹	Percentage received ORS ²	Percentage received ORT ³	
Residence								
Urban	*	14	61.2	62	(31.5)	(12.2)	(37.6)	25
Georgetown urban	*	6	*	27	*	*	*	13
Other urban	*	8	61.8	35	*	*	*	12
Rural	67.6	71	58.6	304	63.2	55.8	62.4	155
Coastal	60.5	58	56.4	282	49.9	41.0	51.6	124
Urban	*	14	61.2	62	(31.5)	(12.2)	(37.6)	25
Rural	(62.7)	44	55.1	220	54.5	48.2	55.1	99
Interior	75.7	27	67.8	84	78.5	69.5	75.4	55
Age in months								
<6	*	2	(57.0)	38	*	*	*	16
6-11	*	12	66.2	49	(47.5)	(42.6)	(43.6)	34
12-23	*	18	58.7	89	72.6	57.5	62.4	51
24-35	54.7	(20)	60.1	83	(62.2)	(62.1)	(72.2)	33
36-47	*	16	48.1	59	(37.3)	(39.7)	(57.4)	26
48-59	*	17	65.7	48	(54.8)	(24.2)	(52.4)	20
Sex								
Male	68.9	43	58.4	190	55.3	47.6	55.9	96
Female	61.6	41	59.8	176	62.9	52.4	62.5	83
Education								
No education	*	3	*	7	*	*	*	4
Primary	(66.8)	21	65.0	89	57.1	42.5	55.1	72
Secondary	62.7	53	57.3	246	61.8	57.1	64.6	97
More than secondary	*	8	*	24	*	*	*	6
Total	65.3	85	59.0	366	58.8	49.8	59.0	179

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk (*) indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

¹ Excludes pharmacy, shop, and traditional practitioner

² Includes ORS from packets and prepackaged ORS liquids

³ Includes ORS from packets, prepackaged ORS liquids, and recommended home fluid

Malaria Indicators

In the 2009 GDHS, information was collected in the Household Questionnaire on ownership of mosquito (bed) nets. Several questions were asked about each net owned, including whether it had been treated with insecticide and if so, how many months ago it was treated; and finally, who slept under the net the night prior to the survey.

As a protective measure to reduce the likelihood of pregnancy complications due to malaria (e.g., stillbirth, spontaneous abortion, and low birth weight), the World Health Organization recommends that pregnant women receive intermittent preventive treatment (IPT) consisting of two doses of sulfadoxine-pyrimethamine (SP/Fansidar) given during the second and third trimesters of pregnancy. Appropriate treatment of malaria is the use of recommended drugs including artemisinin combination therapy (ACT): artesunate with amodiaquine combination, or artemether-lumefantrine combination.

The following malaria indicators for mosquito nets, preventive malaria treatment during pregnancy, and treatment of fever in children were calculated:

Mosquito Nets

- Percentage of households with at least one mosquito net (treated or untreated)
- Percentage of households with at least one insecticide-treated net (ITN)
- Percentage of children under five years who slept under a mosquito net the night before the survey
- Percentage of children under five years who slept under an ITN the night before the survey
- Percentage of pregnant women age 15-49 who slept under a mosquito net the night before the survey
- Percentage of pregnant women age 15-49 who slept under an ITN the night before the survey.

Preventive Malaria Treatment during Pregnancy

- Percentage of last births in the five years preceding the survey for which the mother received antimalarial drugs for prevention during the pregnancy
- Percentage of last births in the five years preceding the survey for which the mother received intermittent preventive treatment (IPT) during an antenatal visit.

Treatment of Fever in Children

- Among children under five years with fever in the two weeks preceding the survey, percentage who received antimalarial drugs
- Among children under five years with fever in the two weeks preceding the survey, percentage who received antimalarial drugs the same day or next day after developing fever.

Tables 5.5 and 5.6 show the malaria indicators by urban-rural residence and Coastal-Interior residence, respectively.

Malaria Indicators by Urban-rural Residence

- Eighty-nine percent of households own a mosquito net but only 26 percent of households have an insecticide-treated net. Ownership of mosquito nets is similar by residence but ownership of insecticide-treated nets is highest in rural areas (31 percent) and lowest in Georgetown urban (4 percent).
- Although 81 percent of children under five years and 78 percent of pregnant women slept under a mosquito net the night preceding the survey, only 25 percent of children and 30 percent of pregnant women slept under an ITN. In Georgetown urban, only 5 percent of children slept under an ITN and no women did.
- In the five years preceding the survey, only 2 percent of women received antimalarial medicine during their most recent pregnancy; less than 1 percent of women received SP (Fansidar), the recommended drug for preventive treatment of malaria during pregnancy.
- Only 6 percent of children with fever in the two weeks preceding the survey were reported to have received antimalarial medicine. Rural children with fever were less likely than urban children to receive antimalarial medicine (5 and 13 percent, respectively).
- Regarding timing of receipt of antimalarial medicine after the onset of fever, 4 percent of children received the drug the same or next day. Children in Georgetown urban were twice as likely as rural children to begin taking antimalarial medication the same day as developing fever (8 and 4 percent, respectively).

Table 5.5 Malaria indicators by urban-rural residence

Possession and use of mosquito nets, preventive malaria treatment during pregnancy, and treatment of children with fever using antimalarial drugs, by urban-rural residence, Guyana 2009

Indicator	Total urban		Georgetown urban		Other urban		Total rural		Total	
	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number
Mosquito nets										
Percentage of households with at least one mosquito net (treated or untreated)	84.6	1,603	86.1	1,053	81.6	550	90.2	4,029	88.6	5,632
Percentage of households with at least one ITN	12.6	1,603	4.1	1,053	28.8	550	30.7	4,029	25.6	5,632
Percentage of children under 5 who slept under a mosquito net the night before the survey	82.2	464	87.2	283	74.3	181	80.3	1,594	80.7	2,058
Percentage of children under 5 who slept under an ITN the night before the interview	12.6	464	5.1	283	24.3	181	27.9	1,594	24.5	2,058
Percentage of pregnant women age 15-49 who slept under a mosquito net the night before the interview	75.6	46	76.5	25	74.6	21	79.2	168	78.4	215
Percentage of pregnant women age 15-49 who slept under an ITN the night before the interview	12.6	46	0.0	25	27.6	21	34.9	168	30.1	215
Preventive malaria treatment during pregnancy										
Percentage of last births in the 2 years preceding the survey for which the mother received antimalarial drugs for prevention during the pregnancy	2.4	158	3.7	101	0.0	57	2.2	591	2.3	750
Percentage of last births in the 2 years preceding the survey for which the mother received IPT during an antenatal visit	0.0	158	0.0	101	0.0	57	0.2	591	0.1	750
Treatment of fever										
Among children under age 5 with fever in the two weeks preceding the survey, percentage who took antimalarial drugs	13.1	62	12.7	27	13.5	35	5.1	304	6.4	366
Among children under age 5 with fever in the two weeks preceding the survey, percentage who took antimalarial drugs the same day/next day after developing fever	4.4	62	7.7	27	1.9	35	4.3	304	4.3	366

¹ An insecticide-treated net (ITN) is: 1) a permanent net that does not require any treatment, 2) a pretreated net obtained within the past 12 months, or 3) a net that has been soaked with insecticide within the past 12 months

² Intermittent preventive treatment (IPT) is the treatment of pregnant women with at least two doses of the antimalarial SP/Fansidar during antenatal care visits

Malaria Indicators by Coastal-Interior Residence

- According to Table 5.6, ownership of mosquito nets (treated or untreated) is slightly higher in the Coastal rural areas (91 percent) but ownership of insecticide-treated nets is highest in the Interior (34 percent) and lowest in the Coastal urban areas (13 percent).
- Although in the Coastal urban areas 82 percent of children under five years and 76 percent of pregnant women slept under a mosquito net the night preceding the survey, only 13 percent of children and 13 percent of pregnant women slept under an ITN.
- Children in the Interior with fever were less likely than children in the Coastal rural areas to receive antimalarial medicine (3 and 6 percent, respectively).

Table 5.6 Malaria indicators by Coastal-Interior residence

Possession and use of mosquito nets, preventive malaria treatment during pregnancy, and treatment of children with fever using antimalarial drugs, by Coastal-Interior residence, Guyana 2009

Indicator	Total Coastal		Coastal urban		Coastal rural		Interior		Total	
	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number
Mosquito nets										
Percentage of households with at least one mosquito net (treated or untreated)	88.6	5,052	84.6	1,603	90.5	3,449	88.0	580	88.6	5,632
Percentage of households with at least one ITN	24.6	5,052	12.6	1,603	30.2	3,449	34.0	580	25.6	5,632
Percentage of children under 5 who slept under a mosquito net the night before the survey	83.3	1,639	82.2	464	83.8	1,175	70.5	419	80.7	2,058
Percentage of children under 5 who slept under an ITN the night before the interview	23.8	1,639	12.6	464	28.2	1,175	27.1	419	24.5	2,058
Percentage of pregnant women age 15-49 who slept under a mosquito net the night before the interview	76.9	168	75.6	46	77.4	121	83.8	47	78.4	215
Percentage of pregnant women age 15-49 who slept under an ITN the night before the interview	27.0	168	12.6	46	32.5	121	41.1	47	30.1	215
Preventive malaria treatment during pregnancy										
Percentage of last births in the 2 years preceding the survey for which the mother received antimalarial drugs for prevention during the pregnancy	1.2	581	2.4	158	0.7	423	6.0	168	2.3	750
Percentage of last births in the 2 years preceding the survey for which the mother received IPT during an antenatal visit	0.0	581	0.0	158	0.0	423	0.6	168	0.1	750
Treatment of fever										
Among children under age 5 with fever in the two weeks preceding the survey, percentage who took antimalarial drugs	7.3	282	13.1	62	5.7	220	3.4	84	6.4	366
Among children under age 5 with fever in the two weeks preceding the survey, percentage who took antimalarial drugs the same day/next day after developing fever	4.9	282	4.4	62	5.1	220	2.2	84	4.3	366

¹ An insecticide-treated net (ITN) is: 1) a permanent net that does not require any treatment, 2) a pretreated net obtained within the past 12 months, or 3) a net that has been soaked with insecticide within the past 12 months

² Intermittent preventive treatment (IPT) is the treatment of pregnant women with at least two doses of the antimalarial SP/Fansidar during antenatal care visits

6 INFANT FEEDING AND NUTRITIONAL STATUS

This chapter examines the survey results on infant feeding practices (breastfeeding, introduction of complementary foods, and use of feeding bottles) and nutritional status (height and weight measurements of children under five years). Measures of micronutrient status (anemia) and micronutrient fortification (presence of iodized salt in the household) are also included.

Infant feeding practices have an impact on the health of both the child and the mother. Feeding practices are an important determinant of children's nutritional status, which is directly related to the risk of dying. For women, breastfeeding affects the length of the postpartum period of infertility (amenorrhea), which in turn affects the length of the birth interval, which in turn has a direct impact on the number of children a woman will have and the total fertility rate. Children's nutritional status is influenced by both the duration and intensity of breastfeeding and by the age at which children begin receiving supplemental foods and liquids. Breast milk is sterile and contains all the nutrients needed by infants in the first few months of life. Breastfeeding also provides the infant with some protection against disease because the mother's antibodies are present in the breast milk. Breastfeeding typically reduces the prevalence of diarrhea.

Breastfeeding and Supplementation

UNICEF and WHO recommend that children be exclusively breastfed (no complementary liquid, solid food, or plain water) during the first six months of life and that children be given solid or semisolid complementary foods beginning with the seventh month.² The standard indicator for exclusive breastfeeding is the percentage of children less than six months of age who are exclusively breastfeeding. The standard indicator of timely complementary feeding is the percentage of children age 6-9 months who are breastfeeding and receiving complementary foods. Giving other types of milk to children is acceptable after the first six months but continued breastfeeding is recommended through the second year. The use of a bottle with a nipple is not recommended at any age because of the increased likelihood of the spread of disease-causing agents.

The percent distribution of children under three years living with the mother by breastfeeding status is presented in Table 6.1, according to age in months. The table shows the proportion of children in each age group who are: not breastfeeding, the proportion who are predominantly breastfeeding (sum of exclusive breastfeeding, breastfeeding plus plain water, and breastfeeding plus water-based liquids/juice). Also shown is the percentage of children who used a bottle with a nipple during the day and night preceding the survey.

Breastfeeding status refers to a 24-hour period (yesterday and the past night). Children classified as "breastfeeding and consuming plain water only," consume no supplements. The categories "not breastfeeding," "exclusively breastfed," and "breastfeeding and consuming plain water only, water-based liquids/juice, other milk, and complementary foods (solids and semisolids)" are hierarchical and mutually exclusive, totaling 100 percent. Thus, children who receive breast milk and water-based liquids and do not receive complementary foods are classified in the water-based liquids category even though they may also be receiving plain water. Children who are breastfeeding and receive "complementary foods" are classified in the complementary foods category.

²Pan American Health Organization (PAHO) and World Health Organization (WHO). 2003. *Guiding Principles for Complementary Feeding of the Breastfed Child*. Washington, D.C./Geneva, Switzerland: PAHO/WHO
World Health Organization (WHO) and United Nations Children's Fund (UNICEF). 1998. *Complementary feeding of young children in developing countries: a review of current scientific knowledge*. Geneva/New York: WHO/UNICEF

- Seven percent of children age 2-3 months and 14 percent of children age 4-5 months were not breastfeeding at the time of the survey. At the end of the first year of life (children age 9-11 months) only 67 percent of children are breastfed.
- Exclusive breastfeeding is not common in Guyana. Only 42 percent of children under four months of age receive breast milk only. Twenty-one percent receive other milk and 23 percent receive complementary foods. Although the introduction of complementary foods is recommended between age six and nine months, one-third (33 percent) of children under six months were receiving complementary foods in addition to breast milk.
- Bottle-feeding is relatively common. Almost half (49 percent) of children age 2-3 months use a bottle with a nipple.

Table 6.1 Breastfeeding status by child's age

Percent distribution of youngest children under three years living with the mother by breastfeeding status, and percentage of children under three years using a bottle with a nipple, according to age in months, Guyana 2009

Age in months	Not breast-feeding	Exclusively breastfed	Breastfeeding and consuming:				Total	Percentage breast-feeding	Number of children	Percentage using a bottle with a nipple ¹	Number of living children
			Plain water only	Non-milk liquids/ juice	Other milk	Complementary foods					
0-1	3.2	57.5	1.7	12.1	17.9	7.6	100.0	96.8	60	19.3	60
2-3	6.7	26.5	1.4	3.4	23.6	38.4	100.0	93.3	57	48.8	58
4-5	14.3	22.4	6.2	3.8	7.7	45.6	100.0	85.7	99	62.8	103
6-8	22.2	4.0	3.8	8.4	1.8	59.8	100.0	77.8	104	57.7	107
9-11	32.8	0.6	0.5	1.2	0.3	64.6	100.0	67.2	85	67.3	87
12-17	40.0	1.5	1.4	0.0	0.6	56.5	100.0	60.0	172	61.0	178
18-23	43.5	1.3	0.0	1.7	0.3	53.3	100.0	56.5	143	48.7	165
24-35	58.0	0.8	0.1	0.0	0.2	41.0	100.0	42.0	306	49.1	404
0-3	4.9	42.4	1.5	7.9	20.7	22.6	100.0	95.1	117	33.7	118
0-5	9.2	33.2	3.7	6.0	14.7	33.2	100.0	90.8	217	47.2	221
6-9	25.6	3.3	3.2	7.0	1.7	59.2	100.0	74.4	125	60.4	128
12-15	38.4	0.8	2.3	0.0	0.3	58.2	100.0	61.6	103	58.0	105
12-23	41.6	1.4	0.8	0.8	0.4	55.1	100.0	58.4	315	55.1	343
20-23	50.7	2.2	0.0	0.0	0.5	46.6	100.0	49.3	82	49.6	100

¹ Based on all children under three years

Nutritional Status of Children

Children's nutritional status influences their susceptibility to disease and death; it also reflects infant and child feeding practices and recurrent and chronic infections. One of the major contributions of the **2009 GDHS** to the study of children's health status is the anthropometric data collected for all children under five years of age. Both height (length) and weight measurements were obtained for each child to measure levels of stunting, wasting, and underweight.

The Shorr measuring boards were used to measure the height (or recumbent length) of children. (They are equipped with an extension for measuring adults.) The SECA digital bathroom scales used to weigh women and children have an accuracy of 100 grams. The data allow for calculation of the following indicators of nutritional status: height-for-age (stunting), weight-for-height (wasting), and weight-for-age (underweight). As recommended by the World Health Organization (WHO), the nutritional status of children in the survey is compared with an international reference population defined by the WHO Child Growth Standards adopted in 2006.³

The height-for-age index is an indicator of linear growth retardation. Children whose height-for-age is more than two standard deviations below the median (-2 SD) of the reference population are

³ World Health Organization (WHO) Multicentre Growth Reference Study Group. 2006. *WHO Child Growth Standards: Length/height-for-age, weight-for-age, weight-for-length, weight-for-height and body mass index-for-age: Methods and development*. Geneva. WHO

considered short for their age (stunted), a sign of chronic undernutrition. Children who are more than three standard deviations below the median (-3 SD) of the reference population are considered severely stunted. Stunting reflects the outcome of a failure to receive adequate nutrition over a long period of time; it is also affected by recurrent and chronic illness. Stunted children are not immediately obvious in a population; a stunted three-year-old child could look like a well-fed two-year-old.

The weight-for-height index measures body mass in relation to body length and describes current nutritional status. Children who are more than two standard deviations below the median (-2 SD) of the reference population are considered thin (wasted), and are acutely undernourished. Wasting represents the failure to receive adequate nutrition in the period immediately preceding the survey and may be the result of recent episodes of illness. Wasting may also reflect an acute food shortage. Children whose weight-for-height is more than three standard deviations below the median (-3 SD) of the reference population are considered to be severely wasted.

Weight-for-age is a composite index of height-for-age and weight-for-height; it takes into account both acute and chronic undernutrition. It is a useful tool in clinical settings for continuous assessment of nutritional progress and growth. Children whose weight-for-age is more than two standard deviations below the median (-2 SD) of the reference population are classified as underweight.

The validity of the nutritional indices is determined by the coverage of the population of children under study and the standardization of the measurement procedures. For example, although the term "height" is used here, children younger than 24 months are measured lying down on the measuring board (recumbent length) while standing height is the standard for measuring older children. In the **2009 GDHS**, all children born on January 2004 or later were eligible to be included in the anthropometric data collection.

Table 6.2 shows the percentage of children under five years of age classified as undernourished according to height-for-age, weight-for-height, and weight-for-age indices, by age group and selected demographic characteristics. The table shows the percentage of children more than two standard deviations below the median of the reference population. The percentage of children who are severely malnourished (i.e., who fall more than three standard deviations below the reference population median) is also shown. Figure 6.1 summarizes the information on stunting and underweight among children under five years, by residence.

- Almost one in five children (18 percent) under five years is short for their age or stunted, and 5 percent are severely stunted. As expected, chronic malnutrition rises with age during the first year and is lower among children whose mothers have more than secondary education (16 percent). Children in rural areas are almost twice as likely to be stunted as children in urban areas (20 and 11 percent, respectively). The highest levels of stunting are found in the Interior (35 percent).
- Based on the weight-for-age index, one in ten children (11 percent) under five in Guyana are underweight and about 2 percent are severely underweight. Boys are more likely to be underweight than girls (12 and 9 percent, respectively), and children in rural areas are almost twice as likely to be underweight as children in urban areas (11 and 7 percent, respectively).
- Based on the weight-for-height index, only 5 percent of children under five years are considered wasted, and just 1 percent are severely wasted.

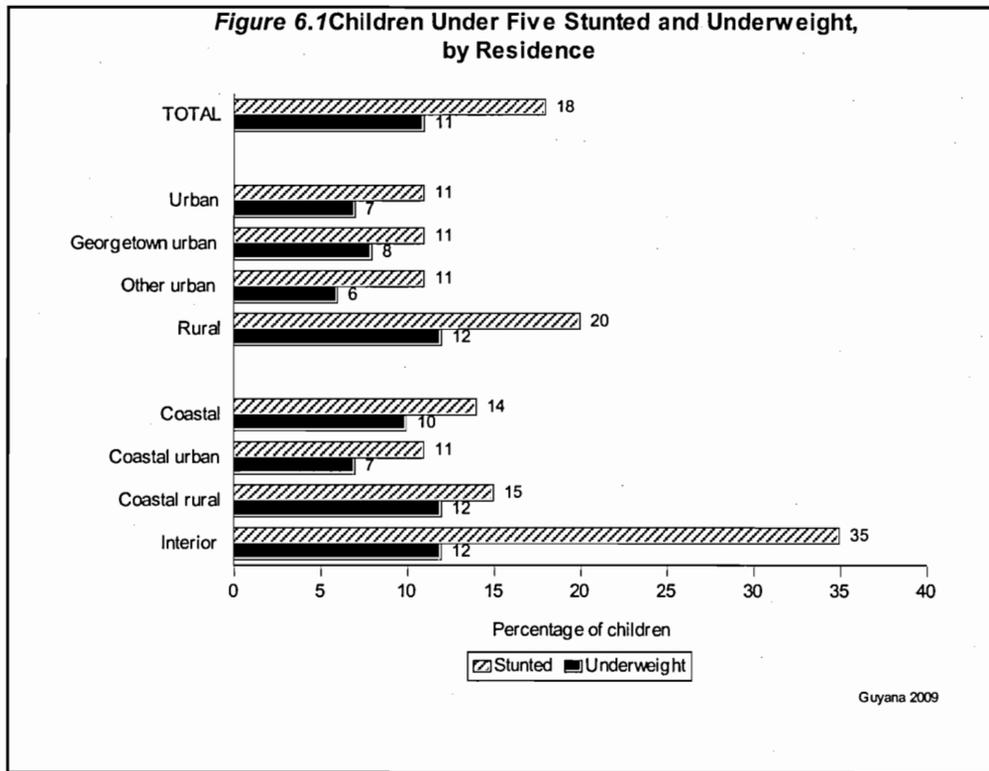
Table 6.2 Nutritional status of children

Percentage of children under five years classified as malnourished by three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, according to background characteristics, Guyana 2009

Background characteristic	Height-for-age (stunted)		Weight-for-height (wasted)		Weight-for-age (underweight)		Number of children
	Percentage below -3 SD	Percentage below -2 SD ¹	Percentage below -3 SD	Percentage below -2 SD ¹	Percentage below -3 SD	Percentage below -2 SD ¹	
Residence							
Urban	4.0	11.0	0.9	5.8	2.0	6.8	341
<i>Georgetown urban</i>	5.6	10.9	0.7	5.5	3.0	7.5	203
<i>Other urban</i>	1.5	11.1	1.2	6.2	0.6	5.7	138
Rural	5.4	20.3	1.2	5.2	1.5	11.5	1,180
Coastal	3.3	14.2	1.0	5.8	1.6	10.2	1,233
<i>Urban</i>	4.0	11.0	0.9	5.8	2.0	6.8	341
<i>Rural</i>	3.0	15.4	1.1	5.8	1.5	11.5	892
Interior	12.7	35.3	1.3	3.1	1.5	11.7	289
Region							
Region 1	15.0	39.3	2.0	3.0	2.2	15.5	116
Region 2	5.7	18.4	3.0	9.9	2.4	11.6	96
Region 3	2.0	8.9	1.2	6.1	0.6	7.2	217
Region 4	3.9	16.4	1.3	5.5	2.1	11.3	548
Region 5	2.4	9.9	0.0	3.5	0.0	8.4	101
Region 6	3.3	14.8	0.0	6.3	2.5	12.1	208
Region 7	6.6	25.0	0.2	0.2	0.9	3.4	47
Region 8	18.2	49.6	0.0	3.2	1.0	14.5	46
Region 9	11.1	33.1	2.2	4.5	1.7	11.5	47
Region 10	3.3	13.8	0.4	4.1	0.0	5.4	96
Age in months							
<6	5.5	16.3	5.4	10.3	3.1	13.1	100
6-8	5.4	16.5	1.2	6.7	3.5	15.3	80
9-11	9.4	20.1	1.0	10.4	5.3	9.9	73
12-17	5.0	19.1	0.2	3.3	1.7	14.3	151
18-23	5.9	19.1	1.8	6.7	2.7	9.6	149
24-35	6.1	20.0	0.6	3.4	0.9	8.4	345
36-47	3.2	18.8	0.7	4.0	0.2	10.0	296
48-59	4.2	15.5	0.7	5.8	1.2	9.8	329
Sex							
Male	5.2	19.2	1.5	7.1	1.8	12.1	750
Female	4.9	17.2	0.7	3.6	1.4	8.8	772
Mother's education							
No education	(11.8)	(19.4)	(5.4)	(9.2)	(2.6)	(13.9)	39
Primary	*	*	*	*	*	*	7
Secondary	8.4	28.6	0.9	4.7	2.6	15.2	305
More than secondary	4.2	16.2	0.9	5.0	1.1	8.9	970
Mother's status							
Mother interviewed	5.2	18.1	1.1	5.4	1.6	10.4	1,366
Mother not interviewed, but in household	6.5	21.9	0.0	5.8	0.0	7.5	53
Mother not interviewed, not in household	3.5	17.6	1.5	3.3	2.0	12.9	98
Total	5.1	18.2	1.1	5.3	1.6	10.5	1,522

Note: Table is based on children who slept in the household the night before the interview. Each of the indices is expressed in standard deviation units (SD) from the median of the WHO Child Growth Standards adopted in 2006. The indices in this table are not comparable to those based on the previously used NCHS/ CDC/WHO standards. The table is based on children with valid dates of birth (month and year) and valid measurements of both height and weight. Figures in parentheses are based on 25-49 unweighted cases. An asterisk (*) indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

¹ Includes children who are below -3 SD from the median of the reference population



Prevalence of Anemia in Children and Women

Anemia is a condition characterized by low levels of hemoglobin in the blood. This results in a reduced amount of oxygen being transported in the body. Iron is a main component of hemoglobin and iron deficiency is estimated to be responsible for half of the global prevalence of anemia. Young children and pregnant and postpartum women are the most severely affected because of the high iron demands of infant growth and pregnancy. Other causes of anemia include malaria, hookworm and other helminthes, other nutritional deficiencies, chronic infections, genetic conditions which vary by region (such as sickle cell and thalassemia), HIV/AIDS, and high fertility. Anemia is a serious concern for children because it can impair cognitive development, stunt growth and increase morbidity from infectious diseases. Information on the prevalence of anemia can be useful for the development of health-intervention programs designed to prevent anemia, such as promoting consumption of iron rich foods, iron supplementation, food fortification and deworming programs as appropriate.⁴

The **2009 GDHS** included anemia testing of women 15-49 and children 6-59 months old. Children under 6 months were not tested because they have higher levels of hemoglobin at birth and just after birth, and including them may distort prevalence of anemia. Anemia levels were determined by measuring the level of hemoglobin in the blood. A drop of capillary blood was taken with a finger prick (using sterile, disposable instruments) and hemoglobin concentration was measured using the HemoCue photometer system. Trained personnel on each of the **2009 GDHS** interviewing team performed the testing procedures, following informed consent.

Table 6.3 presents the prevalence of anemia. For children, the results are based on tests of children who were present at the time of testing, whose parents consented to their being tested, and whose hemoglobin results represented plausible data. Because hemoglobin levels vary by altitude, each result (for children and women) was adjusted based on altitude measurements (over 1,000 meters) taken in the sample cluster in which the test was carried out; and for smoking (for women) using CDC formulas.⁴

⁴ Centers for Disease Control and Prevention (CDC). 1998. *Recommendations to prevent and control iron deficiency in the United States*. Morbidity and Mortality Weekly Report 47 (RR-3): 1-29.

Based on criteria developed by the World Health Organization (WHO), children and women are classified in Table 6.3 into three groups according to the level of hemoglobin concentration in their blood: women and children with <7.0 g/dl of hemoglobin have severe anemia; women and children with 7.0-9.9 g/dl have moderate anemia; non-pregnant women with 10.0-11.9 g/dl and children and pregnant women with 10.0-10.9 g/dl have mild anemia.⁵

- Thirty-nine percent of children and 37 percent of women 15-49 were classified with anemia but most of them have just mild anemia (23 and 29 percent, respectively).
- There is little variation in the prevalence of anemia in children by place of residence from 38 percent in Coastal rural children to 42 percent in the Interior. However, among women the lowest prevalence is found in the Interior (30 percent) and the highest in Coastal rural women (39 percent) and urban areas excluding Georgetown urban (40 percent).
- There are important differentials by region in the prevalence of anemia. In Regions 1, 2, and 5, around 50 percent of children have anemia. Region 5 also has the highest levels of anemia (49 percent) for women. Half of the anemia in Region 5 is mild and half is moderate.
- The lowest levels of anemia are found in regions 8 and 9, between 21 and 24 percent for women and 30-32 percent for children.

Table 6.3 Prevalence of anemia in children and women

Percentage of children age 6-59 months and women age 15-49 years classified as having iron-deficiency anemia, by residence and region, Guyana 2009

Residence and region	Children age 6-59 months					Women age 15-49				
	Any anemia	Severity of anemia			Number of children	Any anemia	Severity of anemia			Number of women
		Mild anemia	Moderate anemia	Severe anemia			Mild anemia	Moderate anemia	Severe anemia	
Residence										
Urban	39.9	22.3	16.9	0.6	297	37.5	29.9	7.2	0.4	1,336
Georgetown urban	40.3	23.8	16.5	0.0	170	35.9	28.1	7.4	0.3	860
Other urban	39.2	20.4	17.4	1.5	127	40.3	33.1	6.7	0.5	476
Rural	39.1	23.8	15.0	0.3	1,052	37.4	28.0	8.7	0.7	3,259
Coastal	38.5	23.0	15.1	0.4	1,060	38.2	29.1	8.5	0.6	4,127
Coastal urban	39.9	22.3	16.9	0.6	297	37.5	29.9	7.2	0.4	1,336
Coastal rural	38.0	23.3	14.4	0.3	763	38.6	28.7	9.1	0.7	2,791
Interior	41.9	25.0	16.5	0.4	289	30.0	23.7	6.1	0.1	468
Region										
Region 1	50.8	32.8	18.0	0.0	121	35.0	25.8	9.2	0.0	158
Region 2	50.1	28.6	21.0	0.5	97	40.5	31.6	8.3	0.7	287
Region 3	33.9	21.5	12.4	0.0	168	39.2	32.9	5.9	0.4	605
Region 4	34.7	23.1	11.2	0.4	452	35.5	26.6	8.2	0.7	2,013
Region 5	49.4	24.6	24.8	0.0	87	49.2	33.9	14.0	1.3	316
Region 6	41.1	22.0	18.5	0.7	199	39.0	28.6	10.0	0.4	711
Region 7	34.9	23.7	11.0	0.2	44	27.2	19.7	7.1	0.4	92
Region 8	30.0	10.8	19.2	0.0	43	24.4	23.2	1.2	0.0	88
Region 9	32.4	21.3	10.5	0.6	49	21.3	16.5	4.8	0.0	73
Region 10	41.1	19.8	20.0	1.3	88	39.7	33.9	5.1	0.7	254
Total	39.3	23.4	15.4	0.4	1,349	37.4	28.6	8.3	0.6	4,595

Note: Table is based on children and women who stayed in the household the night before the interview. Prevalence, based on hemoglobin levels, is adjusted for altitude (for children and women) and smoking (for women). Women and children with <7.0 g/dl of hemoglobin have severe anemia, women and children with 7.0-9.9 g/dl have moderate anemia, and non-pregnant women with 10.0-11.9 g/dl and children and pregnant women with 10.0-10.9 g/dl have mild anemia.

⁵ DeMaeyer et al., 1989. *Preventing and controlling iron deficiency anemia through primary health care: a guide for health administrators and program managers*. Geneva: World Health Organization.

Presence of Iodized Salt in the Household

Dietary deficiency of iodine constitutes a major, global, public health concern. A lack of sufficient iodine is known to cause goiter, cretinism (a severe form of neurological defect), spontaneous abortion, premature birth, infertility, stillbirth, and increased child mortality. Iodine deficiency disorder (IDD) is the single most common cause of preventable mental retardation and brain damage.⁶ Since iodine cannot be stored for long periods by the body, tiny amounts are needed regularly. Where soil and therefore crops and grazing animals do not provide sufficient dietary iodine to the population, and where seafood is not regularly consumed, food fortification has proven to be a highly successful and sustainable intervention. The fortification of salt with iodine is the most common method of preventing IDD. Fortified salt that contains 15 parts per million (ppm) of iodine is considered adequate for the prevention of IDD. When vulnerable populations do not have access to fortified foods such as iodized salt, a short-term solution is supplementation with capsules containing iodized oil. Table 6.4 shows the results of salt testing by urban-rural residence and region.

- The quality of household salt was tested in 93 percent of households. Among these, 80 percent use salt with no iodine content (0 ppm), 10 percent have salt with inadequate iodine content, and only 11 percent have salt with adequate iodine content.
- Eighty-one percent of households in Region 9 and only 25 percent in Region 10 have salt with adequate iodine content. In the other regions the percentage of households with adequate iodine content ranges from four percent in Region 6 to 16 percent in Region 8.

Table 6.4 Presence of iodized salt in household

Among all households, percentage of households tested for iodine content; and among households with salt tested, the percent distribution by level of iodine in salt (parts per million or ppm), according to residence and region, Guyana 2009

Residence and region	Percentage of households with salt tested	Number of households	Among households with tested salt, the percent distribution by iodine content of salt			Total	Number of households
			None (0 ppm)	Inadequate (<15 ppm)	Adequate (15+ ppm)		
Residence							
Urban	95.5	1,603	74.0	12.9	13.0	100.0	1,530
Georgetown urban	97.0	1,053	72.8	13.6	13.6	100.0	1,022
Other urban	92.5	550	76.4	11.7	11.9	100.0	508
Rural	92.0	4,029	82.2	8.3	9.5	100.0	3,709
Coastal	93.3	5,052	81.9	9.2	8.9	100.0	4,712
Urban	95.5	1,603	74.0	12.9	13.0	100.0	1,530
Rural	92.2	3,449	85.6	7.5	6.9	100.0	3,182
Interior	90.8	580	61.6	13.6	24.9	100.0	527
Region							
Region 1	93.0	199	74.2	16.3	9.5	100.0	185
Region 2	93.9	348	80.4	7.6	12.0	100.0	327
Region 3	95.3	763	82.3	6.4	11.3	100.0	727
Region 4	93.6	2,420	80.4	10.9	8.7	100.0	2,266
Region 5	90.1	417	87.3	6.9	5.7	100.0	376
Region 6	92.7	879	85.8	10.0	4.2	100.0	815
Region 7	93.0	116	74.4	14.1	11.5	100.0	108
Region 8	84.7	104	73.5	10.6	15.8	100.0	88
Region 9	88.3	88	4.4	14.7	80.9	100.0	78
Region 10	91.0	297	69.2	5.6	25.2	100.0	270
Total	93.0	5,632	79.8	9.7	10.5	100.0	5,239

⁶ World Health Organization (WHO). 2007. *Assessment of iodine deficiency disorders and monitoring their elimination. A guide for program managers*. Geneva: WHO

7 INFANT AND CHILD MORTALITY

This section presents information on the levels in neonatal, postneonatal, infant, and child mortality. Mortality estimates are calculated from information that was collected in the birth history section of the individual questionnaire. The section began with questions about the aggregate childbearing experience of respondents (i.e., the number of sons and daughters who live in the household, who live elsewhere, and who died). These questions were followed by a retrospective birth history in which data were obtained on sex, date of birth, survivorship status, and current age or age at death of each of the respondents' live births. The mortality estimates are affected by the completeness of the reporting of deaths, the level of displacement of birth dates of children (living or dead), and the extent to which age at death is accurately reported.

The rates presented in this section are defined as follows:

Neonatal mortality:	the probability of dying within the first month of life
Postneonatal mortality:	the difference between infant and neonatal mortality
Infant mortality:	the probability of dying before the first birthday (${}_1q_0$)
Child mortality:	the probability of dying between the first and fifth birthdays (${}_4q_1$)
Under-five mortality:	the probability of dying before the fifth birthday (${}_5q_0$).

Table 7.1 examines the neonatal, postneonatal, infant, child and under-five mortality rates for three five-year periods before the survey. All rates are expressed per 1,000 births, except for child mortality, which is expressed per 1,000 children surviving to 12 months of age.

- There are no clear trends in childhood mortality rates in Guyana but, overall, rates are relatively low. For each 1,000 live births, 38 children die during the first year of life and 40 children die during the first five years.
- Almost two-thirds of deaths in the first five years (25 deaths per 1,000 live births) take place during the neonatal period (first month of life).

Years preceding the survey	Approximate five-year period	Neonatal mortality (NN)	Postneonatal mortality ¹ (PNN)	Infant mortality (${}_1q_0$)	Child mortality (${}_4q_1$)	Under-five mortality (${}_5q_0$)
0-4	2004-2009	25	12	38	3	40
5-9	1999-2004	19	13	32	6	38
10-14	1994-1999	28	11	38	3	42

¹ Computed as the difference between the infant and the neonatal mortality rates

8 HIV/AIDS-RELATED KNOWLEDGE AND ATTITUDES

Two sections of the **2009 GDHS** questionnaire address issues related to HIV/AIDS and other sexually transmitted infections (STIs). In the survey, questions were asked about sexual behavior, condom use, and access to condoms. A module on “AIDS and other Sexually Transmitted Diseases” encompassed other AIDS issues of interest and those related to STIs. The module also included a series of questions on mobility, alcohol use, and receipt of injections. The results of these questions can be used in assessment of risk-related behaviors.

Knowledge of HIV/AIDS and Methods of Prevention

A basic awareness of HIV/AIDS and acceptance that its transmission can be controlled or avoided is a necessary step toward the attitudinal and behavioral changes needed to stem the AIDS pandemic.

In the **2009 GDHS**, information on HIV/AIDS-related knowledge was collected in two ways: 1) through an open-ended or spontaneous question on how HIV/AIDS can be avoided (if the respondent says that “she/he knows of AIDS” and “HIV/AIDS can be avoided”) and 2) by asking prompted questions (probes) on specific ways to avoid HIV transmission.

Knowledge of HIV/AIDS

Table 8.1 shows the percentage of women and men who have heard of AIDS by background characteristics.

- Knowledge of AIDS is almost universal in Guyana—97 percent of women and men have heard of AIDS. There are minor variations in knowledge by residence except for the Interior, where only 89 percent of women and 95 percent of men have heard of AIDS.
- Although based on a small number of cases, the lowest levels of knowledge of AIDS are found among respondents with no education (81 percent among women and 76 percent among men).

Table 8.1 Knowledge of AIDS

Percentage of women and men 15-49 who have heard of AIDS, by background characteristics, Guyana 2009

Background characteristic	Women		Men	
	Has heard of AIDS	Number of women	Has heard of AIDS	Number of men
Residence				
Urban	99.0	1,475	99.3	949
<i>Georgetown urban</i>	99.8	967	99.7	619
<i>Other urban</i>	97.4	508	98.5	330
Rural	96.2	3,521	96.7	2,573
Coastal	98.0	4,495	97.7	3,126
<i>Urban</i>	99.0	1,475	99.3	949
<i>Rural</i>	97.5	3,019	97.0	2,176
Interior	88.7	501	94.6	396
Region				
Region 1	87.9	162	95.8	160
Region 2	96.7	293	98.9	179
Region 3	99.3	687	94.8	420
Region 4	99.4	2,168	99.1	1,540
Region 5	92.3	353	93.9	271
Region 6	95.6	780	97.4	587
Region 7	94.9	104	91.6	61
Region 8	85.3	95	93.5	68
Region 9	77.6	78	92.3	57
Region 10	99.5	277	98.7	178
Age				
15-24	97.3	1,783	98.1	1,200
<i>15-19</i>	97.4	1,016	97.4	689
<i>20-24</i>	97.3	767	99.1	511
25-29	95.6	658	97.4	462
30-39	97.2	1,342	97.3	990
40-49	97.1	1,213	96.5	870
Marital status				
Never married	97.9	1,540	97.4	1,382
<i>Ever had sex</i>	98.5	761	98.6	863
<i>Never had sex</i>	97.4	779	95.4	518
Currently married	96.2	2,920	97.4	1,835
Formerly married	99.2	536	97.5	305
Education				
No education	81.3	68	76.3	60
Primary	93.5	952	95.8	711
Secondary	98.0	3,568	98.1	2,459
More than secondary	99.4	409	99.2	292
Total 2009	97.0	4,996	97.4	3,522
Total 2005	98.2	2,425	98.2	1,875

Note: Currently married includes respondents in a consensual union (living together). Formerly married includes divorced, separated and widowed respondents.

Knowledge of Methods of Prevention

AIDS prevention programs focus their messages and efforts on three programmatically important ways to avoid AIDS: abstinence (delaying sexual debut in young people), use of condoms every time, and having just one sex partner who is not infected and has no other partners. The pattern of these answers indicates the relative importance of different types of HIV prevention in the population and highlights the subgroups with lower levels of knowledge, for targeted education programs.

The survey results on knowledge of HIV prevention (condom use, limiting the number of sexual partners, and abstinence) are presented in Table 8.2.1 and Figure 8.1 by residence and region, and in Table 8.2.2 by demographic characteristics.

- Approximately 4 in 5 respondents (81 percent of women and 84 percent of men) know that using condoms every time during sexual intercourse can reduce the risk of contracting the AIDS virus.
- A large proportion of respondents (82 percent of women and 85 percent of men), said that the chances of getting the AIDS virus can be reduced by limiting sexual intercourse to one HIV-negative partner who has no other partners.
- A smaller proportion of respondents (73 percent of women and 77 percent of men) reported that both methods—using condoms and limiting sexual intercourse to one HIV-negative partner who has no other partners—are ways of avoiding HIV transmission.
- Differentials in knowledge of HIV prevention by age and marital status are not large. However, with the exception of abstinence, men are more likely than women to know specific HIV prevention methods (all methods and all age groups). As expected, the level of knowledge of methods of HIV prevention is lower among respondents who have never had sexual intercourse.
- There are important differentials in knowledge of HIV prevention by level of education and place of residence. For example, 86 percent of women and 87 percent of men with more than secondary education know that using condoms and limiting sexual intercourse to one HIV-negative partner can reduce the risks of getting the AIDS virus, compared with only 35 percent of women and 41 percent of men with no education. Knowledge of both prevention methods is higher in urban areas than in rural areas: 85 and 68 percent, respectively, for women and 87 and 73 percent, respectively, for men.

Table 8.2.1 Knowledge of HIV prevention methods by residence and region

Percentage of women and men age 15-49 who, in response to prompted questions, say that people can reduce the risk of getting the AIDS virus by using condoms every time they have sexual intercourse, by having just one sex partner who is not infected and has no other partners, and by abstaining from sexual intercourse, by residence and region, Guyana 2009

Residence and region	Women					Men				
	Using condoms ¹	Limiting sexual intercourse to one uninfected partner ²	Using condoms and limiting sexual intercourse to one uninfected partner ^{1,2}	Abstaining from sexual intercourse	Number of women	Using condoms ¹	Limiting sexual intercourse to one uninfected partner ²	Using condoms and limiting sexual intercourse to one uninfected partner ^{1,2}	Abstaining from sexual intercourse	Number of men
Residence										
Urban	90.4	90.9	85.2	89.2	1,475	92.6	91.2	86.9	90.6	949
Georgetown urban	93.7	93.1	89.7	94.3	967	96.5	93.8	91.5	92.7	619
Other urban	84.0	86.7	76.8	79.5	508	85.5	86.3	78.4	86.6	330
Rural	77.5	78.7	68.2	73.6	3,521	80.7	82.3	72.7	73.1	2,573
Coastal	83.1	83.6	75.0	79.6	4,495	85.6	86.0	78.1	78.8	3,126
Urban	90.4	90.9	85.2	89.2	1,475	92.6	91.2	86.9	90.6	949
Rural	79.5	80.0	70.0	74.9	3,019	82.6	83.8	74.3	73.7	2,176
Interior	65.5	70.8	57.8	65.3	501	70.4	74.4	64.2	70.2	396
Region										
Region 1	60.4	63.9	50.5	61.6	162	61.8	64.6	54.1	63.4	160
Region 2	79.5	84.9	73.5	76.6	293	86.2	88.9	79.8	84.5	179
Region 3	83.3	83.0	75.0	77.8	687	75.2	76.0	65.5	64.7	420
Region 4	85.4	84.9	77.8	84.2	2,168	93.4	93.1	89.0	86.5	1,540
Region 5	76.1	75.2	65.5	70.8	353	77.5	74.7	64.8	67.3	271
Region 6	79.6	81.1	70.0	71.5	780	75.5	77.8	62.7	69.9	587
Region 7	79.9	81.2	73.9	75.2	104	75.9	78.7	72.0	71.8	61
Region 8	61.5	74.7	58.3	61.9	95	67.5	71.4	60.6	63.8	68
Region 9	54.7	60.5	47.9	55.4	78	76.2	83.6	71.3	80.4	57
Region 10	84.7	89.0	77.8	84.3	277	88.8	92.0	85.0	88.9	178
Total 2009	81.3	82.3	73.3	78.2	4,996	83.9	84.7	76.5	77.8	3,522
Total 2005	81.9	86.9	76.2	87.7	2,425	85.0	89.3	80.5	86.2	1,875

¹ Every time they have sexual intercourse

² Who has no other partners

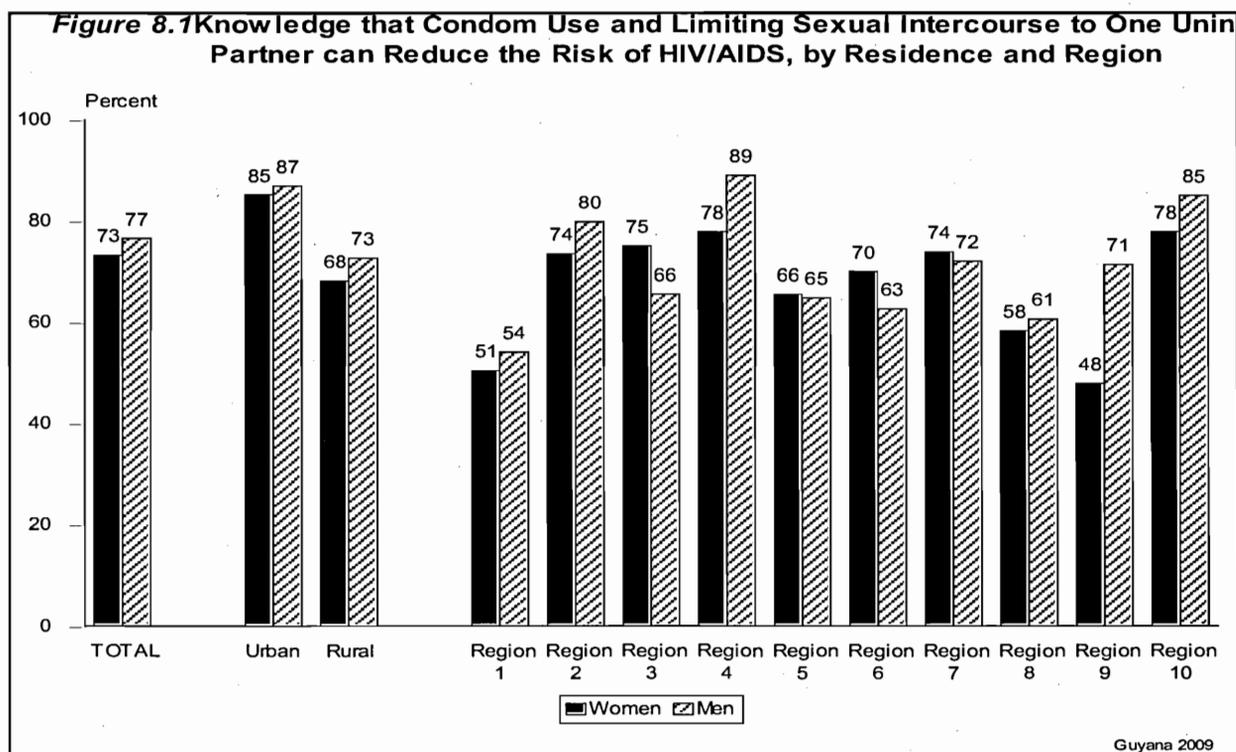


Table 8.2.2 Knowledge of HIV prevention methods by demographic characteristics

Percentage of women and men age 15-49 who, in response to prompted questions, say that people can reduce the risk of getting the AIDS virus by using condoms every time they have sexual intercourse, by having just one sex partner who is HIV negative and has no other partners, and by abstaining from sexual intercourse, by demographic characteristics, Guyana 2009

Demographic characteristic	Women					Men				
	Using condoms ¹	Limiting sexual intercourse to one uninfected partner ²	Using condoms and limiting sexual intercourse to one uninfected partner ^{1,2}	Abstaining from sexual intercourse	Number of women	Using condoms ¹	Limiting sexual intercourse to one uninfected partner ²	Using condoms and limiting sexual intercourse to one uninfected partner ^{1,2}	Abstaining from sexual intercourse	Number of men
Age										
15-24	83.2	79.6	72.4	78.5	1,783	83.5	83.8	75.3	76.9	1,200
15-19	81.8	78.8	71.1	77.4	1,016	84.4	81.4	75.2	76.0	689
20-24	85.0	80.6	74.0	80.0	767	82.4	86.9	75.4	78.2	511
25-29	81.8	84.2	75.6	77.5	658	87.8	86.4	79.5	80.0	462
30-39	81.3	84.3	74.3	79.5	1,342	82.2	83.8	75.8	76.3	990
40-49	78.4	83.0	72.2	76.5	1,213	84.2	86.2	77.5	79.6	870
Marital status										
Never married	84.9	84.0	76.8	82.1	1,540	84.9	82.7	76.1	78.9	1,382
Ever had sex	89.0	87.2	81.5	84.8	761	87.1	85.6	78.8	82.5	863
Never had sex	81.0	80.9	72.2	79.5	779	81.3	77.9	71.6	72.9	518
Married or living together	79.0	80.5	70.8	75.7	2,920	82.6	86.3	76.4	77.3	1,835
Divorced/separated/widowed	83.5	87.1	76.5	80.7	536	87.3	83.9	79.6	76.0	305
Education										
No education	40.8	50.8	34.8	46.6	68	46.2	54.3	41.2	48.1	60
Primary	68.2	68.7	56.8	65.2	952	77.5	80.4	69.5	69.3	711
Secondary	84.2	85.6	76.9	80.6	3,568	85.8	85.7	78.2	79.7	2,459
More than secondary	93.7	89.8	85.9	92.1	409	91.1	93.1	86.9	89.1	292
Total 2009	81.3	82.3	73.3	78.2	4,996	83.9	84.7	76.5	77.8	3,522
Total 2005	81.9	86.9	76.2	87.7	2,425	85.0	89.3	80.5	86.2	1,875

Note: Currently married includes respondents in consensual unions (living together). Formerly married includes divorced, separated, and widowed respondents.

¹ Every time they have sexual intercourse

² Who has no other partners

Multiple Sexual Partners and Higher-Risk Sex

In the context of HIV/AIDS prevention, different kinds of sexual activity are broadly classified as higher-risk or lower-risk. Higher-risk sexual intercourse (sexual intercourse with a nonmarital, noncohabiting partner) is a particular focus of programmatic interventions because it contributes to the transmission of HIV. Along with condom use and delaying sexual debut, reducing the number of sexual partners, and maintaining exclusive monogamy with a spouse or partner are key messages found in most AIDS prevention programs.

Engaging in sexual intercourse with someone other than a spouse or partner with whom one is living is considered higher-risk sexual intercourse because of the risk of transmitting HIV or an STI. If a person has sexual intercourse with a nonmarital, noncohabiting partner, the risk of contracting HIV can be reduced by using condoms. Monitoring condom use at the population level is key to monitoring and evaluating HIV/AIDS programs. Among women, higher-risk sexual intercourse is not socially sanctioned in most settings and may be underreported in the survey. As such, the sample size for calculation of condom use among women may be too small in some categories to be fully analyzed.

Tables 8.3 and 8.4 show, respectively, the percentage of women and men who had sexual intercourse with a higher-risk (nonmarital, noncohabiting) partner, among women and men who reported having sexual intercourse during the 12 months preceding the survey. Those who had engaged in higher-risk intercourse were asked whether they had used a condom the last time they had sexual intercourse with a higher-risk partner. The prevalence of higher-risk sexual intercourse in the past 12 months and the use of condoms at last higher-risk sexual intercourse are summarized by residence for women and men in Figures 8.2 and 8.3.

- A larger proportion of men (10 percent) than women (1 percent) reported having had more than one sexual partner in the 12 months preceding the survey. Seventeen percent of women and 29 percent of men reported having had high-risk sexual intercourse in the past 12 months.
- Sexual behavior differs by residence, with larger differences among women than men. More than twice as many women in urban areas compared with rural areas reported having had higher-risk sexual intercourse in the past 12 months (27 and 13 percent, respectively), while only 2 percent of women in urban areas and 1 percent in rural areas had more than one sexual partner. For men, the difference by residence in the prevalence of higher-risk sexual intercourse is not as large (42 percent in urban areas and 25 percent in rural areas). At the same time, 15 percent of men in urban areas and 8 percent in rural areas reported having multiple sexual partners in the past year.
- Women and men with higher levels of education and those living in households in the higher wealth quintiles are more likely to engage in higher-risk sexual intercourse than their counterparts in other socio-demographic groups.
- Half of women and 65 percent of men reported use of a condom the last time they had higher-risk sexual intercourse in the past 12 months.
- Overall, the mean number of lifetime sexual partners is higher for men (8) than for women (2). Women and men with higher levels of education are more likely to have multiple partners and higher-risk sexual intercourse in the past 12 months than those with lower levels of education; however, the mean number of lifetime sexual partners varies little by level of education. The mean number of lifetime sexual partners among previously married men is 15, with 7 each for never-married men and currently married men. Similarly, the mean number of lifetime sexual partners for previously married women is 4, with 2 each for never-married women and currently married women.

Table 8.3 Multiple sexual partners and higher-risk sexual intercourse in the past 12 months: women

Among all women age 15-49, the percentage who had sexual intercourse with more than one sexual partner and the percentage who had intercourse in the past 12 months with a person who was neither their husband nor who lived with them; among women age 15-49 who had sexual intercourse in the past 12 months, the percentage who had intercourse with more than one partner and the percentage who had higher-risk sexual intercourse in the past 12 months; and among those having higher-risk intercourse in the past 12 months, the percentage reporting that a condom was used at last higher-risk intercourse, and the mean number of sexual partners during their lifetime for women who ever had sexual intercourse, by background characteristics, Guyana 2009

Background characteristic	All women			Women who had sexual intercourse in the past 12 months			Condom use among women who had 2+ partners		Condom use among women who had higher-risk intercourse ¹		Mean number of sexual partners in lifetime	
	Percentage who had 2+ partners in the past 12 months	Percentage who had higher-risk intercourse in the past 12 months ¹	Number of women	Percentage who had 2+ partners in the past 12 months	Percentage who had higher-risk intercourse in the past 12 months ¹	Number of women who had sexual intercourse	Percentage who reported condom use at last intercourse	Number of women who had 2+ partners in the past 12 months	Percentage who reported condom use at last higher-risk intercourse ¹	Number of women who had higher-risk intercourse ¹	Mean number of sexual partners in lifetime	Number of women who ever had intercourse
Residence												
Urban	2.2	26.7	1,475	3.2	39.5	994	(64.3)	32	61.3	394	2.5	1,156
<i>Georgetown</i>	2.3	30.4	967	3.3	43.9	666	*	22	62.0	294	2.6	778
<i>Other urban</i>	1.9	19.7	508	3.0	30.4	328	*	10	59.1	100	2.2	378
Rural	0.9	12.5	3,521	1.2	17.1	2,562	(31.1)	31	44.1	439	2.0	2,852
Coastal	1.2	16.9	4,495	1.7	24.1	3,141	(50.6)	55	53.1	758	2.1	3,578
<i>Coastal urban</i>	2.2	26.7	1,475	3.2	39.5	994	(64.3)	32	61.3	394	2.5	1,156
<i>Coastal rural</i>	0.7	12.1	3,019	1.1	16.9	2,148	*	23	44.2	365	1.9	2,422
Interior	1.7	14.9	501	2.1	17.8	415	*	9	43.3	75	2.6	430
Region												
Region 1	0.6	10.4	162	0.7	11.8	142	*	1	(42.0)	17	2.6	142
Region 2	0.5	9.1	293	0.7	12.6	211	*	1	(62.3)	27	1.6	233
Region 3	1.4	12.8	687	2.0	18.2	482	*	10	48.5	88	1.7	541
Region 4	1.5	22.2	2,168	2.1	31.4	1,533	*	32	56.3	482	2.5	1,745
Region 5	0.7	10.7	353	1.0	15.6	242	*	2	(29.0)	38	1.5	289
Region 6	0.5	7.5	780	0.8	10.8	534	*	4	35.6	59	1.5	608
Region 7	2.5	18.8	104	3.2	22.7	82	*	3	44.0	19	3.0	87
Region 8	2.4	14.5	95	2.9	17.2	80	*	2	(38.6)	14	2.9	82
Region 9	2.8	12.3	78	3.7	16.1	59	*	2	48.7	10	1.7	63
Region 10	1.9	29.0	277	2.8	42.2	191	*	5	57.9	81	2.8	218
Age												
15-24	1.3	22.4	1,783	2.4	42.4	939	*	22	55.8	399	1.8	1,028
<i>15-19</i>	1.1	17.3	1,016	3.2	52.1	337	*	11	58.9	176	1.6	382
<i>20-24</i>	1.5	29.1	767	1.9	36.9	602	*	12	53.4	223	2.0	646
25-29	2.2	22.5	658	2.5	26.0	569	*	14	46.7	148	2.1	601
30-39	1.6	13.1	1,342	1.9	15.7	1,108	*	21	54.6	175	2.1	1,252
40-49	0.4	9.1	1,213	0.6	11.7	940	*	5	42.4	111	2.5	1,127
Marital status												
Never married	2.0	34.2	1,540	6.0	99.8	526	(49.6)	31	57.2	527	2.3	728
In union	0.4	1.3	2,920	0.5	1.4	2,725	*	13	49.6	38	1.9	2,783
Divorced/separated/ widowed	3.6	49.9	536	6.2	87.1	306	*	19	42.7	268	3.5	498
Education												
No education	0.6	5.8	68	0.7	6.2	63	*	0	*	4	2.2	62
Primary	0.8	7.2	952	1.0	8.7	786	*	8	47.0	68	1.9	858
Secondary	1.3	17.6	3,568	1.9	25.8	2,419	(61.1)	46	53.7	628	2.2	2,742
More than secondary	2.2	32.3	409	3.1	46.0	288	*	9	47.9	132	2.5	346
Total 2009	1.3	16.7	4,996	1.8	23.3	3,556	47.9	63	52.2	833	2.1	4,008
Total 2005	u	u	u	1.4	21.3	1,750	u	u	49.9	373	2.0	2,029

u = Unknown (not available)

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

¹ Sexual intercourse with a nonmarital, noncohabiting partner

Table 8.4 Multiple sexual partners and higher-risk sexual intercourse in the past 12 months: men

Among all men age 15-49, the percentage who had sexual intercourse with more than one sexual partner and the percentage who had intercourse in the past 12 months with a person who was neither their wife nor who lived with them; among men age 15-49 who had sexual intercourse in the past 12 months, the percentage who had intercourse with more than one partner and the percentage who had higher-risk sexual intercourse in the past 12 months; and among those having higher-risk intercourse in the past 12 months, the percentage reporting that a condom was used at last higher-risk intercourse, and the mean number of sexual partners during their lifetime for men who ever had sexual intercourse, by background characteristics, Guyana 2009

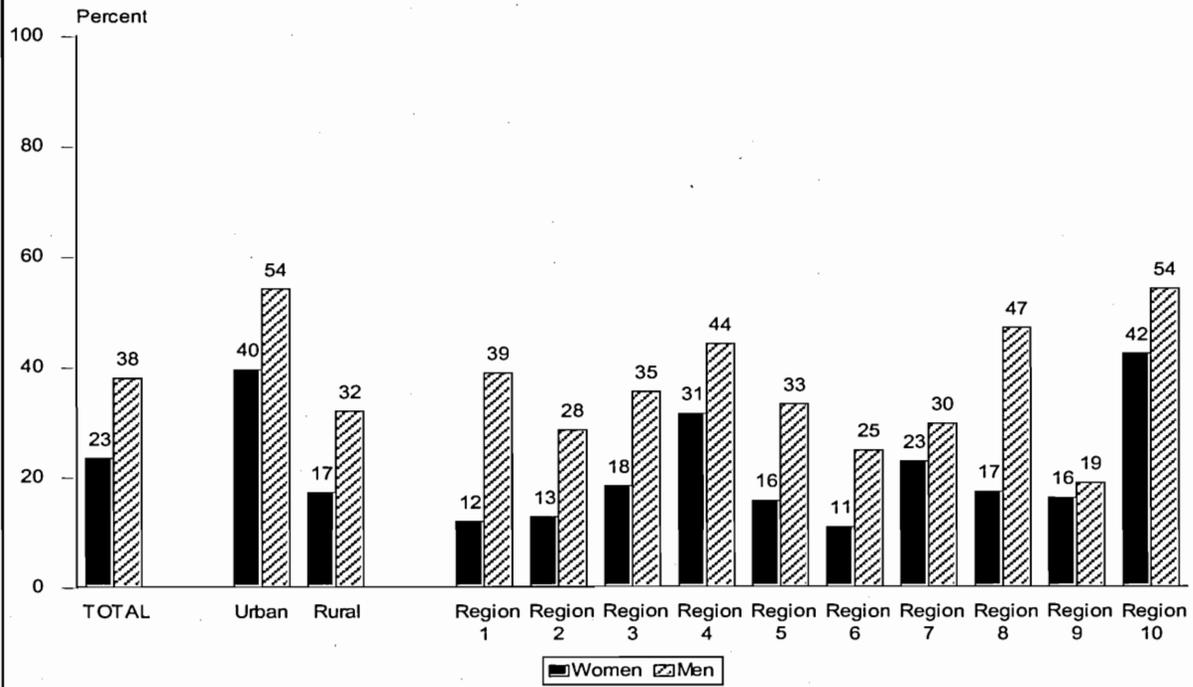
Background characteristic	All men			Men who had sexual intercourse in the past 12 months			Condom use among men who had 2+ partners		Condom use among men who had higher-risk intercourse ¹		Mean number of sexual partners in lifetime	
	Percentage who had 2+ partners in the past 12 months	Percentage who had higher-risk intercourse in the past 12 months ¹	Number of men	Percentage who had 2+ partners in the past 12 months	Percentage who had higher-risk intercourse in the past 12 months ¹	Number of men who had sexual intercourse	Percentage who reported condom use at last intercourse	Number of men who had 2+ partners in the past 12 months	Percentage who reported condom use at last higher-risk intercourse ¹	Number of men who had higher-risk intercourse ¹	Mean number of sexual partners in lifetime	Number of men who ever had intercourse
Residence												
Urban	14.8	41.9	949	19.2	54.1	734	70.8	141	77.3	397	8.5	630
Georgetown	16.2	46.9	619	20.6	59.6	487	73.3	100	76.5	290	9.6	384
Other urban	12.3	32.4	330	16.5	43.3	247	64.9	41	79.4	107	6.8	246
Rural	8.1	24.6	2,573	10.4	31.9	1,984	61.7	207	68.0	633	7.6	1,921
Coastal	9.6	29.1	3,126	12.6	38.0	2,388	64.6	300	71.3	908	7.7	2,257
Coastal urban	14.8	41.9	949	19.2	54.1	734	70.8	141	77.3	397	8.5	630
Coastal rural	7.3	23.5	2,176	9.6	30.9	1,653	59.0	159	66.7	511	7.4	1,628
Interior	12.2	30.7	396	14.7	36.8	330	70.4	48	73.4	122	8.2	294
Region												
Region 1	10.4	33.7	160	12.0	38.8	138	78.1	*	75.7	54	8.6	129
Region 2	7.3	21.9	179	9.5	28.4	138	(66.3)	13	75.0	39	6.2	143
Region 3	8.7	27.2	420	11.3	35.4	323	(56.8)	36	55.0	114	7.8	313
Region 4	10.3	33.9	1,540	13.4	44.1	1,185	69.4	159	74.6	523	9.2	1,065
Region 5	8.2	22.8	271	11.9	33.1	187	(67.3)	22	74.0	62	5.8	183
Region 6	8.2	19.2	587	10.6	24.7	456	48.9	48	61.6	113	5.5	459
Region 7	8.3	24.5	61	10.0	29.6	50	45.7	*	(57.1)	15	9.4	50
Region 8	22.6	39.1	68	27.1	47.0	57	66.5	*	(73.9)	27	8.5	35
Region 9	8.3	14.8	57	10.5	18.8	45	78.9	*	(84.6)	8	6.2	42
Region 10	15.5	42.2	178	19.9	54.1	139	(73.1)	28	83.8	75	7.6	132
Age												
15-24	12.4	41.6	1,200	23.6	79.1	632	76.1	149	78.1	500	6.1	659
15-19	8.0	30.2	689	25.6	96.4	216	85.8	55	85.1	208	5.2	264
20-24	18.4	57.1	511	22.6	70.1	416	70.4	94	73.1	292	6.7	395
25-29	9.5	34.0	462	10.9	39.1	402	(76.7)	44	70.8	157	6.8	358
30-39	10.1	23.2	990	11.2	25.7	893	56.6	100	66.5	230	7.5	820
40-49	6.4	16.5	870	7.0	18.2	792	43.4	55	57.6	144	10.2	714
Marital status												
Never married	13.0	50.0	1,382	25.9	99.7	693	83.8	180	78.3	691	7.1	734
Married/living together	5.6	6.6	1,835	5.8	6.8	1,781	27.4	103	59.1	121	7.0	1,569
Divorced/separated/widowed	21.3	71.4	305	26.6	89.4	244	75.0	65	57.2	218	14.9	249
Education												
No education	0.0	6.3	60	0.0	(8.3)	45	*	0	*	4	(7.1)	44
Primary	7.1	21.0	711	8.3	24.4	612	(51.0)	51	54.1	149	6.0	581
Secondary	10.6	30.7	2,459	14.4	41.5	1,818	68.4	261	73.6	754	8.3	1,712
More than secondary	12.4	42.0	292	14.9	50.7	242	(63.6)	36	80.0	123	8.6	213
Total 2009	9.9	29.2	3,522	12.8	37.9	2,718	65.4	348	71.5	1,030	7.8	2,551
Total 2005	u	u	u	9.4	35.1	1,384	u	u	65.9	486	6.0	1,555

u = Unknown (not available)

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk (*) indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

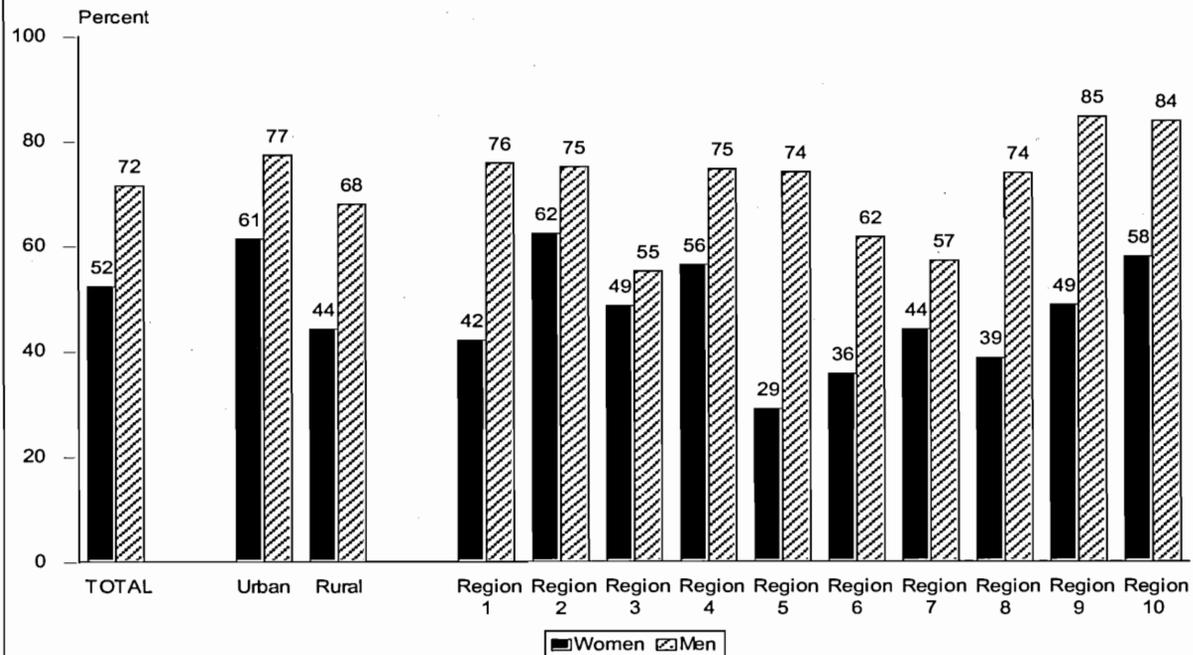
¹ Sexual intercourse with a partner who was neither a spouse nor who lived with the respondent

Figure 8.2 Prevalence of Higher-risk Sexual Intercourse among Women and Men Who Had Higher-risk Sexual Intercourse in the Past 12 Months, by Residence and Region



Guyana 2009

Figure 8.3 Prevalence of Condom Use at Last Higher-Risk Sexual Intercourse among Women and Men Who Had Higher-risk Sexual Intercourse in the Past 12 Months, by Residence and Region



Guyana 2009

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Report	Published	Language(s)
Chad 2004	February 2006	French
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Tanzania 2004-05	May 2006	English
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