



MINISTRY OF HEALTH

National Health Survey 2012

REPORT

MINISTRY OF HEALTH



2012
National Health Survey

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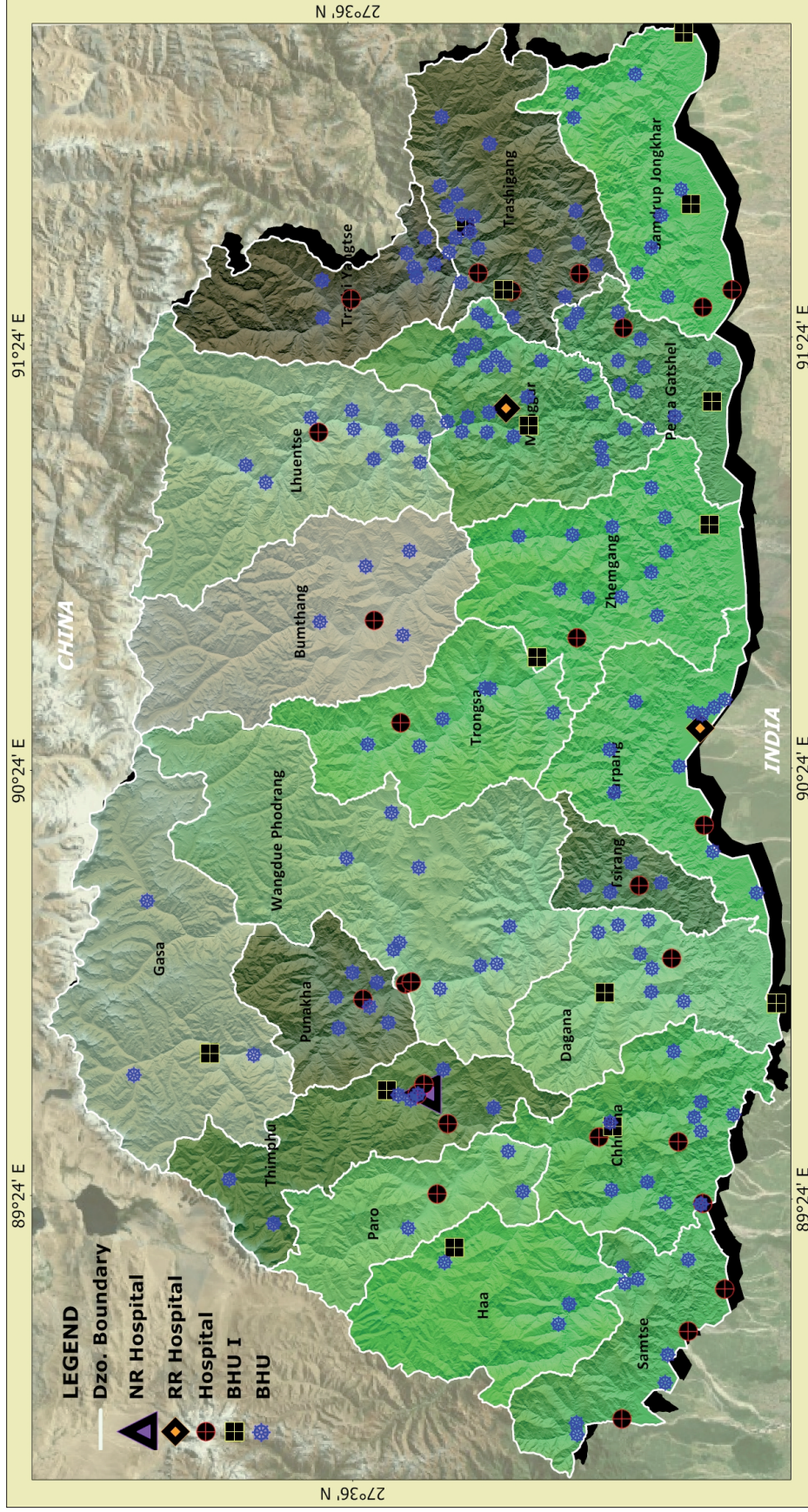
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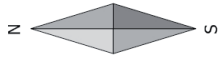
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Map of Bhutan



HEALTH INFRASTRUCTURE - 2012



Acknowledgements

The Survey and the Report would not have been possible without the support of many organizations and hard-working individuals. The Ministry would like to extend its sincere gratitude to all involved for their contributions in making the Survey possible.

The Ministry is grateful to the UN System-UNFPA for providing financial and technical assistance in areas of survey protocol development, questionnaire development and data processing and the WHO for their support. We are indebted to the Dzongkhag and local government officials of the 20 Dzongkhags led by the Dasho Dzongdags who provided all necessary support including providing lodging in schools, RNR centers, and health facilities for our Survey Teams.

The Ministry would like to express special appreciation to the 164 university graduate enumerators and 40 field supervisors who tirelessly and diligently collected all necessary Survey Data while enduring much hardship in the field without complaints. Sincere gratitude is also extended to all the respondents for their time, cooperation and active participation in the survey. The Ministry would also like to thank members of the 2012 National Health Survey's National Steering Committee and the National Technical Committee for their invaluable guidance and support including the review of 2012 NHS Report.

Lastly, the Ministry of Health would like to acknowledge the highly commendable contributions made by the team from the Ministry of Health and the National Statistics Bureau for their joint efforts in the successful conduct of the 2012 National Health Survey.

Foreword



Bhutan has made great strides in the health sector under the visionary leadership of our monarchs. The results of the current survey also provide further testimony of Bhutan's achievements in several spheres of population health.

A key challenge now is sustaining the level of progress made thus far while initiating further improvements in both public health and clinical services. For example, although Bhutan has achieved the Millennium Development Goal (MDG) of reducing infant mortality rate (IMR) by two-thirds from 90 per 1000 live births in 1990 to 30 per 1000 live births in 2012, it is important to remember that the MDGs set relative targets and an IMR of 30/1000 live births is still relatively high. Further, the survey found that about 70% of all deaths under one year of age occur within the first 28 days of birth - a concern that needs to be addressed through significant investments in areas of critical care. The survey results also indicate a high prevalence of risk factors for life-style related diseases which had already become a growing concern in the country-only about 25 % of the Bhutanese population aged 10-75 years indulge in sports/recreational/fitness activities and a vast majority of those who indulge in fitness/sports activity are below 30 years of age.

Against the backdrop of complex macroeconomics of health and several other new emerging health challenges, the Ministry's endeavor to sustain progress and set new targets and standards underscores the importance of using available resources in the most efficient and effective manner. In this context, I am pleased to present the 2012 National Health Survey Report, which provides the much needed updates on a range of important and nationally representative data essential for evidence-based health care planning and policy decision-making. I am confident that this report will be useful to all of our valued partners, both national and international, as we collectively strive to improve the country's health care system.

I would like to thank the UNFPA for providing financial and technical support and the WHO for their support in conducting the survey. I also take this opportunity to extend my sincere appreciation to all the Dzongkhag and local government officials for their support to our survey teams. 164 university graduates were employed

as enumerators and I thank them deeply for their hard work and commitment to this important national undertaking, despite their minimal remuneration and the difficult conditions they had to face in the fields. I also immensely thank all the survey respondents for their time and cooperation. Lastly, I take great pride in commending the officials of the Ministry of Health and the National Statistics Bureau for their joint efforts in successfully completing the survey and bringing out this important report.



NIMA WANGDI
SECRETARY

List of Abbreviations

AIDS	: Acquired Immunodeficiency Syndrome
ANC	: Ante-natal Care
ASFR	: Age-Specific Fertility Rate
BHU	: Basic Health Unit
CBR	: Crude Birth Rate
CEB	: Children Ever Born
DHS	: Demographic and Health Survey
EPI	: Expanded Programme on Immunization
GDP	: Gross Domestic Product
GFR	: General Fertility Rate
HH	: Household
HHC	: Health Help Centre
HIV	: Human Immunodeficiency Virus
HPV	: Human Papilloma Virus
IMR	: Infant Mortality Rate
IUD	: Intrauterine Device
JMP	: Joint Monitoring Programme
MDG	: Millennium Development Goals
MMR	: Maternal Mortality Ratio
MoH	: Ministry of Health
MSTF	: Multi-Sectorial Task Force
MTCT	: Mother to Child Transmission
NFE	: Non-formal Education
NHA	: National Health Accounts
NHS	: National Health Survey
NSB	: National Statistics Bureau
ORC	: Outreach Clinic
PNC	: Post-natal Care
PSU	: Primary Sampling Unit
RGoB	: Royal Government of Bhutan
RNR	: Renewable Natural Resource
SBA	: Skilled Birth Attendant
SPSS	: Statistical Package for Social Sciences
TFR	: Total Fertility Rate
TT	: Tetanus Toxoid
UNFPA	: United Nations Population Fund
UNICEF	: United Nations Children's Fund
U5MR	: Under-five Mortality Rate
VHW	: Village Health Worker
WHO	: World Health Organization

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** Health Management Information System*

Table of Findings

TABLE OF FINDINGS NATIONAL HEALTH SURVEY 2012, BHUTAN					
INDICATORS	National Health Surveys ESTIMATE				UNIT OF MEASURE
	1984	1994	2000	2012	
Population enumerated:					
Male	27,747	30,440	33,489	29,159	persons
Female	28,458	33,450	35,358	30,362	
Total	56,205	63,890	68,847	59,521	
Crude rate of natural increase (CRNI)/ Natural growth rate of population	2.6	3.1	2.5	1.2	percent
Sex ratio of the population	97.5	91.0	94.7	96.0	males per 100 females
Total dependency ratio	80.0	91.7	77.4	59.4	per 100 persons 15-64 years
Sex ratio at birth	102	105	106	104	males per 100 females
General fertility rate	169.6	172.7	142.7	72.0	births per 1000 women 15-49 years
Total fertility rate	-	5.6	4.7	2.3	children per woman
Crude birth rate	39.1	39.9	34.1	17.9	births per 1000 population
Adolescent birth/ fertility rate	-	120	61.7	28.4	births per 1000 adolescent women 15-19 years
Crude death rate	13.4	9.0	8.6	6.2	deaths per 1000 population
Infant mortality rate	102.8	70.7	60.5	30.0	deaths per 1000 live births
Under-five mortality rate	162.4	96.9	84.0	37.3	deaths per 1000 live births

TABLE OF FINDINGS NATIONAL HEALTH SURVEY 2012, BHUTAN					
INDICATORS	National Health Surveys ESTIMATE				UNIT OF MEASURE
	1984	1994	2000	2012	
Maternal mortality ratio	777	380	255	86.0**	deaths per 100000 live births
Proportion of births attended by skilled health personnel	-	10.9	23.7	74.6	percent
Institutional delivery	-	-	19.8	73.7	percent

*** Due to issues of sample size and limitations related to underreporting and misclassification of maternal deaths, the estimate of MMR needs to be interpreted with caution. The Ministry of Health recommends process indicators (e.g. attendance by skilled health personnel at delivery and use of health facilities for delivery) as proxies to assess progress made towards the reduction in maternal mortality in the country.*

TABLE OF FINDINGS NATIONAL HEALTH SURVEY (NHS), BHUTAN 2012			
TOPIC	INDICATORS	ESTIMATE VALUE	UNIT OF MEASURE
HOUSEHOLD POPULATION & COMPOSITION	<15 years	30.5	percent
	15-64 years	62.7	percent
	65+ years	6.7	percent
	Median age of population	24.0	years
	Average household size	4.4	persons
DEPENDENCY RATIOS	Child/Young	48.7	per 100 persons 15- 64 years
	Old/Aged	10.8	per 100 persons 15- 64 years
	Ageing index	22.1	number of aged persons per 100 children
FERTILITY	Mean age at menarche	14.0	years
	Mean age at first pregnancy	20.0	Years
ACCESS TO IMPROVED SANITATION FACILITY	Percentage of population with access to improved sanitation facility*	66.3	percent
ACCESS TO IMPROVED DRINKING WATER SOURCE	Percentage of population with access to improved drinking water source	97.7	percent

* Please see the definition on page 40

TABLE OF FINDINGS
NATIONAL HEALTH SURVEY (NHS), BHUTAN 2012

TOPIC	INDICATORS	ESTIMATE VALUE	UNIT OF MEASURE
INJURY	Prevalence of injury	1.2	percent
	Percentage of injured population due to vehicular accident	14.6	percent
	Percentage of injured population as a result of non-vehicular accidents	85.4	percent
DISABILITY/ IMPAIRMENT	Prevalence of self-reported visual impairment	2.5	percent
	Prevalence of self-reported hearing impairment	2.9	percent
	Prevalence of self-reported speech impairment	1.2	percent
	Prevalence of self-reported mobility impairment	1.3	percent
	Prevalence of self-reported remembering/ concentrating impairment	0.7	percent
	Prevalence of self-reported self-care activities impairment	0.9	percent
NEAREST HEALTH FACILITY (ORC is not included as health facility)	Percentage of population living within 2 hours from a nearest health facility	87.7	percent
	Percentage of population living within 3 hours from a nearest health facility	94.8	percent
	Percentage of households with BHU-II as nearest health facility	45.5	percent
	Percentage of households with district hospital as nearest health facility	28.7	percent
	Percentage of households with referral hospital as nearest health facility	11.1	percent
	Percentage of households with military hospital as nearest health facility	6.1	percent
	Percentage of households with BHU-I as nearest health facility	8.3	percent

TABLE OF FINDINGS
NATIONAL HEALTH SURVEY (NHS), BHUTAN 2012

TOPIC	INDICATORS	ESTIMATE VALUE	UNIT OF MEASURE
UTILIZATION OF HEALTH SERVICES	Percentage of households whose members <i>usually</i> visit BHU-II for their health concerns	38.2	percent
	Percentage of households whose members <i>usually</i> visit district hospital for their health concerns	33.3	percent
	Percentage of households whose members <i>usually</i> visit BHU-I for their health concerns	9.1	percent
	Percentage of households whose members <i>usually</i> visit Military hospital for their health concerns	3.6	percent
	Percentage of households whose members <i>usually</i> visit Referral hospital for their health concerns	15.9	percent
	Percentage of population who fell ill in the past 30 days before the survey and who first sought assistance from health care professionals	81.5	percent
SATISFACTION WITH HEALTH SERVICES	Percentage of population aged 10-75 years who are aware of health help center	62.5	percent
	Percentage of population aged 10-75 years are aware of health help center and who used it for health reasons in the past year	6.9	percent
	Percentage of population aged 10-75 years who visited a health facility in the past year	62.5	percent
	Percentage of population aged 10-75 years who visited a health facility in the past year and who were generally satisfied with services received	92.1	percent
	Percentage of population aged 10-75 years who visited a health facility in the past year and who were generally dissatisfied with services received	6.8	percent

TABLE OF FINDINGS NATIONAL HEALTH SURVEY (NHS), BHUTAN 2012			
TOPIC	INDICATORS	ESTIMATE VALUE	UNIT OF MEASURE
VILLAGE HEALTH WORKERS	Percentage of households in areas where there are village health workers and whose members reported meeting a village health worker at least once for health reasons in the past year	55	percent
HOUSEHOLD WASTE DISPOSAL	Percentage of households disposing off their household wastes using public garbage collection system	22.4	percent
HIV/ AIDS	Percentage of population aged 15-24 years with comprehensive correct knowledge of HIV/ AIDS	23.2	percent
	Percentage of population aged 10-75 years with comprehensive correct knowledge of HIV/ AIDS	16.8	percent
	Percentage of women aged 15-49 years aware of all three means of mother to child transmission (MTCT) of HIV/ AIDS	46.9	percent
TOBACCO & SMOKELESS TOBACCO USE	Percentage of population aged 15-75 years who currently smoke tobacco	4.0	percent
	Percentage of population aged 10-75 years who currently smoke tobacco	3.5	percent
	Percentage of current smokers aged 10-75 years who smoke on a daily basis	53	percent
	Percentage of population aged 15-75 years who use smokeless tobacco	47.9	percent
	Percentage of population aged 15-75 years who eat doma/ betel quid	43.9	percent
	Percentage of population aged 15-75 years who use chewing tobacco	7.9	percent
	Percentage of population aged 15-75 years who use snuff (by nose)	0.2	percent

TABLE OF FINDINGS NATIONAL HEALTH SURVEY (NHS), BHUTAN 2012			
TOPIC	INDICATORS	ESTIMATE VALUE	UNIT OF MEASURE
ALCOHOL USE	Percentage of population aged 15-75 years who currently use alcohol	28.1	percent
	Percentage of current alcohol users aged 10-75 years whose main source of alcohol is locally brewed	56	percent
	Percentage of population aged 10-75 years who drank alcohol in the past 12 months	28.5	percent
	Percentage of population aged 10-75 years who drank alcohol in the past 12 months on a daily basis	24	percent
DIET	Mean number of days of fruit consumption among 10-75 year olds who normally eat fruits	3.4	days
	Percentage of population aged 10-75 years who normally eat fruits and who eat 4 or less servings per day	90.5	percent
	Mean number of days of vegetable consumption among 10-75 year olds who normally eat vegetables	4.8	days
	Percentage of population aged 10-75 years who normally eat vegetables and who eat 4 or less servings per day	96	percent
PHYSICAL ACTIVITY	Percentage of population aged 10-75 years who do sports/ fitness/ recreational activities that cause an increase of breathing or heart rate for at least 10 minutes continuously	25.5	percent
	Average number of days spent doing recreational/sport/fitness activities in a normal week among those who do sports/recreational/fitness activities	3	days
	Average number of hours spent doing recreational/sport/fitness activities on a typical day among those who do sports/recreational/fitness activities	1.6	hours
	Percentage of population aged 10-75 years who walk/bicycle continuously for at least 10 minutes in a typical day to get to and from places	71.6	percent
	Average number of hours spent on a typical day by those who walk/ bicycle to get to and from places	1.3	hours

TABLE OF FINDINGS NATIONAL HEALTH SURVEY (NHS), BHUTAN 2012			
TOPIC	INDICATORS	ESTIMATE VALUE	UNIT OF MEASURE
DIABETES	Prevalence of self-reported diabetes among population aged 15-75 years	1.4	percent
	Percentage of population aged 10-75 years who are aware of diabetes	81.3	percent
HYPERTENSION	Prevalence of self-reported hypertension among population aged 15-75 years	16.0	percent
DRUG USE/ SUBSTANCE ABUSE	Percentage of population aged 15-75 years who ever used drugs/ substance to get high	2.1	percent
	Percentage of population aged 10-75 years who ever used drugs/ substance to get high	1.8	percent
REPRODUCTIVE HEALTH	Antenatal care coverage at least one visit (ANC 1+)	97.9	percent
	Antenatal care coverage at least four visits (ANC 4+)	81.7	percent
	Antenatal care coverage at least 8 visits	26.1	percent
	Percentage of women aged 15-49 years who received postnatal care for their most recent birth in the past 2 years before the survey	74.6	percent
	Percentage of women aged 15-49 years who were informed about the danger signs of pregnancy during antenatal visits for their most recent birth in the past 2 years before the survey	46.2	percent
	Percentage of women aged 15-49 years who knew at least one contraceptive method that could prevent or delay pregnancy	96.3	percent
	Prevalence of colostrum feeding among women aged 15-49 years who received postnatal care for their most recent birth in the 2 years preceding the survey	87.5	percent

TABLE OF FINDINGS NATIONAL HEALTH SURVEY (NHS), BHUTAN 2012			
TOPIC	INDICATORS	ESTIMATE VALUE	UNIT OF MEASURE
BREAST CANCER	Percentage of women aged 20-59 years who are aware of breast cancer	66	percent
CERVICAL CANCER	Percentage of women aged 20-59 years who are aware of Pap smear test	74.6	percent
ORAL HEALTH	Percentage of population aged 10-75 years who brushed their teeth regularly at least once a day	84.4	percent
	Percentage of population aged 10-75 who never received dental care	66.2	percent
CHILD IMMUNIZATION [Children 12-23 months]	Crude childhood immunization coverage (card plus history)	95.1	percent
	Proportion of 1 year-old children immunized against measles (MR1)	97.2	percent
	BCG	100.0	percent
	DTP-HepB1	99.6	percent
	DTP-HepB2	99.1	percent
	DTP-HepB3	98.7	percent
	OPV0	96.3	percent
	OPV1	99.2	percent
	OPV2	99.0	percent
	OPV3	97.4	percent
HPV VACCINATION [Girls who turned 13 years as of 1 st January 2013]	Crude HPV vaccination coverage (card plus history)	73.3	percent
	Crude HPV vaccination coverage (by card only)	90.5	percent
TETANUS TOXOID IMMUNIZATION [Mothers who became pregnant between 20 Nov., 2011 to 20 Nov., 2012]	Crude maternal TT1 coverage (by card)	97.9	percent
	Crude maternal TT2 coverage (by card)	93.1	percent
	Crude maternal TT 2 coverage (card plus history)	89.5	percent

TABLE OF FINDINGS NATIONAL HEALTH SURVEY (NHS), BHUTAN 2012			
TOPIC	INDICATORS	ESTIMATE VALUE	UNIT OF MEASURE
VIOLENCE AGAINST WOMEN			
INTIMATE PARTNER VIOLENCE (DOMESTIC VIOLENCE)– <i>[Past 1 year preceding the survey]</i>	Percentage of currently married women aged 15-75 years who experienced physical violence by their intimate partner	6.1	percent
	Percentage of currently married women aged 15-75 years who experienced sexual violence by their intimate partner	2.1	percent
	Percentage of currently married women aged 15-75 years who experienced psychological violence by their intimate partner	3.2	percent
NON-PARTNER VIOLENCE <i>[life time]</i>	Percentage of females aged 10-75 years who experienced non- partner physical violence	6.3	percent
	Percentage of women aged 10-75 years who experienced non- partner sexual violence	0.9	percent
	Percentage of women aged 10-75 years who experienced non- partner psychological violence	3.5	percent

Chapter 1: Introduction

1.1 BACKGROUND

Bhutan is a small Himalayan kingdom located in South-East Asia, bordered by China in the north and India in south, east and west.

The first Population and Housing Census of Bhutan (PHCB, 2005) revealed the country's population at 634,982 persons (53% male and 47% female) and an overall sex ratio of 111 males per 100 females. The median age was estimated at 22 years. The total population was projected at 720,679 persons in 2012 with a population density of 19 persons per sq. k.m

Bhutan is primarily an agrarian country with 69.1% of its total population living in rural areas. The general national literacy rate was 63% in 2012 while youth literacy rate was 86.1%. According to the National Statistics Bureau (NSB), the country's GDP per Capita was USD 2585 in 2012. The real GDP growth fell to 4.62% in 2012 from 8.5% in 2011 and 11.7% in 2010. Hydroelectric power (17.6% of GDP) followed by construction industry (13.5% of GDP) were the main economic drivers in the fiscal year 2011-2012. As of 2010, 75% of the nation's total imports came from India and 88% of the total exports were to India. The unemployment rate was 2.1% (Labor force Survey, 2012) with higher proportion of females (2.2%) compared to males (1.9%) unemployed.

With the start of planned socio-economic development in 1961, Bhutan began prioritizing development of a modern allopathic healthcare system. Prior to that, Bhutan had relied solely on a traditional system of medicine. However, under the farsighted leadership of their Majesties the Kings, Bhutan progressed from an almost non-existent modern health care to today's well-functioning health system.

Since the beginning of the modern health care system, every Bhutanese has received free health care services. The provision of free health care is now enshrined in the Constitution of the Kingdom of Bhutan with the constitution protecting every Bhutanese citizen from catastrophic health expenditures.

Health care is provided solely by the state through a three-tiered health care delivery system, which comprises of primary level care at the basic health units, secondary

level of care at the district hospitals and tertiary level of care at the regional and national referral hospitals. The state also supports referral costs outside Bhutan for conditions that are not manageable/treatable in the country.

Health care is mainly financed through the Government's general revenues, which include Government's tax, and non-tax revenues. The first National Health Accounts report of Bhutan (NHA, 2011) revealed that public health expenditure constituted 6.27 percent of total government expenditure and 3.23 percent of the country's GDP in 2009-2010. The NHA, 2011 also showed that total health expenditure as percentage of GDP was 3.68 and public health expenditure as percentage of total health expenditure was 88 percent.

Bhutan is well on track to achieve most of the health related MDG targets by 2015. Infant and under-five deaths decreased significantly in the past few decades. The current national health survey revealed that infant mortality rate (IMR) has decreased to 30 per thousand live births from 60.5 per 1000 live births in 2000 and the U-5 Mortality Rate to 37.3 per thousand live births from 80.4 in 2000. Immunization coverage was sustained at over 95 %, which is one of the highest in the Southeast Asian region.

NATIONAL HEALTH SURVEY

National Health Surveys serve as an important tool for collecting nationally representative data for monitoring population health status and for informing evidence-based health policy and planning. The Ministry of Health (MoH) has thus far conducted three National Health Surveys - in 1984, 1994 and in 2000. A basic principle adopted in designing the 2012 NHS was to collect data that are comparable with those collected in past national health surveys (1984, 1994 and 2000), and avoid, to the extent possible, duplication of data that were already collected by recent surveys of similar nature (e.g. BMIS, 2010).

To ensure relevancy of the data to be collected, various departments/divisions of the Ministry of Health were consulted with regard to their specific data requirements. Where 2012 NHS could not serve the purpose of collecting rigorous data for specific programmatic concerns, questions were included to collect only benchmark information that can serve as basis for further in-depth exploration.

The Standard methodology and model questions used in the global Demographic and Health Surveys (measure DHS) and others such as WHO STEPS survey were adopted but customized to suit local context. The 2012 NHS collected data on a wide range of health indicators including baseline information on emerging health issues such as non-communicable disease risk factors for the first time.

1.2 OBJECTIVES

- Provide reliable and nationally representative data to monitor trend in population health and health situation in Bhutan
- Provide reliable, updated and nationally representative data on priority health indicators to aid the Ministry of Health and partner organizations in planning and formulation of health policies and strategies
- Examine access to and utilization of health care services
- Assess childhood immunization coverage, Human Papilloma Virus vaccination coverage and maternal tetanus toxoid vaccination coverage
- Assess the prevalence of violence against women by both intimate and non-partners and women's attitude towards domestic violence

SURVEY ORGANIZATION

The 2012 NHS was implemented jointly by the Ministry of Health and the NSB. For the purpose of the survey, a National Steering Committee and a Technical Committee were created with specific responsibilities. The National Steering Committee provided oversight; facilitated decision-making processes; and provided guidance and broad support to ensure smooth functioning of the survey. Membership of the National Steering Committee comprised of high-level officials of the ministry and other partner institutions.

The Technical Committee provided technical inputs in drawing the detailed plan of the survey including the design of the questionnaire, trainings, fieldwork supervision and ensuring that survey results were of high quality and useful for the purpose they were being collected.

The NSB played a crucial role in the implementation of the survey given its expertise and experience in conducting this type of surveys. NSB carried out sampling design

and selection of sample areas for the 2012 NHS and assisted MoH in training the field supervisors and interviewers, specifically, on topics such as household listing, selection of sample households, and general survey interview techniques. It also supported development of systems and the computer programmes to enter data and in the cleaning/editing and tabulation of survey data.

The UNFPA provided financial and technical assistance in areas of survey protocol development, questionnaires development and data processing (data entry and editing/cleaning and data tabulation).

A Chief Technical Coordinator coordinated all technical aspects of the 2012 NHS, while the 2012 NHS Secretariat was responsible for all administrative and logistical aspects of the survey.

1.3 SAMPLE DESIGN

For sample design, the major features included choice of domains, sampling stages, stratification, target sample size, sample allocation, sampling frame and selection of clusters, listing, selection of households, and calculation of sample weights.

The sample for the survey was designed to produce statistically reliable estimates of most indicators at the national level, for urban and rural areas, and for the 20 Dzongkhags. Urban and rural areas in each of the 20 Dzongkhags were defined as the sampling strata.

The criterion variable that was selected to base the estimation of the required sample size was the proportion of households with access to any health facility within 1-hour walking distance from the nearest health facility.

The required sample size for each Dzongkhag was estimated next. This was done using data from the 2010 BMIS on the proportion of households in each Dzongkhag that had access to any health facility within 1 hour. Assuming that the selection of sample units follows a simple random scheme, the formula for sample size is as follows:

$$n = \frac{z^2 p(1-p)(f)(k)}{e^2}$$

Where:

n is the number of households required in the sample

z is the value of the statistic in a normal distribution for a 95% confidence interval (this value is 1.96 and for purposes of calculation it is rounded to 2)

p is the proportion of households with access to any health facility within 1 hour

e is the acceptable margin of error in estimating p ; set at .05

f is the sample design effect, assumed to be 2.0

k is the adjustment factor for an anticipated non-response of 5 %

For dzongkhags where the estimated sample size was small, it was felt that the sample may not be sufficient to reliably estimate the other indicators that would be collected during the survey. Considering these facts and also based on the efficiency of the sample size of past sample surveys, it was decided to reallocate the sample size by pegging a uniform sample size of 700 households per dzongkag, except for Gasa which was pegged at 300. This means that at the national level, the sample size would be 13,600. Furthermore, Lunana Gewog of Gasa was excluded from the frame for practical reasons since access to Lunana was difficult during the survey period because of bad weather conditions. The details of the survey sample design and implementation process are appended in **ANNEXURE-II**.

1.4 QUESTIONNAIRES

Trained interviewers using a structured questionnaire collected the data for the 2012 NHS. The survey instruments consisted of five main questionnaires - the household questionnaire, the individual questionnaire, the women's questionnaire, the immunization questionnaire and the violence against women questionnaire. The 2012 NHS questionnaires were in English. Experience from previous surveys of this nature indicated that use of an English questionnaire for data collection did not pose any major problems. In any case, several measures were taken to avoid mistranslation of the questions. Only university graduates who are familiar with the English language were recruited as interviewers and they were posted in areas where the local language was familiar to them. Furthermore, the training of interviewers included extensive sessions on how to translate questions into the national language as well as different local dialects. The questionnaires were pilot tested in rural and urban areas of Paro and Thimphu dzongkhags and the final pretested questionnaires were reviewed and approved by both the national technical and the national steering committees.

The household questionnaire collected demographic information about all the members of the household and information about the household as a social unit. It also collected information on mortality, morbidity, disability, injuries, health care expenditure, household waste disposal, village health worker, access to health services, access to improved sanitation and drinking water source, and data on physical characteristics and selected assets of households. The household questions were asked to any responsible member of the household, usually the head of the household. The household questionnaire was the first questionnaire to be administered and was used as the basis to identify eligible members for the other questionnaires.

The individual questionnaire collected information from persons aged 10-75 years on their personal knowledge and behavior relating to a wide range of health related topics including non-communicable disease risk factors and perception about quality of health care. The women's module collected data related to reproductive and maternal health from females aged 10-49 years. The violence against women questionnaire collected information on attitude towards intimate partner violence and on the prevalence of both intimate partner and/or non-partner violence. The immunization questionnaire collected data to determine the coverage of childhood immunization, human papilloma virus vaccine, and maternal tetanus toxoid vaccination. Information on immunization received was based on the immunization card issued by the Ministry of Health to each individual that receives the immunization shots. Information was obtained through verbal reports when immunization cards were not available. In order to ensure the most accurate information, responses were directly obtained from the specific individual household member for whom the questions were directed.

Privacy during the interview was sought to make the respondent feel comfortable while answering sensitive questions. Ethical standards during field interviews were maintained at all times. Prior to the interview, respondents were explained about the purpose of the survey and apprised of the means by which confidentiality of the information they give will be handled. Refusal to be interviewed or to answer specific questions were respected.

1.5 TRAINING

The 2012 NHS recruited 164 university graduates as enumerators and 40 senior health officials as field supervisors. A training agenda was prepared which outlined in detail the day-to-day activities and/or topics for discussion. The main focus of the training was on understanding the features of the questionnaire in terms of its organization, the meaning of each question and the type of responses it was intended to elicit, and how to record responses of the interviewees. The training also included sessions on household listing and selection of sample households while providing tips on how to conduct successful interviews. The contents of the training were drawn mainly from the interviewer's manual which was prepared primarily as a guide for interviewers on their roles and functions.

Prior to training field interviewers, team supervisors were trained for 5 days (5th – 9th November, 2012) on all aspects of survey questionnaires, field work and on how to discharge their role as team supervisor and field editor. For this purpose, the Supervisor's Manual was used as resource material. This was followed by training of all field interviewers in Thimphu in two batches for a period 8 days (12-19th November, 2012). All the team supervisors also joined this training.

Written tests were conducted after discussions of major and important topics to evaluate the extent to which trainees understood the instructions given to them. To enhance their interviewing skills, trainees were also made to conduct mock interviews in local dialects as well as in English during the training. Furthermore, interviewers and field supervisors did mock interviews in non-sampled areas of their respective dzongkhags during the first two days after arrival in the field.

Resource persons for the training were drawn from members of the Technical Committee and staff of the National Statistics Bureau who have extensive survey experience. In addition, experts on various thematic areas covered by the survey questionnaire were recruited as resource persons.

1.6 FIELD WORK (28 November, 2012-Mid-February, 2013)

The 2012 NHS utilized the team approach to data collection wherein teams were formed and assigned to address their respective assignments together. Each team was assigned a vehicle (with driver) to facilitate their mobility from one sample area to another.

Each survey team consisted of five members: one supervisor (who was also the field editor) and four interviewers. The interviewers in a team comprised of two males and two females. To the extent possible, the female team members interviewed female respondents. Two teams were deployed in each dzongkhag with the exception of three teams in Thimphu dzongkhag and one team in Gasa dzongkhag. Survey teams were assigned dzongkhags/districts taking into account their competency in local dialects.

The team supervisor was in charge of the team and the daily organization and supervision of the team's work. He/she was also responsible for the vehicle and driver, and for locating accommodation for the team. As concurrent field editor, he/she was also in charge of checking the quality of the interviews, both by reviewing all questionnaires and by observing interviews. Since each team included a team supervisor, closer supervision of interviewers was made possible. In addition to his/her function as team supervisor, he/she was also tasked to do field editing of the completed questionnaires on the same day.

On the first day of arrival in a sample area, the team conducted a listing of all households located in the area. The team supervisor following the prescribed procedure then drew sample households. He/she then allocated and assigned interviewers to visit and interview specific sample households.

If an interview was not completed on the first visit, interviewers went back to that household and attempted to complete the interview at least two or more times. If even after doing so, the interview was still not completed for some valid reason, then that household was considered a non-response case. When one or two callbacks were remaining for another day, the whole team stayed until all work in the area was completed.

1.7 DATA QUALITY CONTROL

The quality of data was the primary concern and measures were taken at every step of the planning and execution phase of the survey to ensure that the integrity and quality of data were not compromised. To minimize errors during data collection, the following system of supervision was put in place.

The team supervisors provided the first level of supervision. The supervisors were responsible for closely monitoring the work of the teams to ensure that all sampled households were visited and all eligible respondents were contacted. Supervisors made it a point to observe interviews by each of his/her interviewers and accompanied the team most of the times. Corrective measures were taken when supervisors spotted an interviewer to be weak in some aspects of the work. Supervisors also re-interviewed some households that were interviewed in his/her absence in order to validate the information that were collected earlier by an interviewer and ensure that the interviewer had not compromised the interview.

As field editors, team supervisors also reviewed all accomplished questionnaires in the field for accuracy and completeness on a daily basis and organized them appropriately before submission to the central office.

A second level of field supervisors was set up consisting of members of the 2012 NHS Technical Committee and other central office staff of MoH. This set of supervisors made un-announced visits to meet with the survey teams to ensure that the survey teams were always on their guard and that they carried out their duties faithfully at all times. These visits were strategically planned at the beginning of the fieldwork and towards the end. During these visits, the supervisors-at-large reviewed a number of completed and edited questionnaires of each interviewer, discussed with the survey team, and field supervisor his /her observations and issues that needed to be resolved.

1.8 DATA PROCESSING

Data processing consisted of several stages – manual editing, data entry and verification, batch editing and updating, and tabulation. Immediately after data collection, field supervisors manually reviewed the survey questionnaires to ensure completeness of entries.

Data entry was done at the Ministry of Health. A total of twenty data entry operators were hired and trained to key in the data. Most of them were recruited from among those who were involved in the field operations as either enumerator or supervisor. Their familiarity with the different kinds of questionnaires used in the survey was a facilitating factor during the data entry operation. In terms of the quality control of

the data, verification of data entry was done on a hundred percent basis – meaning that all questionnaires were re-entered and compared with the original keyed-in data to spot and correct data entry errors.

After data entry, a batch edit program was developed and run to identify errors and inconsistencies in the electronic data file. Minimal automatic corrections were made. A listing of such errors was prepared and manually verified through the survey questionnaires. The data files were updated accordingly. Several rounds of editing and updating were carried out to ensure that most of the errors were identified and corrected.

A consultant using the software CSPRo (Census and Survey Processing System) developed the data entry program and editing programs. Tabulations were done through SPSS (IBM SPSS Statistics, version 20).

1.9 RESPONSE RATE

From the 13600 sampled households, 13256 households were successfully interviewed resulting in a response rate of 97%. Of the 45,635 eligible individuals aged 10-75 year olds for the individual questionnaire, 39789 were successfully interviewed. Response rates of 90% and 91% were achieved for females aged 10-75 years for the domestic violence questionnaire and females aged 10-49 years for the women's questionnaire, respectively.



>> 2012 NHS Field Interview

SUMMARY OF FINDINGS

The 2012 NHS is a nationally representative household sample survey drawn using a stratified two stage sampling design. The sample was designed to generate statistically reliable estimates of most indicators at the national level, for urban and rural areas, and for the 20 Dzongkhags. From the 13600 sampled households, 13256 households were successfully interviewed resulting in a response rate of 97%. Of the 45,635 eligible individuals aged 10-75 years, 39789 were successfully interviewed. Response rates of 91% and 90% were achieved for females aged 10-49 years for the women's questionnaire and females aged 10-75 years for the violence questionnaire, respectively.

The survey collected data that can be compared with those collected in past national health surveys (1984, 1994 and 2000) while data on a wide range of health indicators, which were not collected in the past such as non-communicable disease risk factors, were also collected. 164 trained university graduate enumerators collected data from 28 November 2012 to mid-February 2013 using five structured questionnaires:

- a. **The household questionnaire** collected demographic information about all the members of the household and information about the household as a social unit. It also collected information on mortality, morbidity, disability, injuries, health care expenditure, household waste disposal, village health worker, access to health services, access to improved sanitation and drinking water source, and data on physical characteristics and selected assets of households.
- b. **The individual questionnaire** collected information from persons aged 10-75 years on knowledge and behavior of individuals pertaining to a wide range of health related topics including non-communicable disease risk factors.
- c. **The women's questionnaire** collected data related to reproductive and maternal health from female aged 10-49 years old.
- d. **The violence questionnaire** asked female respondents about their attitude towards violence by intimate partners and if ever they had been victims of violence perpetrated by intimate and/or non-intimate partners.

- e. **The immunization questionnaire** collected data to determine the coverage of childhood immunization, human papilloma virus vaccine coverage, and maternal tetanus toxoid vaccination coverage.

Source of drinking water

The survey found that 97.7% of the Bhutanese population have access to improved drinking water sources. The predominant sources of improved drinking water were water piped into compound (58.8%) followed by piped into dwelling (24 %), public tap (7.8%) and piped to neighbor (5.9%). By dzongkhag, the proportion of population with access to improved drinking water source varied from a high of 99.9% in Lhuentse to a low of 93.6% in Trashigang.

By area of residence, 99.5% of urban residents had access to improved drinking water source as compared 97.2% of rural population with access to improved drinking water source.

Sanitation facility

Overall, 66. 3% of the population use improved sanitation facilities. Flush to septic tank with or without soak pit (42.7%) and pit latrine with slab (14.1%) were the predominant types of improved sanitation facilities used in the country. Pit latrine without slab constituted the

main type of unimproved sanitation facility with 26.5% of the households using it. By dzongkhag, the proportion of population with access to improved sanitation facilities varied from a high of 91% in Thimphu to a low of 31.4% in Trashigang. By area of residence, 92.6% of urban residents had access to improved sanitation facilities as compared 57.9% of rural households who had access to improved sanitation facilities.

Household waste disposal

Burning and open pit manner of household waste disposal were the most common with 59.4% and 45.9% of the Bhutanese households disposing off their wastes in these two manners, respectively. This was followed by disposal of household wastes through public garbage collection system (22.4%), composting (8.7%) and “other” manner (2.1%), which included disposing household wastes in open fields. By dzongkhag, the proportion of households that used “other” manner of waste disposal ranged from 0.4% each in Thimphu and Pemagtashel Dzongkhags to 6.3% in Trashigang.

Nearest health facility and health facility usually visited

A majority of households reported BHU-II (45.5%) and district hospital (28.7%) as health facilities nearest to their

households followed by referral hospital (11.1%), BHU-I (8.3%), and military hospital (6.1%). By dzongkhag, the proportion of households with BHU-II as the nearest health facility was highest in Trashiyangtse (86.5%), the proportion with referral hospital as nearest health facility highest in Thimphu (53.2%), district hospital in Paro (64%), military hospital in Haa (36.1%), while households with BHU-I as the nearest health facility was highest in Dagana (27.2%).

A majority of households (38.2%) usually visited BHU-IIs for health concerns, while 33% visited district hospitals and 15.9% visited referral hospitals. About 9% reported that their household members usually visited BHU-Is, and 3.6% reported usually visiting military hospitals.

Time to nearest health facility

39 percent of Bhutanese population live less than ½ hour from the nearest facility, 32.9% within ½ - 1 hour, while about 16% take 1-2 hours to get to the nearest health facility. 4.6% of Bhutanese population live at distances of more than 3 hours from the nearest health facility.

By area of residence, 83 % of urban population were found to live less than ½ hour away from the nearest health facility as compared to 25.2% of rural

households that live within ½ hour from the nearest health facility. The proportion of rural households living at distances of more than 3 hours from the nearest health facility was almost six times greater than that of urban households. About 67% of rural population usually walk to get to the nearest health facility as opposed to 48.8% of urban population.

Utilization of village health workers

The survey found that 55 % of households in areas where there are village health workers met a village health worker at least once for health reasons in the past year.

The proportion of households that did not meet a village health worker for health concerns in the past year was highest in Thimphu dzongkhag (88.5%) followed by Wangdue dzongkhag (60.3%) and Sarpang dzongkhag (59.9%).

Household expenditure on health care

Of those households that reported spending on health care in the past six months preceding the survey, the common expenses incurred were indirect costs on transportation, with 29% of Bhutanese households reporting spending on it. This was followed by

expenses on prescription medicine (24.9%), “others” (16.5%) which includes spending on spiritual/religious offerings for health, non-prescription medicines (13.6%), dental care (1.2%) and hospital cabin (0.7%).

Spending on health care related transport was almost 3 times higher among rural households compared to urban households indicating high burden of indirect cost on rural residents.

Medical Services Abroad

2.3% of the Bhutanese households availed medical services abroad in the past year preceding the survey. Of these, 89% went to India, 11 (4%) to Thailand and 17 (7%) to countries other than India and Thailand. All households that reported having travelled to Thailand used their personal savings to finance their costs.

Age Specific Fertility Rate (ASFR) and Total Fertility Rate (TFR)

The survey revealed a TFR of 2.3 which indicated that a Bhutanese woman, on average, would have 2.3 children by the end of her reproductive years if the current fertility pattern were to prevail.

ASFR is expressed as the number of births per 1,000 women in a certain age group and is an important measure to assess the current age pattern of childbearing. In this survey, the ASFRs

ranged from a high of 141.9 in the age group of 20-29 to a low of 4.2 in the age group of 45-59 years.

General Fertility Rate (GFR) and Crude Birth Rate (CBR)

The GFR which is expressed as the number of live births per 1,000 women aged 15-49 years was found to be 72 births per 1,000 women. The survey also revealed a CBR, which is expressed as births per 1,000 population, of 17.9 births per 1,000 population. The crude rate of natural increase (CRNI)/ natural growth rate of population was estimated at 1.2 and the sex ratio at birth (SRB) was found to be 104 males per 100 females.

Fertility trends

Overall, the age specific fertility rate (ASFR) has dropped significantly across all age groups over the past two decades. The decline was substantial among the younger age groups of 15-19 years and 20-24 years. The ASFR among the 15-19 age group declined from a high of 120.2 in 1994 to 61.7 in 2000 to a current rate of 28.4. Similarly, the ASFR declined from 266.7 in 1994 to 245.4 in 2000 to 134.7 currently among the 20-24 years' age group.

The total fertility rate (TFR) has declined from a high of 6.5 in 1984 to near replacement fertility level of 2.3

in 2012. Similarly, the GFR level has also significantly dropped from high of almost 170 live births per 1,000 women aged 15-49 years in 1984 to 72 in 2012. The survey also found a decline of CBR from 39.1 births per 1,000 population in 1984 to 17.9 per 1000 population in 2012.

Children ever born and living

The survey revealed that from 10,298 ever-married women, 25.3% gave birth to two children, 20.8 % to 3 children while 6.2% did not give any live births.

The mean number of CEB was found to be 2.7 for all ever-married women aged 15-49 years and the mean CEB increased with women's age. The survey also revealed that the mean CEB was lowest among those with high school and higher levels of education.

The mean number of children surviving/living of women aged 15-49 years was found to be 2.5 and the mean varied from a low of 0.7 among 15-19 year olds to 3.9 among 45-49 year olds.

Age at menarche

The mean age at menarche for female aged 10-49 years was found to be 14.3 years. The survey found that 33.6% of women aged 10-49 years had their first menstrual period at 13 or 14 years, 27.1% by age 15-16 years, while 11.3 % had not yet menstruated. 67.1% of

those reporting not menstruated yet were in the age group of 10-14 years.

Age at first pregnancy

One-fourth (25.9%) of women aged 15-49 years reported that they had their first pregnancy at ages between 18-19 years followed by 24.8% between 20-21 years. Only 5.2% of women aged 15-49 years reported that they experienced their first pregnancy at age 15 or less.

The mean age at pregnancy for women aged 15-49 years was found to be 20.2 years. The mean age at first pregnancy was slightly higher among those with university/diploma /certificate level education as compared to those with lower education levels.

Adolescent fertility

The survey revealed an adolescent fertility rate, also referred to as adolescent birth rate, of 28.4 per 1,000 adolescent women aged 15-19 years. There has been a significant decline in adolescent fertility rate from 120.2 in 1994 and 61.7 in 2000 to 28.4 in 2012. The survey also found that nearly 8 percent of adolescent women have given birth while 1.5 percent were pregnant during the time of the survey.

Fertility preferences

The survey found that 73% of currently married women aged 15-

49 years wanted to limit child bearing and 26 percent wanted to have a child some time later in the future.

Knowledge of Contraceptive Methods

Overall, 96.3% of women aged 15-49 years were aware of at least one modern contraceptive method that can either delay or prevent pregnancy. The most widely known family planning methods were male condom, injectable, pills, and male & female sterilizations, all of which are widely available in the country. Women were more familiar with modern methods of contraception than traditional methods (rhythm and withdrawal methods). Among the modern methods, women were least knowledgeable about emergency contraception (41%) and implant (6%).

Source of supply-based family planning methods

Ninety-six percent of women aged 15-49 years with at least one live birth received their supply of contraceptives from health facilities in Bhutan and 1.7% received their supplies from private shops/pharmacies. The proportion of woman who received their supply from health facilities in the country was slightly higher among rural residents (96.8%) compared to their urban counterparts (92.8%).

Antenatal care coverage (ANC)

The coverage of at least one antenatal care from a health care professional among women aged 15-49 years for their most recent live birth in the past 2 years preceding the survey was 97.9%, a substantial increase from 51% in 2000. Of those who received ANC, 53% had their first check during the first trimester of pregnancy, 38.1% during 2nd trimester and 8.9% during 3rd trimester. Women who received their first ANC during third trimester of pregnancy was higher among rural women (9.4%) compared to their urban counterparts (7.4%). By dzongkhag, Chhukha (21.8%) followed by Wangdue (16.2%), and Paro (11.8%) reported the highest proportion of women receiving their first ANC during their third trimester.

Frequency of Antenatal Care

Of those who received antenatal care, 81.7% received four or more antenatal care (ANC4+) and about 26% received the recommended eight or more antenatal care for their most recent pregnancy. Women in urban areas (87.4%) were more likely to receive four or more ANC compared to women residing in rural areas (79.3%).

Danger signs of pregnancy

46.2% of mothers aged 15-49 years who received antenatal care for their most recent births in the past 2 years

were informed about the danger signs of pregnancy. 54% of mothers were able to identify bleeding as one of the danger signs of pregnancy. Women were least knowledgeable about convulsion with only 8% of mothers able to identify it as a danger sign of pregnancy. About 23% of mothers reported not knowing any of the danger signs of pregnancy. Among dzongkhags, women who reported having been informed about the danger signs ranged from 21% in Sarpang to 87.8% in Trashiyangtse.

Institutional delivery

73.7% of births in the two years preceding the survey took place in health facilities. About 95% of mothers residing in urban Bhutan delivered in a health facility compared to 66.3% who reside in rural areas. Institutional delivery has significantly increased from about 20% in 2000 (NHS 2000) to 73.7% in the current survey. By dzongkhag, Paro (96.1%), Sarpang (88.8%) and Thimphu (88.6%) had the highest number of institutional deliveries. On the other hand, Zhemgang (50.6%), Samdrup Jongkhar (50.5%) and Trashigang (45.7%) had the highest number of mothers who did not deliver in health facilities.

Assistance during delivery

74.6% of births in the past 2 years preceding the survey were assisted

by skilled health care providers, a sizeable increase from 23.99% in the year 2000. By dzongkhag, Haa, Paro, Thimphu, Sarpang and Tsirang were among the top dzongkhags with the highest percentage of births assisted by skilled birth attendants while Samdrup Jongkhar (49.5%) and Zhemgang (51.9%) had the lowest proportion of births attended by skilled care providers.

Postnatal care

74.6% of mothers received postnatal care for their most recent birth in the past 2 years preceding the survey. By area or residence, a much higher proportion of urban mothers (87.78%) received postnatal care compared to mothers residing in rural areas (69.9%).

The survey also found that among those who received PNC, 27.7% received it within the 1st 24 hours, 48.7% within the first week and 9.7% within the 2nd week. A small proportion of mothers (1%) received their first postnatal care after the 4th week of delivery.

Colostrum Feeding practice and dietary restrictions

The survey found that 87.5% of mothers fed their newborn with colostrum. There was no notable difference between urban and rural mothers in the prevalence of colostrum feeding practice.

Overall, 54% of mothers with a live birth during the past 2 years preceding the survey reported having observed dietary restrictions. Chili (82.6%) was the most commonly observed dietary restriction.

Awareness of breast cancer

The survey found that 66% of female respondents aged 20-59 years were aware of breast cancer. By dzongkhag, the proportion of women aged 20-59 years who were aware of breast cancer varied from a high of 86% in Thimphu to a low of 49% each in Trongsa and Wangdue. The survey also revealed that 27% and 42% of women aged 20-59 years were aware of breast self-examination and importance of early diagnosis of breast cancer, respectively.

Awareness and screening practice of Pap smear test

About 76% of women aged 20-59 years were aware of Pap smear test. By dzongkhag, the awareness of Pap test varied from a high of more than 90% in Thimphu, Bumthang and Trongsa to a low of 49% in Samtse. The survey also found that 45% of women aged 20-59 years had undergone a Pap test at least once in their lifetime. By dzongkhag, women who had undergone Pap test ranged from a high of 61% each in Monggar and Trongsa to a low of 22% in Samtse.

Reasons for not doing Pap test

The most common reason cited for not doing Pap test was “never heard about it” (35.3%). The other commonly cited reasons for not doing Pap test included “painful/embarrassment” followed by “too young/too old”.

Maternal Tetanus Toxoid (TT)

Of the 1234 mothers assessed for TT immunization, vaccination card was available for 1,084 mothers (87.8%) while another 91 mothers (7.4%) reported having the card but did not produce it during the time of the survey. The survey found that 89.5% received at least two doses of TT injections based on information collected from card plus history. However, when the information was based on those respondents for whom cards were available (n=1084), 93.1% were immunized with at least two doses of TT.

Childhood immunization

Of the 916 children aged 12-23 months, immunization cards were available for 836 children resulting in a card retention rate of 91.2%. The survey found that 95.1% of children aged 12-23 months were fully vaccinated as evidenced by card and history. By antigen type, crude coverage ranged from 97.2% for MR1 to 100% for BCG. The dropout rate for

DTP-HepB1-DTP-HepB3 was 0.9% and the dropout rate for DTP-HepB1-measles was 2.4%.

HPV immunization coverage

The survey found a crude HPV vaccination coverage of 73.2% (card +history) among girls who turned age 13 years as of 1 January 2012. However, when the analysis was based on card only (n=184), the crude HPV vaccination coverage was 90.2%. Of the 455 girls assessed, vaccination cards were available for 184 respondents (40.4%).

Based on information obtained from card and history, 11.1% of the respondents were partially immunized and 15.6% were not immunized. A higher proportion of girls residing in rural areas were not immunized (17.3%) compared to their urban counterparts (10.7%). The proportion who received HPV1 but did not receive HPV3 was 8.79% and proportion who received HPV1 but did not receive HPV2 was 1.64% (information based on card only).

Morbidity and treatment seeking behavior

Overall, 4.9% of population reported being sick during the recall period, on average, for 11 days. More females than males reported being ill during the recall period. The proportion of rural residents who fell ill (5.3%) was higher than their

urban counterparts (2.9%) were. Of those who were ill, 81.5% first sought treatment from health professionals, 11% sought no care, 4.6% sought first care from Lam/Lopen/Pow/Tsip (spiritual/traditional healers) and 2% sought care from Drungtsho/sMenpa.

Injury

The overall prevalence of self-reported injury was found to be 1.2%. Higher proportion of males (1.5%) compared to females (0.8%) suffered injuries in the past year preceding the survey. Among the injured, “fall” (45.9%) followed by “cut” (20.4%) and “vehicular accident” (14.6%) were the leading causes of injuries in Bhutan.

Self-reported Disability/impairment

The survey found a disability/impairment prevalence of 2.9% (hearing), 2.5% (sight), 1.3% (mobility), 1.2% (speech), 0.7% (remembering/ concentrating), and 0.9% (self-care).

Among those with impairments, apart from slightly higher proportion of males (3.1%) than females (2.7%) with hearing impairment, almost equal proportions of males and females were found to be suffering from other forms of impairments assessed in this survey.

Difficulty with hearing and sight were found to be the most prevalent forms

of impairment. Majority of the people suffering from impairment reported their impairment to be acquired at some point in their lives.

Mortality

A higher proportion of deaths in the past 2 years preceding the survey had occurred among males (58.7%) than females (41.3%). The crude/annual death rate for males was estimated at 7.4 per 1000 while for females it was 5 per 1000. The crude death rate for both sexes was estimated at 6.2 deaths per 1000 population, a sharp decline from 13.4 per 1000 in 1984. The survey revealed that a majority of those who died in the past two years were due to illness (80.7%) followed by accidents (6%), alcohol related (4.8%), poison/natural calamities/violence (2%) and suicide (1.3%). A majority of these deaths had occurred at home (51.5%) and in health facilities (37.6%).

Neonatal, infant and under-five mortality

Using direct method, neonatal death rate and infant mortality rate were estimated at 21 deaths per 1000 live births and 30 deaths per 1000 live births, respectively. This indicate that about 70% of infant deaths occur within 28 days after delivery. Similarly, using direct method, under-five mortality rate was estimated at 37.3 deaths per 1000 live births. The

survey found a reduction of IMR from 60.5 deaths per 1000 live births in 2000 and U5 mortality 84 per 1000 live births in 2000.

Maternal Mortality Ratio (MMR)

The survey collected data on deaths during the 2-year period prior to the survey, and for each case, the cause of death. One category of cause of death was 'pregnancy related' and for such cases, the household respondent was asked whether the deceased female member was pregnant at the time of death or died within 2 months of delivery. During the 2-year period prior to the survey, only two cases were reported as 'pregnancy-related' and both were pregnant at the time of death. Using direct method, maternal mortality ratio was estimated at 86/100000 live births.

Note: Due to issues of sample size and limitations related to underreporting and misclassification of maternal deaths, the estimate of MMR needs to be interpreted with caution. The Ministry of Health recommends process indicators (e.g. attendance by skilled health personnel at delivery and use of health facilities for delivery) as proxies to assess progress made towards the reduction in maternal mortality in the country.

Comprehensive correct Knowledge of HIV/AIDS

While the overall prevalence of comprehensive correct knowledge of HIV/AIDS among the population aged 10-75 years was 16.8%, the proportion

of population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS was found to be 23%.

By dzongkhag, the proportion of persons aged 10-75 years with comprehensive correct knowledge of HIV/AIDS varied from a high of 25% each in Thimphu and Haa to a low of 9% each in Sarpang and Samdrup Jongkhar.

Knowledge of Prevention of Parent to Child Transmission of HIV/AIDS among Women aged 15-49 years

Although 83.5% of women aged 15-49 years knew that HIV can be transmitted from a HIV positive mother to a child, only 47% percent were able to identify all three means of parent to child transmission and 6% did not know any specific means of transmission. By dzongkhag, Tsirang (10.6%) followed by Samdrup Jongkhar (9.6%) and Bumthang have the highest proportion of women who did not know any specific means of transmission. Women who knew all three means of transmission ranged from 33% in Samtse to 67% in Trongsa.

Self-reported Diabetes

Overall, 1.4% of the respondents aged 15-75 years reported having been diagnosed with diabetes. The average number of years since being diagnosed with diabetes increased steadily from 1

year among the 15-24 year olds to 7.5 years among 65 or more years of age.

Self-reported Hypertension

16% of the population aged 15-75 years reported that health professionals diagnosed them with hypertension. Among those who reported having been diagnosed with hypertension, the average duration of years since diagnosis was 3.7 years, which increased with age.

Oral health - Frequency of brushing teeth

91.3% of the population aged 10-75 years brushed their teeth regularly i.e. respondent consistently brushed his/her teeth following a more or less established frequency. Of those who brushed their teeth regularly, 84.4% brushed at least once a day while 2% brushed only few times a month. The proportion who brushed their teeth regularly atleast once a day ranged from 98.5% among 20-29 years to 45% among 70 plus year olds.

Oral check-up

Overall, 66.2% of the population never received oral checkup. Of those who received dental care, the majority (72%) cited pain or trouble with teeth/gum/mouth followed by treatment/follow-up (18%) as reasons for their last dental visit. Only 4% cited consultation/advice

as a reason for their last dental visit, which may be indicative of poor oral health care seeking behavior among the Bhutanese population.

Traditional healer

46.3% of the population aged 10-75 years consulted a traditional healer for their health concerns in the past 12 months preceding the survey. Rural residents (50%) were more likely to consult a traditional healer compared to their urban counterparts. The percentage who consulted traditional healers increased steadily with age and ranged from 55.3% among the 70 plus year olds to 39.3% among 10-19 years. Chest and body pains (46.7%) followed by high fever were the most common health problems for which the services of traditional healers were sought.

Ever smokers

The prevalence of ever smokers among the population aged 10-75 years was 13.3% with a higher proportion of males (20.8%) compared to females (6.9%) reporting as ever smokers. The proportion of ever smokers was higher by almost 6% among the urban population as compared to rural residents. The average age at initiation of smoking was 19 years for both males and females

Current smokers

The survey found that 3.5% of the population aged 10-75 years were current smokers. By gender, current smokers were more prevalent among males (6.0%) compared to females (1.4%). Among the current smokers, 53.1% smoked daily and 46% smoked occasionally. When the analysis was confined to the population aged 15-75 years, the prevalence of current smokers increased to 4%.

Smokeless Tobacco

The prevalence of any form of smokeless tobacco use in Bhutan was found to be 43.1% among the population aged 10-75 years and 47.9% among the population aged 15-75 years. The proportion who use smokeless tobacco increased steadily from 12.8% among the 10-14 year olds to 57.3% among the 35-44 year olds before decreasing to 46.6% among the 65 plus year olds. Of those who use smokeless tobacco, 89% use doma/betel quid, 15.6% chewing tobacco, and less than one percent use snuff by nose. Overall, Bhutanese men and women took doma/betel quid, on average, 7 and 6.3 times per day, respectively. By dzongkhag, Haa, Wangdue, Paro, Punakha and Thimphu were among the largest consumers of doma/betel quid with eight or more times average daily consumption.

Current drinkers

The survey found that 24.4% of population aged 10-75 years and 28% of population aged 15-75 years currently drink alcohol. A higher proportion of males (31%) were found to be current drinkers compared to females (18%). By dzongkhag, Pemagatshel (42%), Zhemgang (39%), Lhuentse (29%), Trashigang (29%) and Sarpang (29%) had the highest proportion of population aged 10-75 years who were current drinkers.

Main alcoholic drink

Overall 46% of current drinkers in Bhutan reported Ara as their main alcoholic drink. By urban-rural, Ara and bangchang/singchang were the most widely used drinks for rural residents, while beer and liquor (e.g. whiskey, Rum) were the main drinks for urban residents.

Source of alcohol

The usual source of alcohol for a majority of the current drinkers in Bhutan was locally brewed at home (56%), followed by alcohol purchased from shops/vendors (31%) and those received from relatives/friends (12%). While majority of current drinkers in rural areas (69%) reported consuming alcohol that was brewed at home, a majority of urban residents (71%) got their alcohol from shops/store/vendors. The

usual source of alcohol for more than 80% of current drinkers in Zhemgang, Pemagatshel, Lhuentse and Monggar was home brewed alcohol while more than 70% of current drinkers in Thimphu and Paro, usually got their alcohol from shops/vendors.

Fruits

Among those who normally eat fruits, the survey found that fruits were consumed on average 3.4 days in a normal week. The mean number of days of fruit consumption in a normal week varied from 3.3 days for men to 3.6 days for women. The survey also found that among those who normally ate fruits, 90.5% consumed four or less servings per day.

Vegetables

The survey found that 94.4% of the respondents consumed vegetables on average of 4.8 days in a normal week. Urban residents consumed vegetables on average of 5.1 days and rural residents 4.8 days in a normal week. The survey also found that 96% of respondents consumed four or less servings of vegetables per day.

Physical activity - doing sports/fitness/ recreational activities

The survey found that 25.5% of population aged 10-75 years do sports/fitness or recreational activities that

cause increase in breathing or heart rate for at least 10 minutes continuously on average of 3 days per week and 1.6 hours per day. Of those who do sports/fitness/recreational activities, higher proportion of males (36%) compared to females (17%) were found to indulge in such activity. A majority of those who do sports/fitness/recreational activities were in the age group of 10-24 years (74%) and 25-34 years (14%). A higher proportion of urban residents (33.8%) indulge in sports/recreational activities compared to their rural counterparts (22.9%). The proportion who do sports/fitness/recreational activities ranged from 31% in Thimphu dzongkhag to 8% in Gasa dzongkhag.

Physical activity at transport – going to and from places

71.6% of the population aged 10-75 years walk to get to and from places for at least 10 minutes continuously on a typical day on average of 4.5 days per week and 1.3 hours per day. Walking/bicycling to get to and from places was found to be more prevalent among males (75.8%) than females (68%). The proportion who walk to get to and from places was much higher among rural residents (75.4%) compared to their urban counterparts (59.7%)

Drugs/substance abuse

The survey revealed that 1.8% of the population aged 10-75 years had ever used drugs or substance to get high. Of those who ever used drugs, 41% reported having used drugs/substances to get high in the past month preceding the survey. 72% of those who used drugs/substance in the past month reported using marijuana, inhalents/solvents (22%) and “others” (6%) which included drugs such as N10, cough syrup, diazepam.

Among those who reported having ever used drugs, the mean age at starting drug/substance use was 18.8 years. The largest number of people who ever used drugs was found in the age category of 15-19 years (4.2%) followed by 20-24 year olds (3.1%). Urban residents were twice likely to have ever used drugs than their rural counterparts. A majority of those who used drugs (68%) in the past month reported friends as their main source of drugs or substance while 16% reported that they got their drugs/substance from across the border.

Physical Violence against currently married women aged 15-75 years by Intimate Partner

Overall, 6.1% of the currently married women experienced physical violence in the past year preceding the survey. Of those who experienced physical

violence, 28.8% reported experiencing once, 45.3% a few times and 26% reported experiencing many times. The proportion who experienced physical violence was highest (8.9%) in the 55-59 year age group. Physical violence was more prevalent among women residing in rural Bhutan (6.5%) as compared to their urban counterparts (4.7%).

Sexual violence against currently married women aged 15-75 years by intimate partner

Overall, 2.1% of the currently married women experienced sexual violence by their husband in the past year preceding the survey. Of those who experienced sexual violence, slightly over 80% experienced more than once and 27% reported experiencing 'many times'. The proportion of women who experienced sexual violence was highest among females between 15-19 years (3.1%) and lowest (zero) among females between 70-75 years. Sexual violence was more prevalent among women residing in rural Bhutan (2.2%) as compared to their urban counterparts (1.7%).

Psychological Violence against Currently married women aged 15-75 years by intimate Partner

The survey revealed that 3.2% of the currently married women reported

experiencing psychological violence by their husband/partner in the past year preceding the survey. Of those who experienced psychological violence, 81% experienced more than once and 34% reported experiencing 'many times'. The proportion of women who experienced psychological violence was highest in the 55-59 year range (5.2%) and 60-64 year range (5%) and least among females between 70-75 years (0.3%). Psychological violence was more prevalent among women residing in rural Bhutan (3.4%) as compared to their urban counterparts (2.7%).

Non-partner violence against female aged 10-75 years

Overall, the survey found prevalence rates of 6.3% for non-partner physical violence, 3.4% for non-partner psychological violence and 0.8% for non-partner sexual violence among females aged 10-75 years. The proportion who ever experienced physical violence was highest among younger females aged 10-14 years (14.9%) and 15-19 years (10.9%) while non-partner sexual violence was more prevalent among women in the age-group of 55-59 years (1.7%) and 25-29 years (1.6%). Non-partner psychological violence was highest among the 20-24 year olds at 7%.



Chapter 2: Demographic Characteristics

2.1 HOUSEHOLD POPULATION AND COMPOSITION

In addition to collecting health indicators of primary interest, the 2012 NHS also collected data on demographic and socio-economic conditions of households in Bhutan. Chapter 2 describes the demographic characteristics of household population, household composition and characteristics of the household head.

2.1.1 Household population by age, sex and residence

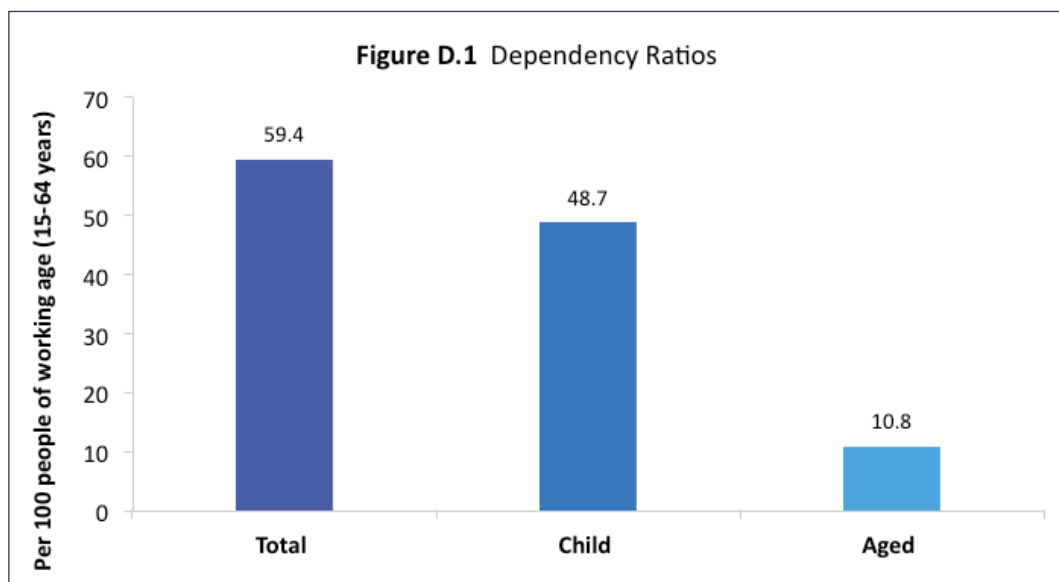
As shown in Table D.1, of the total of 59,521 persons enumerated, 49% were males and 51% were females. The proportion of rural residents (76%) was found to be slightly more than three times that of urban residents (24%). A majority of the population were between ages 15-64 years (62.7%) and under 15 years (30.5%). 6.7% of the population comprised of above 65 plus years. The proportion of population aged 15-64 years was higher in urban areas while the proportion of people aged 65 plus years was higher in rural areas. The median age of population was estimated at 24 years indicating that half of the population is under age 24 years. There was no major variation in sex composition across all age groups.

Table D.1 Household population by age, sex, and residence Percent distribution of household population by five-year age groups, sex, and urban-rural, Bhutan 2012										
Age group	Total		Male		Female		Urban		Rural	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	59521	100.0	29159	100.0	30362	100.0	14381	100.0	45140	100.0
0 - 4	5517	9.3	2800	9.6	2717	8.9	1474	10.2	4042	8.9
5 - 9	6434	10.8	3241	11.1	3192	10.5	1619	11.3	4815	10.7
10 - 14	6217	10.4	3130	10.7	3086	10.2	1331	9.3	4886	10.8
15 - 19	6337	10.6	2993	10.3	3345	11.0	1412	9.8	4925	10.9
20 - 24	5317	8.9	2564	8.8	2754	9.1	1617	11.2	3700	8.2
25 - 29	4822	8.1	2271	7.8	2551	8.4	1715	11.9	3107	6.9
30 - 34	4313	7.2	2057	7.1	2256	7.4	1530	10.6	2783	6.2
35 - 39	3632	6.1	1727	5.9	1905	6.3	1008	7.0	2624	5.8
40 - 44	3167	5.3	1510	5.2	1658	5.5	772	5.4	2395	5.3
45 - 49	2905	4.9	1480	5.1	1425	4.7	671	4.7	2234	4.9
50 - 54	2764	4.6	1310	4.5	1453	4.8	431	3.0	2333	5.2
55 - 59	2323	3.9	1140	3.9	1183	3.9	275	1.9	2048	4.5
60 - 64	1740	2.9	888	3.0	852	2.8	177	1.2	1562	3.5
65 - 69	1425	2.4	784	2.7	641	2.1	98	0.7	1327	2.9
70 - 74	932	1.6	487	1.7	445	1.5	74	0.5	859	1.9
75 - 79	860	1.4	418	1.4	441	1.5	85	0.6	774	1.7
80+	795	1.3	346	1.2	449	1.5	88	0.6	707	1.6
Not reported	22	0.0	13	0.0	9	0.0	4	0.0	19	0.0

Table D.2 shows the distribution of household population by overall dependency age groups, by sex and residence. The dependency ratio provides a simple summary measure of age composition, with particular reference to relative numbers of supposed 'dependants' and 'supporters', or 'unproductive' and 'productive' groups. The ratios are based on a division of the age range into three broad categories, namely: children (0-14 years), the working age group (15-64 years) and old age (65 years and over). Table D.2 shows the distribution of household population by overall dependency age groups, by sex and residence.

Table D.2 Household population by dependency age groups, sex, and residence										
Percent distribution of household population by dependency age groups, sex, and urban-rural, Bhutan 2012										
Dependency age groups	Total		Male		Female		Urban		Rural	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	59521	100.0	29159	100.0	30362	100.0	14381	100.0	45140	100.0
0 - 14	18166	30.5	9171	31.5	8995	29.6	4424	30.8	13743	30.4
15 - 64	37322	62.7	17940	61.5	19382	63.8	9608	66.8	27711	61.4
65+	4011	6.7	2035	7.0	1976	6.5	345	2.4	3667	8.1
Not reported	22	0.0	13	0.0	9	0.0	4	0.0	19	0.0

The total dependency ratio for Bhutan is estimated at 59.4 per 100 people of the working age group (15-64 years). The child and old/aged dependency ratios are estimated at 48.7 and 10.8, respectively (Figure D.1). The Ageing Index, the number of aged persons per hundred children, is estimated at 22.1.



2.2 Population aged 15 years and above by dzongkhag and selected background characteristics

Of the total 41,353 persons who were 15 years and older, a majority (63%) were married, 27% never married, 6% widowed and 4% divorced/separated. The survey revealed that about 47% of population aged 15 years or older have no education and this proportion was higher among females (54%) than males (38.8%). Overall, 6% of the population aged 15 years or older were found to have university/diploma/certificate level education and males (8%) were twice more likely than females (4%) to have university/certificate/diploma level education. 7% of the population aged 15 years or older were found to have non-formal education (NFE) and this proportion was higher among females (9%) than males (4.1%). Table D.3 shows percent distribution of the population 15 years and above by dzongkhag and selected background characteristics.

Table D.3 Population 15 years and above
Percentage distribution of population aged 15 years and above by dzongkhag and selected background characteristics

Education, marital status, dzongkhag	Total		Male		Female	
	Percent	Percent	Number	Percent	Number	Percent
Total	41,353	100.0	19,986	100.0	21,367	100.0
No education	19,242	47.0	7,749	38.8	11,493	53.8
Primary	4,817	12.0	3,017	15.1	1,800	8.4
High School	10,159	25.0	5,192	26.0	4,967	23.3
University/certificate/diploma	2,473	6.0	1,588	8.0	884	4.1
Monastic School	1,672	4.0	1,547	7.7	124	0.6
Non-Formal Education	2,815	7.0	822	4.1	1,993	9.3
Don't know	19	0.1	7	0.0	12	0.1
Not reported	156	0.4	64	0.3	93	0.4
Never Married	11,190	27.0	6,068	30.4	5,123	24.0
Married	26,180	63.0	12,896	64.5	13,285	62.2
Divorced/Separated	1,452	4.0	315	1.6	1,137	5.3
Widowed	2,457	6.0	669	3.4	1,788	8.4
Not reported	73	0.2	39	0.2	34	0.2
Bumthang	975	2.4	451	2.3	525	2.5
Chhukha	3,338	8.1	1,631	8.2	1,707	8.0
Dagana	1,760	4.3	875	4.4	885	4.1
Gasa	151	0.4	72	0.4	78	0.4
Haa	452	1.1	203	1.0	249	1.2
Lhuentse	1,001	2.4	451	2.3	550	2.6
Monggar	2,936	7.1	1,361	6.8	1,575	7.4
Paro	2,567	6.2	1,188	5.9	1,380	6.5
Pemagatshel	1,575	3.8	746	3.7	829	3.9
Punakha	1,438	3.5	663	3.3	775	3.6
Samdrup Jongkhar	2,139	5.2	1,026	5.1	1,113	5.2
Samtse	4,466	10.8	2,260	11.3	2,207	10.3
Sarpang	2,176	5.3	1,052	5.3	1,124	5.3
Thimphu	6,324	15.3	3,192	16.0	3,132	14.7
Trashigang	3,203	7.8	1,572	7.9	1,631	7.6
Trashiyangtse	1,167	2.8	560	2.8	607	2.8
Trongsa	851	2.1	409	2.1	443	2.1
Tsirang	1,416	3.4	697	3.5	720	3.4
Wangdue	1,895	4.6	847	4.2	1,047	4.9
Zhemgang	1,520	3.7	729	3.7	791	3.7

2.3 HOUSEHOLD COMPOSITION AND CHARACTERISTICS OF HOUSEHOLD HEADS

Table D.4 shows household composition by sex of household head, household size, and mean size of household. 65% of the households in Bhutan were headed by males and 35% by females. The largest proportion of household heads were found in the age category of 30-39 years and 40-49 (22% each) years. A majority of the household heads (55.4%) have no education. Only 6% of the heads of households were found to have a university/diploma/certificate level education. A vast majority of household heads (66%) are farmers/elementary workers. The average household size in Bhutan was estimated at 4.4.

Table D.4 Household composition Percent distribution of households by sex of household head, household size, by selected characteristics of household head, and mean size of household, Bhutan 2012									
Characteristics of the Household Head	Number of Households Interviewed in the Survey	Household size (%)							Average Household Size
		Total	1	2	3	4	5	6 or more	
Total	13256	100.0	6.3	11.3	16.1	21.1	18.6	26.6	4.4
Male	8644	100.0	5.4	10.6	16.4	22.0	19.4	26.3	4.4
Female	4612	100.0	8.0	12.8	15.7	19.4	17.0	27.1	4.4
Less than 20	55	100.0	25.7	18.8	20.1	9.0	15.5	10.9	3.0
20-29	1929	100.0	13.7	13.6	27.5	25.1	12.6	7.5	3.4
30-39	2988	100.0	4.5	4.9	14.4	29.1	24.0	23.1	4.5
40-49	2900	100.0	3.0	6.5	13.0	22.2	24.3	31.1	4.8
50-59	2586	100.0	4.5	13.9	16.0	18.6	16.0	31.0	4.6
60 and over	2790	100.0	7.8	19.1	13.7	11.2	13.4	35.0	4.5
Not reported	7	100.0	8.2	0.0	0.0	12.6	0.0	79.2	5.9
No education	7350	100.0	4.9	12.3	14.0	18.6	17.7	32.5	4.7
Primary	1838	100.0	3.5	7.8	16.5	24.3	24.0	23.9	4.5
High School	2043	100.0	11.5	10.6	24.7	26.5	14.2	12.6	3.7
University/ Diploma/ Certificate	784	100.0	16.9	12.6	16.6	22.5	20.5	10.8	3.6
Monastic School	509	100.0	5.2	13.6	13.1	19.1	20.2	28.8	4.6
Non-Formal Education	712	100.0	2.1	9.3	15.0	22.7	22.7	28.2	4.7
Don't know/ Not reported	20	100.0	12.7	4.3	1.6	31.8	23.3	26.3	4.4
Armed forces	569	100.0	4.8	8.7	17.6	30.0	21.1	17.8	4.2
Manager	146	100.0	5.8	8.8	23.8	17.7	20.0	23.9	4.2
Professional	708	100.0	17.8	11.3	17.3	27.2	17.5	8.9	3.5
Technician or Associate Professional	415	100.0	8.8	10.1	21.6	24.9	17.0	17.6	3.9
Clerical	177	100.0	8.7	15.0	12.3	25.4	17.7	20.8	4.1
Service and Sales worker	1137	100.0	8.6	10.9	20.1	24.0	18.4	18.1	4.0

Characteristics of the Household Head	Number of Households Interviewed in the Survey	Household size (%)							Average Household Size
		Total	1	2	3	4	5	6 or more	
Total	13256	100.0	6.3	11.3	16.1	21.1	18.6	26.6	4.4
Farmer/ Elementary worker	8720	100.0	4.9	12.0	14.6	18.9	18.5	31.1	4.6
Craft and related trade worker	352	100.0	8.4	7.6	16.7	25.7	16.3	25.4	4.3
Plant and machine operator	523	100.0	7.8	6.3	22.6	29.1	22.0	12.3	3.9
Monastic/ Gomchen/ Tsip	122	100.0	0.8	14.4	14.8	20.0	22.2	27.8	4.7
Doing household chores/ retired /doing nothing	280	100.0	0.0	12.7	21.0	16.3	18.3	31.7	4.9
Not reported	107	100.0	20.9	12.0	11.4	19.2	12.1	24.4	3.9

Marital Status of Household Heads

The survey found that more than three-fourth (79%) of household heads were married while 11% were widowed, 5% never married, 4% divorced, and 1% were separated. A higher portion of male heads of households were married compared to female heads of households, at 89% and 61% respectively. Moreover, among the female heads of households, a considerable portion (23%) were widowed compared to male heads of households (5%). The percent distribution of household heads by marital status and by selected background characteristics is shown in Table D.5.

Table D.5 Marital status of household heads Percent distribution of household heads by marital status, according to selected background characteristics, Bhutan 2012								
	Number of Household Heads interviewed	Household Heads by Marital Status (%)						
		Total	Never Married	Married	Divorced	Separated	Widowed	Not reported
Total	13256	100.0	5.0	79.0	4.0	1.0	11.0	-
Male	8643	100.0	4.0	89.0	1.0	1.0	5.0	-
Female	4613	100.0	5.0	61.0	8.0	3.0	23.0	-
Urban	3592	100.0	9.0	82.0	4.0	1.0	4.0	-
Rural	9664	100.0	3.0	78.0	3.0	2.0	14.0	-
No education	7350	100.0	2.0	75.0	3.0	2.0	18.0	-
Primary	1839	100.0	3.0	90.0	3.0	1.0	3.0	-
High School	2044	100.0	12.0	81.0	5.0	1.0	1.0	-
University/ Diploma/ Certificate	785	100.0	18.0	78.0	3.0	1.0	0.0	-
Monastic School	508	100.0	4.0	86.0	1.0	1.0	8.0	-
Non-Formal Education	713	100.0	4.0	83.0	6.0	2.0	5.0	-
Don't know/ Not reported	17	100.0	0.0	79.0	0.0	0.0	13.0	8.0

2.4 HOUSEHOLD SOCIO-ECONOMIC CHARACTERISTICS

A wealth index to measure the socio-economic status of households was developed using variables that reflected the physical characteristics and possession of selected assets. Variables used to generate the wealth index included: source of drinking water, type of sanitation facility, number of persons per sleeping room, material of dwelling floor, material of the roof, material of the wall, fuel used for cooking, ownership of dwelling, bank account, electricity, radio, television, fixed telephone, refrigerator, sofa, washing machine, sewing machine, power tiller, vacuum cleaner, rice cooker, watch, mobile phone, bicycle, motorcycle, car/truck, computer, foreign bow, camera, VCR/VCD/DVD Player, sersho gho/kira

Steps in the construction of the Wealth Index

- Frequency tables for all variables were generated and checked for outliers, unexpected values, or large numbers of missing cases

- All categorical or ordinal variables were dichotomized
- Weights (factor scores) were generated for each of the assets through principal components analysis. Households were divided into quintiles – each containing 20 percent of the households
- Pattern of correlations between the possessions of assets were analyzed and weights assigned to asset variables based on their relation to one another.

Table D.6 shows the percent distribution of households by wealth index and by dzongkhags. Overall, 21.4% of Bhutanese households fall in the richest quintile group and 19% in the poorest quintile group. Thimphu (51.8%), Chhukha (38.1%), and Paro were among the dzongkhags with highest proportion of households in the richest quintile group while Zhemgang (58.4%) Gasa (50%) and Monggar (43.5%) had the largest proportion of households in the poorest quintile.

Table D.6 Socioeconomic Status								
Percent distribution of households by wealth index and by dzongkhag, Bhutan 2012								
Dzongkhags	Number of Households	Households by National Quintile Group (%)						Average Household Size
		Total	Poorest	Second	Middle	Fourth	Richest	
Total	13256	100.0	19.0	19.4	19.0	21.2	21.4	4.4
Bumthang	294	100.0	8.6	15.2	25.7	24.9	25.6	4.7
Chhukha	1099	100.0	17.7	13.7	10.7	19.8	38.1	4.3
Dagana	520	100.0	29.6	25.6	26.2	13.7	5.0	4.8
Gasa	48	100.0	50.8	20.2	17.1	9.1	2.8	4.5
Haa	151	100.0	19.9	16.9	26.8	23.9	12.5	4.1
Lhuentse	327	100.0	22.2	37.8	23.0	12.0	5.0	4.6
Monggar	896	100.0	43.5	26.6	12.2	10.9	6.9	4.8
Paro	940	100.0	1.4	9.1	19.9	38.8	30.7	3.9
Pemagatshel	510	100.0	25.4	28.2	26.3	14.5	5.6	4.2
Punakha	435	100.0	1.8	21.8	33.0	29.2	14.1	4.9
Samdrup Jongkhar	730	100.0	28.1	22.1	18.8	16.6	14.4	4.3
Samtse	1388	100.0	21.5	14.4	20.8	26.3	17.0	4.5
Sarpang	709	100.0	13.5	10.8	20.7	30.8	24.2	4.3
Thimphu	2172	100.0	.5	4.6	12.7	30.4	51.8	4.1
Trashigang	991	100.0	25.0	43.3	18.3	9.3	4.1	4.6
Trashiyangtse	376	100.0	26.5	38.2	21.1	8.8	5.4	4.6
Trongsa	249	100.0	25.7	28.7	20.9	16.7	7.9	5.0
Tsirang	455	100.0	28.7	27.7	26.9	10.4	6.3	4.1
Wangdue	548	100.0	15.0	28.8	29.4	14.4	12.4	5.0
Zhemgang	420	100.0	58.4	12.7	11.8	10.7	6.5	5.2



Chapter 3: Housing Characteristics

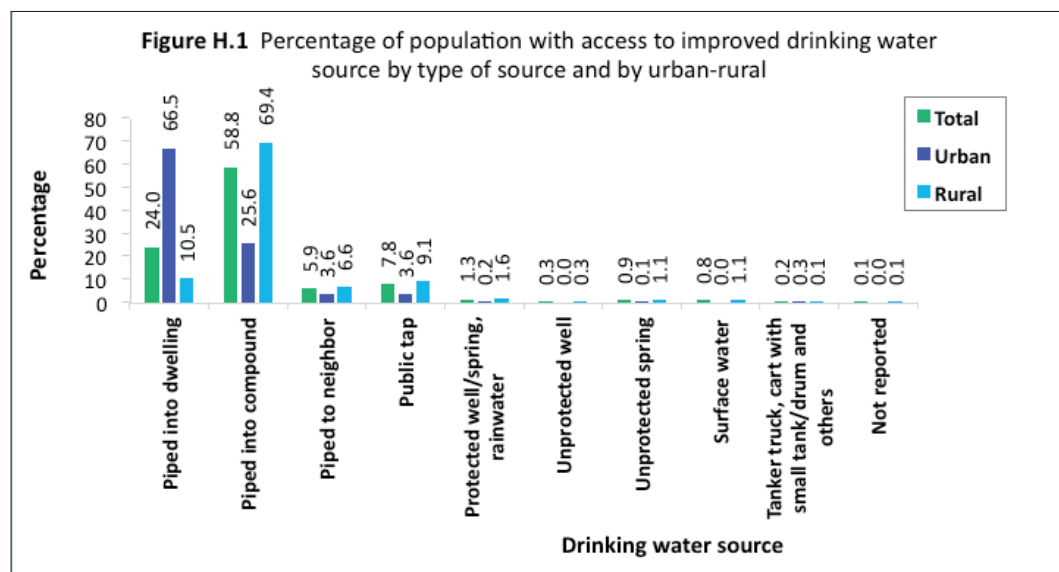
3.1 SOURCE OF DRINKING WATER

An improved water source is one that is protected from outside contamination, in particular from fecal matter. It is used as a proxy to measure access to safe drinking water. Data collected in this survey on improved drinking water sources, as defined by the WHO/UNICEF Joint Monitoring Programme (JMP), included: water piped into dwelling, piped into compound, piped to neighbor, public tap, protected well/spring, rainwater collecting facility, and bottled water. Drinking water sources from unprotected wells, unprotected springs, and water provided by carts in small tanks/drum, tanker truck provided water and surface water were considered as unimproved drinking water sources.

As shown in Table H.1, 97.7% of the Bhutanese population have access to improved drinking water sources. Overall, the predominant sources of improved drinking water were water piped into compound (58.8%) followed by piped into dwelling (24%), public tap (7.8%) and piped to neighbor (5.9%). By dzongkhag, the proportion of population with access to improved drinking water source varied from a high of 99.9% in Lhuentse to a low of 93.6% in Trashigang. By area of residence, 99.5% of urban residents had access to improved drinking water source as compared 97.2% of rural residents with access to improved drinking water source.

Table H.1 Drinking Water Source Percentage of population with access to improved drinking water source by urban-rural, dzongkhag and type of drinking water source, Bhutan 2012														
Source of drinking water														
Urban-Rural, Dzongkhag	Population	Total	All Improved Source	Piped into dwelling	Piped into compound	Piped to neighbor	Public tap	Protected well/ spring, rain water	All unimproved source	Unprotected well	Unprotected spring	Surface water	Tanker truck, cart with small tank/ drum and others	Not reported
Total	59521	100.0	97.7	24.0	58.8	5.9	7.8	1.3	2.2	0.3	0.9	0.8	0.2	0.1
Urban	14381	100.0	99.5	66.5	25.6	3.6	3.6	0.2	0.4	0.0	0.1	0.0	0.3	0.0
Rural	45140	100.0	97.2	10.5	69.4	6.6	9.1	1.6	2.6	0.3	1.1	1.1	0.1	0.1
Bumthang	1407	100.0	99.7	37.1	59.7	2.8	0.0	0.1	0.2	0.0	0.0	0.2	0.0	0.2
Chhukha	4795	100.0	99.3	39.4	53.8	5.3	0.3	0.5	0.6	0.0	0.0	0.6	0.0	0.0
Dagana	2510	100.0	97.1	6.9	72.2	1.5	16.0	0.5	2.8	0.0	0.6	2.0	0.2	0.0
Gasa	220	100.0	96.4	10.6	64.6	11.8	7.8	1.6	1.1	0.5	0.1	0.5	0.0	2.4
Haa	624	100.0	98.4	28.7	62.1	6.2	0.8	0.6	1.5	0.0	0.9	0.6	0.0	0.2
Lhuentse	1524	100.0	99.9	9.1	86.3	4.5	0.0	0.0	0.2	0.0	0.2	0.0	0.0	0.0
Monggar	4329	100.0	96.0	10.8	76.2	3.3	0.8	4.9	2.9	0.1	1.8	0.6	0.4	1.0
Paro	3718	100.0	98.2	43.7	47.8	1.5	3.9	1.3	1.8	0.2	0.3	1.3	0.0	0.0
Pemagatshel	2191	100.0	97.1	10.8	63.4	6.1	12.9	3.9	2.9	0.0	0.8	0.8	1.3	0.1
Punakha	2162	100.0	97.3	12.5	44.5	8.9	30.1	1.3	2.6	0.0	1.2	1.4	0.0	0.0
S/Jongkhar	3171	100.0	97.4	13.4	29.7	8.4	44.8	1.1	2.6	0.1	0.6	1.1	0.8	0.0
Samtse	6275	100.0	97.7	11.7	75.2	5.1	4.0	1.7	2.4	0.2	1.8	0.4	0.0	0.0
Sarpang	3081	100.0	97.5	20.2	66.1	9.6	1.3	0.3	2.4	0.0	0.7	1.7	0.0	0.2
Thimphu	8947	100.0	99.7	63.0	28.8	1.3	6.6	0.0	0.3	0.0	0.1	0.0	0.2	0.0
Trashigang	4663	100.0	93.6	6.9	68.3	13.6	2.0	2.8	6.4	2.3	2.8	1.3	0.0	0.0
Trashiyangtse	1756	100.0	97.7	10.5	69.4	12.1	5.3	0.4	2.4	0.5	0.5	1.3	0.1	0.0
Trongsa	1250	100.0	99.1	7.7	74.4	15.6	1.0	0.4	0.7	0.0	0.7	0.0	0.0	0.0
Tsirang	1907	100.0	97.3	6.1	85.0	5.4	0.2	0.6	2.4	0.1	1.6	0.6	0.1	0.2
Wangdue	2772	100.0	95.9	18.0	49.4	7.3	19.8	1.4	4.2	0.4	1.0	2.7	0.1	0.1
Zhemgang	2219	100.0	99.1	6.0	85.0	6.9	1.2	0.0	0.8	0.0	0.1	0.3	0.4	0.0

As shown in the Figure H.1, while water piped into dwelling was the most common source of drinking water for the urban population (66.5%), water piped into compound (69.4%) was the most common source of drinking water for rural population.



3.2 SANITATION

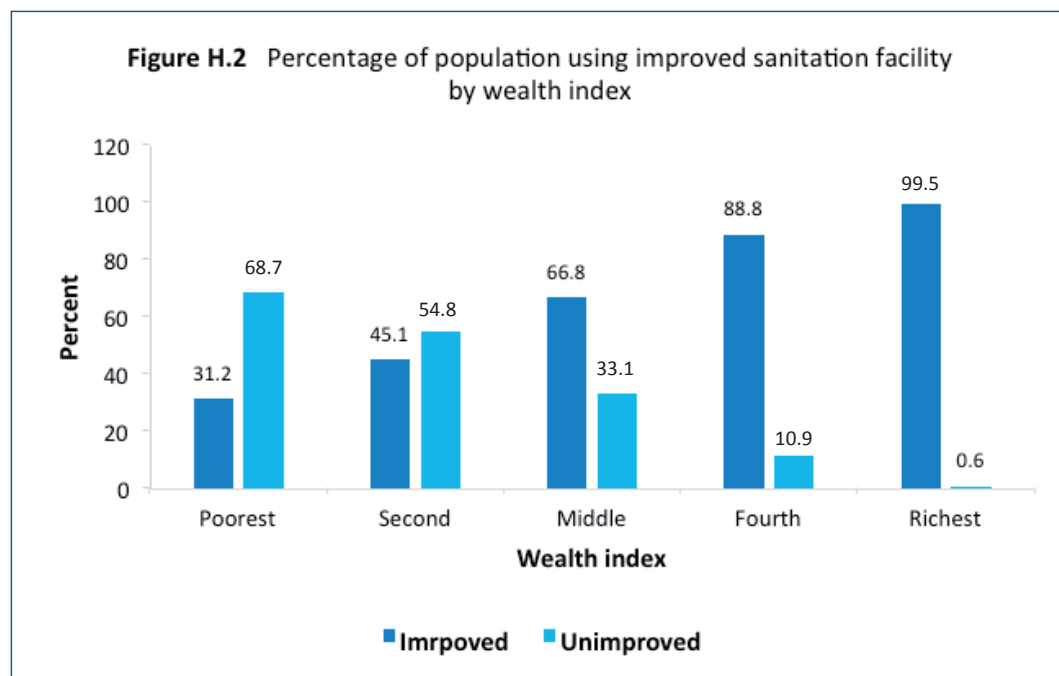
For the purpose of this survey, improved sanitation facility was defined as one that hygienically separates human excreta from human, animal and insect contact and included: flush to piped sewer system, flush to septic tank (with or without soak pit), flush to pit (latrine), ventilated improved pit latrine, composting toilet, and pit latrine with slab. Unimproved sanitation facilities included flush to somewhere else, long drop pit latrine, and pit latrine without slab.

Overall, 66.3% of the Bhutanese population used improved sanitation facilities. Flush to septic tank with or without soak pit (42.7%) and pit latrine with slab (14.1%) were the predominant types of improved sanitation facilities used by Bhutanese households. Pit latrine without slab constituted the main type of unimproved sanitation facility with 26.5% of the total population interviewed using it. By dzongkhag, the proportion of population with access to improved sanitation facilities varied from a high of 91% in Thimphu to a low of 31.4% in Trashigang. By area of residence, 92.6% of urban residents had access to improved sanitation facilities as compared 57.9% of rural households with access to improved sanitation facilities (Table H.2).

Note: The 2012 NHS did not collect data on whether or not the improved sanitation facility was shared with other household/s. The Bhutan Multiple Indicator Survey 2010 which used the same definition of improved sanitation facility as the 2012 NHS revealed that about 8% of those who used improved sanitation facility shared the facility with one or more households.

Table H.2 Sanitation													
Percentage of population using improved sanitation facility by urban-rural, dzongkhag, and by wealth index													
Urban, rural, dzongkhag, wealth index	Population	%	Improved						Unimproved				
			All Improved	Flush to piped sewer system	Flush to septic tank (without soak pit)	Flush to septic tank (with soak pit)	Flush to pit (latrine)/VIP/Composting	Pit latrine with slab	All Unimproved	Flush to somewhere else/Long drop latrine	Pit latrine without slab / Open pit	Others/No facility	Not reported
Total	59521	100.0	66.3	4.2	20.4	22.3	5.4	14.1	33.5	3.5	26.5	3.5	0.1
Urban	14381	100.0	92.5	13.4	28.2	43.4	3.9	3.6	7.3	1.6	5.1	0.6	0.1
Rural	45140	100.0	57.9	1.2	17.9	15.5	5.9	17.4	42.1	4.1	33.4	4.5	0.1
Bhumentang	1407	100.0	73.8	3.5	12.3	21.4	0.7	35.9	26.2	0.3	24.9	1.0	0.0
Chhuka	4795	100.0	72.2	0.5	27.9	26.0	6.7	11.1	27.8	4.2	21.0	2.6	0.1
Dagana	2510	100.0	48.7	1.5	25.4	14.9	3.6	3.3	51.2	1.2	41.4	8.6	0.0
Gasa	220	100.0	58.6	0.5	5.0	4.1	1.1	47.9	39.6	0.1	38.7	0.8	1.9
Haa	624	100.0	46.7	0.0	29.4	3.9	0.5	12.9	53.1	0.5	50.1	2.5	0.3
Lhuentse	1524	100.0	78.4	1.1	54.6	4.6	4.6	13.5	21.7	0.5	19.1	2.1	0.0
Monggar	4329	100.0	54.9	2.1	13.4	2.7	5.0	31.7	44.4	0.1	41.5	2.8	0.7
Paro	3718	100.0	86.5	0.9	22.5	39.3	1.5	22.3	13.5	0.3	11.1	2.1	0.1
Pemagatshel	2191	100.0	68.1	9.2	10.5	36.6	5.1	6.7	31.7	10.7	13.9	7.1	0.2
Punakha	2162	100.0	69.1	0.5	9.7	14.4	17.1	27.4	30.9	4.0	25.5	1.4	0.1
S/Jongkhar	3171	100.0	59.1	0.4	11.0	21.5	14.6	11.6	40.8	7.1	31.6	2.1	0.0
Samtse	6275	100.0	75	2.8	17.9	37.3	8.0	9.0	24.9	13.1	8.6	3.2	0.0
Sarpang	3081	100.0	64.3	0.4	34.2	24.3	3.2	2.2	35.4	5.9	26.9	2.6	0.2
Thimpu	8947	100.0	91	18.3	22.6	40.1	3.9	6.1	9.1	1.8	6.6	0.7	0.0
Trashigang	4663	100.0	31.4	1.6	17.2	5.5	1.7	5.4	68.7	1.6	54.9	12.2	0.0
Trashiyangtse	1756	100.0	44.1	0.1	11.3	10.8	0.2	21.7	55.9	1.8	48.3	5.8	0.0
Trongsa	1250	100.0	52.9	0.0	15.5	6.9	0.3	30.2	47.1	0.0	44.7	2.4	0.0
Tsirang	1907	100.0	51.3	0.3	25.2	5.5	8.9	11.4	48.5	0.2	45.2	3.1	0.2
Wangdue	2772	100.0	56.4	1.9	8.8	12.8	0.3	32.6	43.2	0.0	40.4	2.8	0.5
Zhemgang	2219	100.0	63.5	1.9	28.4	8.7	13.3	11.2	36.4	0.1	33.5	2.8	0.0
Poorest	11930	100.0	31.2	0.0	6	2.5	4.4	18.3	68.7	7.0	53.2	8.5	0.1
Second	11830	100.0	45.1	0.5	11.7	5.5	7.0	20.4	54.8	5.1	43.9	5.8	0.1
Middle	11912	100.0	66.8	1.0	22.9	14.4	8.4	20.1	33.1	3.8	26.6	2.7	0.1
Fourth	11924	100.0	88.8	3.3	31.5	37.0	6.2	10.8	10.9	1.5	8.8	0.6	0.4
Richest	11925	100.0	99.5	16.0	29.7	51.9	1.0	0.9	0.6	0.2	0.4	0.0	0.0

As shown in the Figure H.2, the proportion of population with access to improved sanitation facility increases steadily from the poorest to the richest quintile. Compared to 99.5% of the population in the richest quintile, only 31% of the population in the poorest quintile had access to improved sanitation facility.



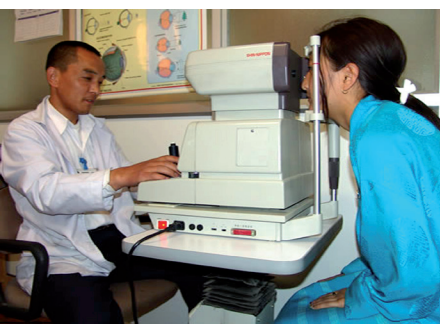
3.3 HOUSEHOLD WASTE DISPOSAL

Disposal of household wastes in an environmentally sound manner is critical for protecting human health and the environment.

Household respondents were asked how they usually dispose their household wastes. As shown in Table H.3, burning and open pit manner of household waste disposal were the most common with 59.4% and 45.9% of the households disposing off their wastes in these two manners, respectively. This was followed by disposal of household wastes through public garbage collection system (22.4%), composting (8.7%) and “other” manner (2.1%), which included disposing household wastes in open fields.

Table H.3 Household waste disposal Percentage of households using a specified manner of waste disposal by urban-rural and by dzongkhag, Bhutan 2012					
Urban-rural/ Dzongkhags	Public Garbage Collection	Burning	Composting	Open Pit	Others
Total	22.4	59.4	8.7	45.9	2.1
Urban	73.5	20.5	4.0	15.6	0.8
Rural	3.4	73.9	10.4	57.1	2.6
Bumthang	32.7	45.9	3.7	35.4	2.0
Chhukha	35.9	38.4	2.5	58.2	1.5
Dagana	0.6	83.8	1.5	59	3.3
Gasa	0.0	77.1	0.0	93.8	2.1
Haa	10.6	53.6	5.3	80.1	1.3
Lhuentse	4.0	76.5	1.5	89.3	0.6
Monggar	8.5	69.4	2.7	51.8	3.1
Paro	17.9	71.9	17.4	41.0	1.5
Pemagatshel	4.5	74.1	4.5	73.1	0.4
Punakha	10.6	83.7	7.1	61.1	0.9
Samdrup Jongkhar	12.3	45.1	6.0	42.2	4.8
Samtse	12.0	71.5	3.0	33.1	1.7
Sarpang	16.2	73.2	2.1	64.3	1.3
Thimphu	67.8	33.0	10.5	13.4	0.4
Trashigang	7.2	68.3	34.7	59.9	6.3
Trashiyangtse	3.2	87.0	1.6	48.9	1.6
Trongsa	3.6	46.2	3.2	67.1	4.4
Tsirang	3.1	54.5	1.8	63.7	3.5
Wangdue	26.8	48.2	7.5	35.4	1.8
Zhemgang	8.8	68.8	26.7	34.3	1.0

While public garbage collection system (73.5%) was the most common manner of household waste disposal in urban areas, burning (73.9%) and open pit (57.1%) were more widely used in rural areas. Among those who dispose their household wastes using “other” manner, rural households were 2 times more likely to use “other” manner than households in urban areas. By dzongkhag, the proportion of households that used “other” manner of waste disposal ranged from 0.4% each in Thimphu and Pemagatshel Dzongkhags to 6.3% in Trashigang.



Chapter 4: Utilization and Access to Health Care

4.1. NEAREST HEALTH FACILITY

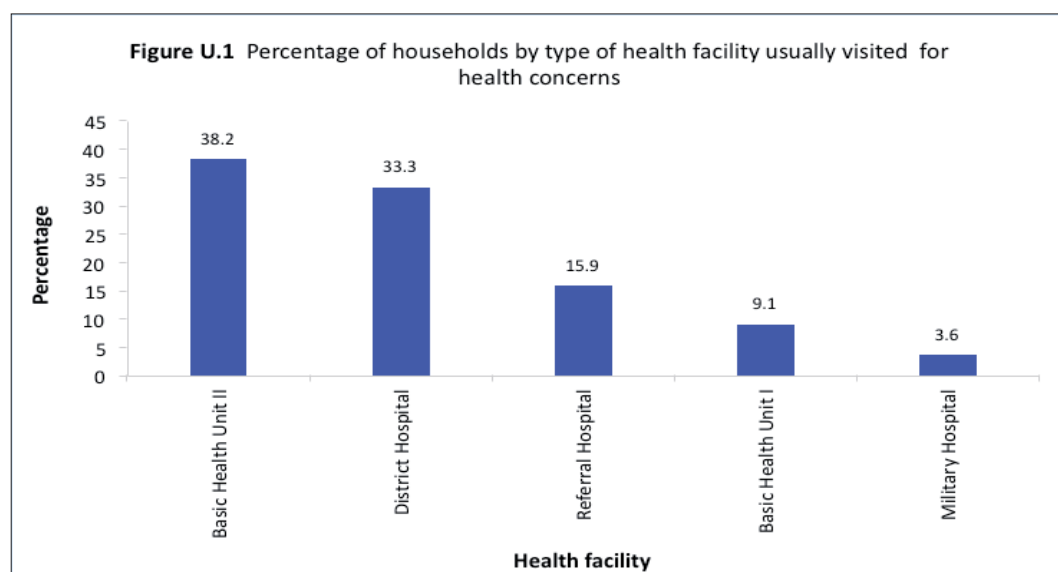
Modern allopathic health care services in Bhutan are provided through a network of hospitals and BHUs at various tiers as follows: one National Referral Hospital located in Thimphu; two regional referral hospitals of the eastern and western regions located in Monggar and Sarpang dzongkhags, respectively; 25 district hospitals; 14 BHU-Is, and 178 BHU-IIs. There are also six military hospitals in the country, which provide health services to the general Bhutanese populace. The survey asked household respondents about the type of health facility located nearest to their households. As shown in Table U1, a majority of households reported BHU-II (45.5%) and district hospital (28.7%) as health facilities nearest to their households followed by referral hospital (11.1%), BHU-I (8.3%), and military hospital (6.1%).

Table U.1 Nearest Health Facility Percent distribution of households by type of nearest health facility, urban-rural and dzongkhag, Bhutan 2012								
Urban-Rural and Dzongkhags	Total Households		Nearest Health Facility					
	Number	Percent	Referral Hospital	District Hospital	Military Hospital	BHU I	BHU II	Not Reported
Total	13256	100.0	11.1	28.7	6.1	8.3	45.5	0.4
Urban	3592	100.0	35.4	32.3	12.8	10.2	9.1	0.2
Rural	9664	100.0	2.1	27.3	3.6	7.6	59.0	0.4
Bumthang	294	100.0	*	53.9	*	*	46.1	0
Chhukha	1099	100.0	*	57.9	1.0	22.3	17.3	1.5
Dagana	520	100.0	*	34.0	*	27.2	38.9	0
Gasa	48	100.0	*	*	*	23.3	75.5	1.2
Haa	151	100.0	*	*	36.1	23.6	39.9	0.5
Lhuentse	327	100.0	*	20.7	0.3	*	78.9	0.1
Monggar	896	100.0	12.1	*	*	2.7	84.7	0.5
Paro	940	100.0	*	64.8	11.2	*	23.8	0.1
Pemagatshel	510	100.0	*	27.6	1.3	18.4	52.5	0.2
Punakha	435	100.0	*	37.3	*	*	62.5	0.2
Samdrup Jongkhar	730	100.0	*	12.5	12.1	22.1	53.3	0
Samtse	1388	100.0	*	51.9	2.1	*	45.8	0.2
Sarpang	709	100.0	29.9	27.5	2.5	*	39.7	0.3
Thimphu	2172	100.0	53.2	8.5	20.8	7.7	9.3	0.6
Trashigang	991	100.0	*	16.9	1.0	13.2	68.8	0.1
Trashiyangtse	376	100.0	*	13.6	*	*	86.5	0
Trongsa	249	100.0	*	19.9	*	*	79.9	0.2
Tsirang	455	100.0	*	39.7	*	0.7	59.1	0.6
Wangdue	548	100.0	*	27.0	5.2	*	67.7	0.1
Zhemgang	420	100.0	*	15.1	*	21.0	63.8	0.1
* Not Applicable								

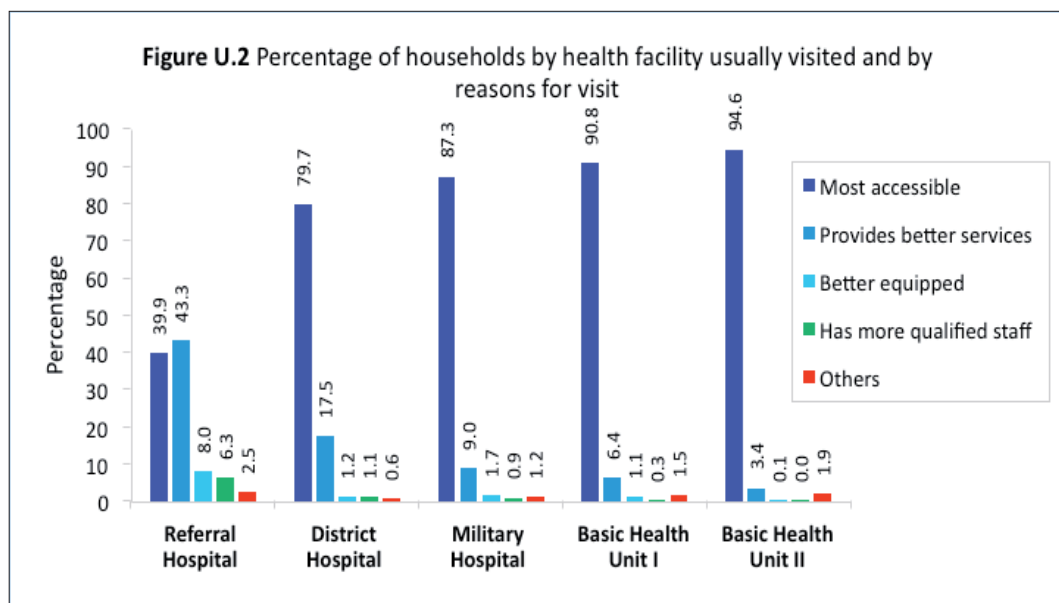
By dzongkhag, the proportion of households with BHU-II as the nearest health facility was highest in Trashiyangtse (86.5%), the proportion with referral hospital as nearest health facility highest in Thimphu (53.2%), district hospital in Paro (64%), military hospital in Haa (36.1%), while households with BHU-I as the nearest health facility was highest in Dagana (27.2%).

4.2 HEALTH FACILITY USUALLY VISITED BY REASONS FOR THE VISITS

The survey assessed the type of health facilities that household members usually visited for their health concerns. A majority of Bhutanese households (38.2%) usually visited BHU-II, while 33.3% visited district hospitals and 15.9% visited referral hospitals. Further, about 9% reported that their household members usually visited BHU-I, and 3.6% reported usually visiting military hospitals (Figure U.1).



As shown in Figure U.2, the most commonly cited reasons for usually visiting a health facility was because it was “most accessible” which varied from 39.9% among those who usually visited referral hospitals to 79.7% among those who usually visited district hospitals to over 90% among those who usually visited BHU-I and BHU-IIs. The proportion of households citing “provides better services” as a reason for usually visiting a health facility varied from 43.3% among those who usually visited referral hospitals to 17.5% among those who usually visited district hospitals to 3.4% among those who usually visited a BHU-II.



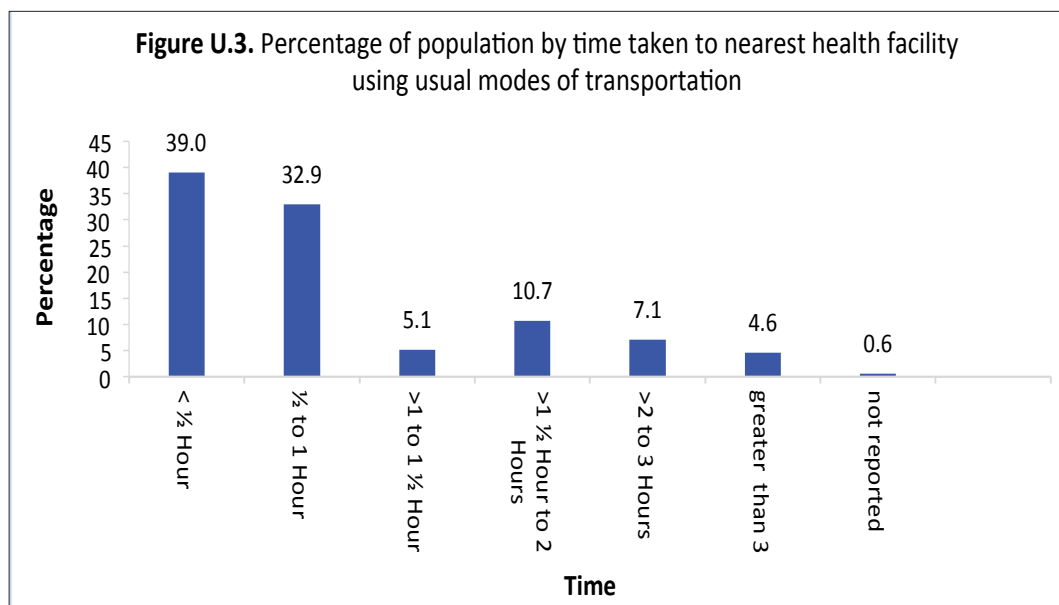
4.3 TIME TO NEAREST HEALTH FACILITY

The survey collected data to assess time taken to reach the nearest health facility by household members either on foot or through a particular mode of transport or a combination of both. The following transportation options were used in the survey:

- Foot
- Bicycle/ motorcycle
- Private motor vehicle
- Public motor vehicle
- Foot + motor vehicle
- Others

Respondents were asked to identify the nearest health facility (outreach clinics excluded) and how they usually go there. Respondents were then asked about the time taken to get to the nearest facility using the means listed above.

As shown in Figure U.3, 39 percent of Bhutanese population live less than ½ hour from the nearest facility, 32.9% within ½ - 1 hour, while about 16% take 1-2 hours to get to the nearest health facility. Only 4.6% of population live at distances of more than 3 hours from the nearest health facility.



As shown in figure U.4, 83 % of urban population were found to live less than ½ hour away from the nearest health facility as compared to 25.2% of rural households that live within ½ hour from the nearest health facility. The proportion of rural households living at distances of more than 3 hours from the nearest health facility was almost six times greater than that of urban households.

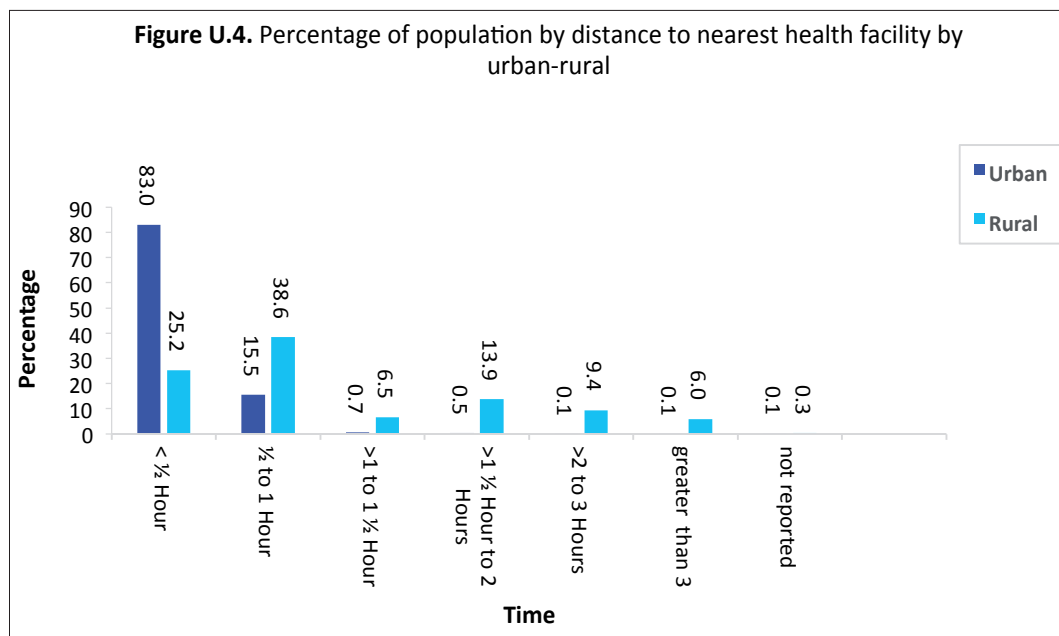


Table U.1 shows percent distribution of households by time to nearest health facility by usual transportation mode and by urban-rural. About 67% of rural household respondents reported that their household members usually walk to get to the nearest health facility as opposed to 48.8% of urban households whose members walk to get to the nearest health facility. The least used means of transportation was bicycle/motorcycle which was less than 1% in both urban and rural areas.

Table U.1 Time to nearest health facility Percent distribution of households by time to nearest health facility by usual transportation mode and by urban-rural, Bhutan 2012								
Mode of Transportation	< ½ Hour	½ to 1 Hour	>1 to 1 ½ Hour	>1 ½ Hour to 2 Hours	>2 to 3 Hours	greater than 3	Total households that have visited the nearest facility	
URBAN							Number	%
Foot	1432	294	11	10	3	1	1753	48.8
Bicycle/motorcycle	23	5	0	0	0	0	28	0.8
Private motor vehicle	1058	66	3	1	1	5	1133	31.5
Public motor vehicle	339	113	6	2	0	0	461	12.8
Foot + motor vehicle	124	53	4	1	0	0	183	5.1
Others	12	1	0	0	0	0	12	0.4
Not reported	5	0	0	0	0	0	7	0.2
RURAL								
Foot	1619	2287	420	1007	683	409	6431	66.6
Bicycle/motorcycle	9	8	2	0	0	0	19	0.2
Private motor vehicle	459	401	27	23	11	5	932	9.6
Public motor vehicle	303	457	35	43	1	5	845	8.8
Foot + motor vehicle	149	541	133	200	153	126	1306	13.5
Others	6	3	2	8	0	3	22	0.2
Not reported	12	23	3	11	4	3	67	0.7

4.4 HEALTH CARE EXPENDITURE

Health care services in Bhutan are provided free by the state including ex-country referral of patients with conditions that cannot be managed/treated in the country. Bhutanese people also spend for purchasing medicines; and related medical supplies; selected dental and eye care services; hospital cabins; and indirect expenses such as transportation cost to and from health facilities. Some Bhutanese go for medical check-ups/treatment to other countries like India and Thailand out of their own choice with their private resources. Spending on spiritual/religious ceremonies for health purposes is also a widespread cultural practice in the country.

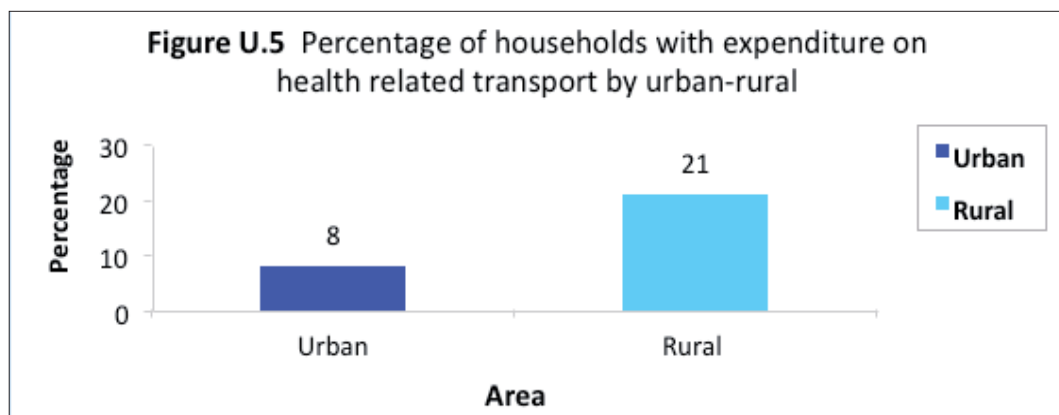
4.4.1 Household expenditure on health care

Household respondents were asked if their households incurred health related expenses during the past six months preceding the survey on prescription drugs, non-prescription drugs, transportation, dental care, hospital cabin, and others, which include spending on religious/spiritual rituals for health.

Table U.3 shows median health expenditure by item of expenditure. Of those households that reported spending on health care in the past six months preceding the survey, the most common expenses were indirect costs on transportation, with 29% of Bhutanese households reporting spending on it. This was followed by expenses on prescription medicine (24.9%), “others” (16.5%), non-prescription medicines (13.6%), dental care (1.2%) and hospital cabin (0.7%). It is important to note that the median expenditure on the “others” item, which included spending on religious offerings/ceremonies for health, was found to be the highest at Nu. 4900.

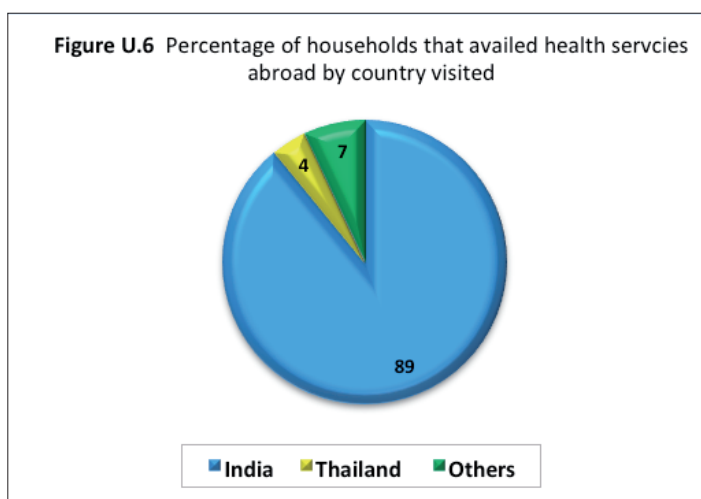
Table U.3 Household expenditure on health care Median health expenditure (in Ngultrums) of households in the past six months by item of expenditure, Bhutan 2012			
Expenditure Item	Median Expenditure	Reporting Households	% to total households
Prescription drugs	500	3301	24.9
Non-prescription drugs	300	1805	13.6
Hospital cabin	2500	97	0.7
Transport	800	3878	29.3
Dental	500	154	1.2
Other expenditures	4900	2192	16.5

As shown in figure U.5, spending on transportation for health care purposes was almost 3 times higher among rural households compared to urban households indicating high burden of indirect cost on rural residents. Although less than 1% of the households reported having used hospital cabins, the median cost for this item (Nu.2500) was the second highest among all expenditure items.

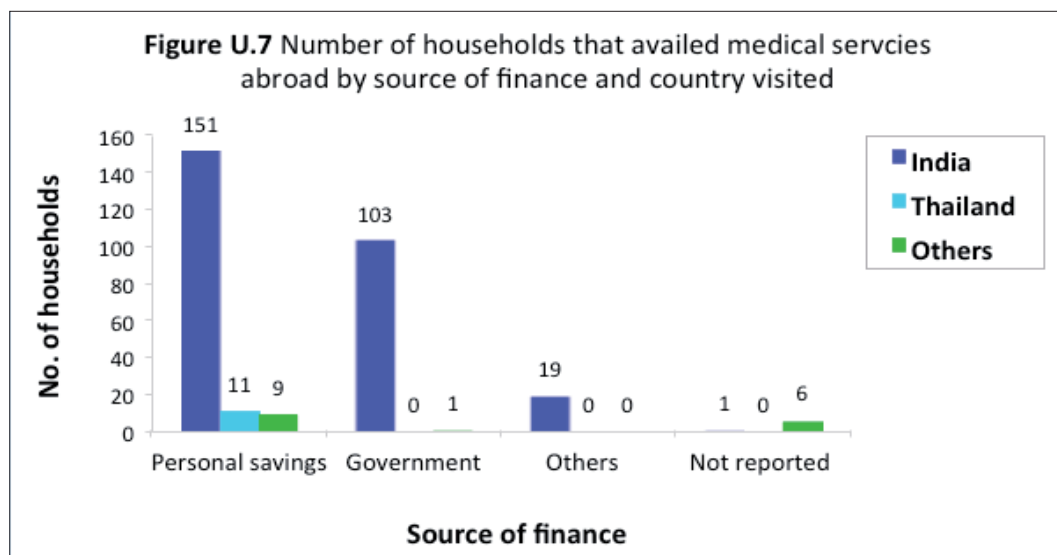


4.5 MEDICAL SERVICES ABROAD

Household respondents were asked if any household member availed medical services outside Bhutan in the past year preceding the survey. Overall, 302 households (2.3%) travelled outside Bhutan to avail medical services. Of these, 274 (89%) went to India, 11 (4%) to Thailand and 17 households (7%) to countries other than India and Thailand (Figure U.6).



Of those who travelled to India, 151 households reported personal savings as their source of finance while the government financed 103 households. All 11 households who reported having travelled to Thailand used their personal savings to finance their costs as shown in Figure U.7.



4.6 VILLAGE HEALTH WORKERS

Village health workers, who are non-formal workers, act as links between communities and the Ministry of Health. They play a crucial role in strengthening universal health coverage in the country. As the name implies, village health workers work in chiwogs/villages and not in urban areas. They are involved in delivery of simple primary health care services amongst the rural population, for example providing oral contraceptive pills and deworming medicines.

This survey sought information on the utilization of village health workers by asking household respondents about the number of times household members met a village health worker for health reasons (Table U.4). The survey found that 55 % of households in areas where there are village health workers met a village health worker at least once for health reasons in the past year preceding the survey. However, 44% of total household in areas where there are village health workers never met a village health worker in the past year. Of those households that reported meeting a village health worker, 25.8% met at least 3 times or more.

Table U.4 Village Health Worker (VHW) Percent distribution of households by number of times household members met a VHW by dzongkhag, Bhutan 2012							
Dzongkhag	Number of times a VHW was met (%)						
	Never met	1-2 times	3-5 times	6-10 times	>10 times	Not reported	Total
Bhutan	44.1	29.3	15.8	4.5	5.5	0.8	100.0
Bumthang	47.6	17.1	18.3	5.4	9.0	2.5	100.0
Chhukha	19.2	17.5	20	15.5	25.1	2.6	100.0
Dagana	52.3	16.4	18.4	5.2	7.6	0.1	100.0
Gasa	21.5	55.8	19.2	1.1	0.7	1.7	100.0
Haa	19.1	35.7	20.3	8.7	15.1	1.2	100.0
Lhuentse	20.2	24.9	29.5	20.4	4.6	0.4	100.0
Monggar	19.2	45.8	26.1	3.1	5.9	0.0	100.0
Paro	49.4	14.6	14.5	5.9	12.5	3.2	100.0
Pemagatshel	22.4	48.1	23.8	3.6	1.5	0.8	100.0
Punakha	42.7	37.2	11.7	3.4	4.2	0.8	100.0
Samdrup Jongkhar	22.7	49.3	24.5	1.5	2.0	0.0	100.0
Samtse	27.9	41.3	20.3	6.2	4.4	0.0	100.0
Sarpang	59.9	24.8	12.0	1.3	0.6	1.4	100.0
Thimphu	88.5	7.5	2.0	0.6	1.4	0.0	100.0
Trashigang	29.9	38.7	16.2	3.2	11.1	0.9	100.0
Trashiyangtse	57.7	24.1	13.8	3.2	1.1	0.0	100.0
Trongsa	28	30.8	23.1	10.3	7.5	0.3	100.0
Tsirang	50.7	22.7	15.5	6.6	3.1	1.3	100.0
Wangdue	60.3	29.1	5.3	2.0	1.6	1.8	100.0
Zhemgang	34.6	32.2	21.0	7.9	3.4	0.9	100.0

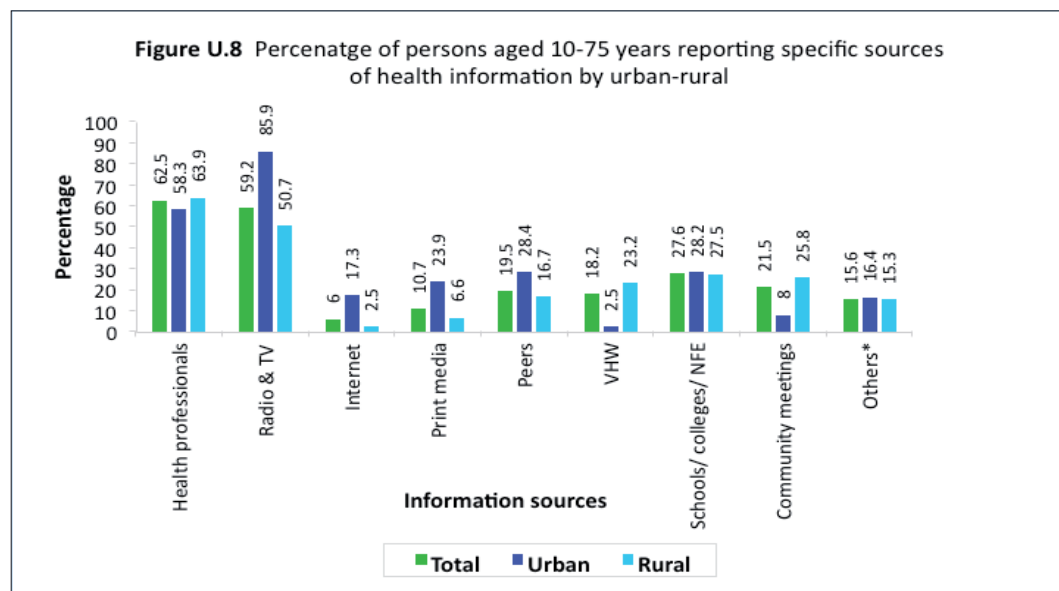
The proportion of households whose member did not meet a village health worker for health concerns in the past year was highest in Thimphu dzongkhag (88.5%) followed by Wangdue dzongkhag (60.3%) and Sarpang dzongkhag (59.9%).

4.7 SOURCES OF HEALTH-RELATED INFORMATION

Respondents were asked to list their usual sources of information on health-related topics such as healthy life-style, prevention of illnesses, etc. The most common source of health-related information was health professionals (62.5%), followed

by radio & television (59.2%), schools/colleges/non-formal education (27.6%), community meetings (21.5%), peers (19.5%), village health workers (18.2%), print media (10.7%), the internet (6%), and others* (15.6%).

A majority of the respondents residing in urban areas cited radio & television (85.9%), while most of the respondents residing in rural areas cited health professionals (63.9%) as their source of health-related information (Figure U.8).



* includes advocacy materials (posters/leaflets), advocacy, multi-sector task force, outreach clinics.

4.8 HEALTH HELP CENTER (HHC)

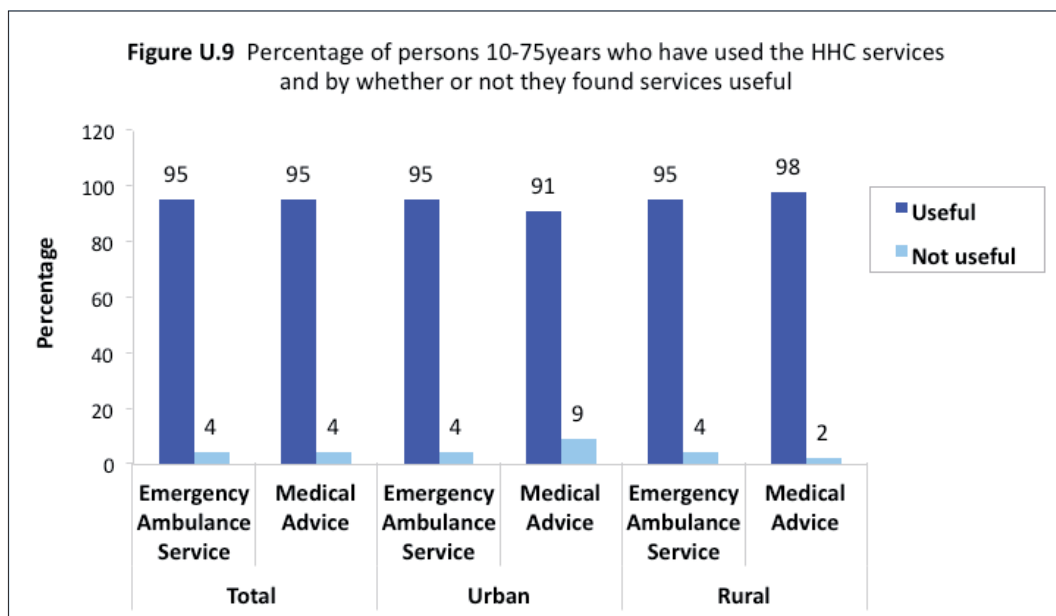
The Health Help Centre, an Information and Communication Technology enabled healthcare service center, was launched on 2 May 2011, as part of efforts to address the shortage of health human resource and to improve accessibility to healthcare professionals. The center provides two main health care services round the clock 24/7: Emergency Response Services (Ambulance) and Healthcare Helpline Services (Medical Advice).

As shown in Table U.6, the survey found that 62% (n=24803) of the respondents aged 10-75 years were aware of HHC. Of those who heard about HHC, 6.9% (n=1702) had utilized the HHC in the past 12 months preceding the survey. By

dzongkhag, Pemagatshel reported the highest utilization of HHC services with 11.6%, followed by Trashigang (11.5%) and Lhuentse (10.8%).

Table U.6 Utilization of HHC Percentage of persons 10-75 years who have heard of the HHC by whether or not they have used the facility by sex, by urban-rural and by dzongkhag, Bhutan 2012					
Sex, Urban-rural and Dzongkhag	Persons 10-75 years who have heard of HHC	Have Used HHC		Have not used HHC	
		Number	%	Number	%
Total	24803	1,702	6.9	23085	93.1
Male	12103	858	7.1	11241	92.9
Female	12700	844	6.6	11845	93.3
Urban	7603	365	4.8	7226	95.1
Rural	17200	1337	7.8	15859	92.2
Bumthang	771	40	5.2	731	94.8
Chhukha	2048	99	4.8	1949	95.2
Dagana	1053	97	9.3	956	90.7
Gasa	85	6	6.9	79	93.1
Haa	265	13	4.9	252	95.1
Lhuentse	523	56	10.8	467	89.2
Monggar	1702	104	6.1	1598	93.9
Paro	1945	95	4.9	1850	95.1
Pemagatshel	1125	130	11.6	995	88.4
Punakha	1100	98	8.9	1001	91.0
Samtse	1908	103	5.4	1801	94.4
Sarpang	1081	64	6.0	1016	94.0
Samdrup Jongkhar	1062	90	8.5	973	91.5
Thimphu	4817	280	5.8	4528	94.0
Trashigang	1532	176	11.5	1356	88.5
Trashiyangtse	845	69	8.2	775	91.8
Trongsa	501	38	7.6	463	92.4
Tsirang	686	52	7.5	633	92.3
Wangdue	931	37	3.9	894	96.1
Zhemgang	823	53	6.4	770	93.6

Of those who used HHC in the past year, about 90% used the emergency ambulance services and about 9% used medical advice services. When asked about the usefulness of the HHC, 94.9% and 95% of the respondents who used HHC found the Emergency Ambulance Service and Medical Advice services useful, respectively (Figure U.9).



4.9 SATISFACTION WITH HEALTH SERVICES PROVIDED

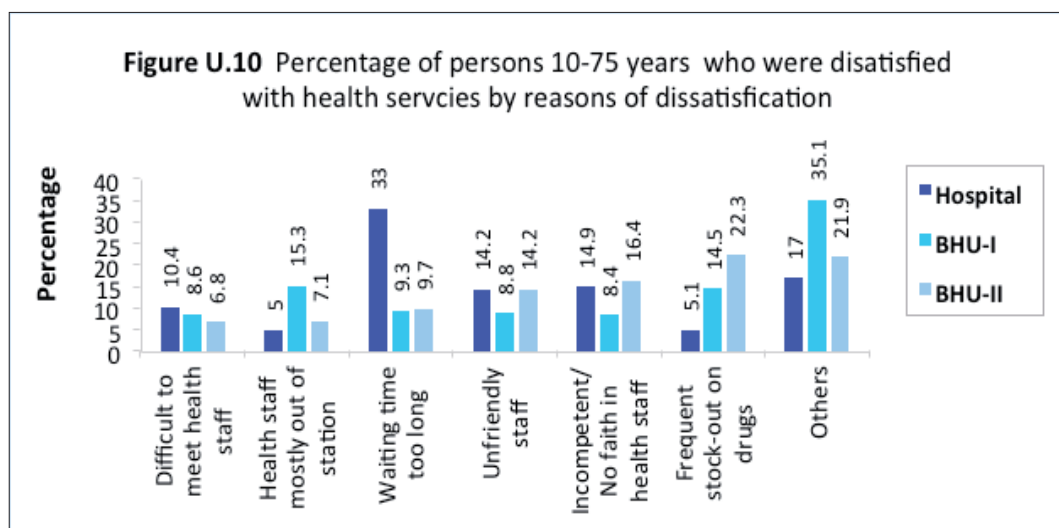
Gauging patient's satisfaction towards health services can provide useful insights to health policy makers about the gaps in existing health services. Respondents aged 10-75 years were asked if they visited a health facility for any health concerns during the past year preceding the survey and whether or not, **in general**, they were satisfied with the services received.

Note: It is important to note that the survey attempted to elicit the general perception of patients towards health care services received during their visit to a health facility in the past year. The single item question did not, however, ask questions on other important aspects of health services such as quality of care, waiting time, and attitude of health workers, to name a few. Therefore, it is important to interpret the findings with caution.

Overall, 62.5% of Bhutanese aged 10-75 years visited a health facility during the recall period of one year. Of these, 92.1% were generally satisfied with the health services received (Table U.7). Those who visited BHU-IIs were the most satisfied followed by those who visited BHU-Is. By area of residence, the proportion who were satisfied with health services was higher among rural residents (94.2%) as compared to their urban counterparts (84%).

Table U.7 Satisfaction with health services Percentage of persons 10-75 years who have used health facility by whether or not satisfied with services provided, Bhutan 2012						
Health Facility	Persons 10-75 who visited a health facility in the past 12 months		Satisfied	Not satisfied	No opinion	Not Reported
	Number	Percent				
Total	24861	100	92.1	6.8	0.9	0.1
Hospital	14746	100	89.8	8.9	1.3	0
BHU I	2456	100	93.9	5.7	0.4	0
BHU II	7659	100	96	3.2	0.5	0.3

The survey also revealed 6.8% of those who visited a health facility in the past year were dissatisfied with the services provided. As shown in figure U.10, among the dissatisfied patients, those who visited hospitals cited “waiting time too long” as the most common reason for their dissatisfaction. “Frequent stock out on drugs” was the main reason for dissatisfaction among those who visited BHU-IIs (Figure U.10).





Chapter 5: Fertility

Bhutan aims to reduce its total fertility rate (TFR) to replacement level fertility of 2.1 births per woman by 2020 through improved access to health, nutrition and poverty alleviation (Vision 2020, Bhutan). Fertility analysis is of central importance in demography as births are a vital component of population growth. Fertility is also considered one of the three principal components of population dynamics that determine the size, structure, and composition of the population in any country. Additionally, fertility provides important information about women's reproductive behavior and attitudes.

5.1 CURRENT FERTILITY

Table F.1 shows measures of current fertility which includes age-specific fertility rates (ASFRs), total fertility rate (TFR), general fertility rate (GFR), and crude birth rate (CBR).

Table F.1 Current Fertility			
Age specific fertility rates (ASFRs), TFR, GFR and CBR, Bhutan 2012			
Age Group	Number of births in the past year	Number of Women	Age-Specific Fertility Rate (ASFR)
15-19	95	3345	28.4
20-24	371	2754	134.7
25-29	362	2551	141.9
30-34	171	2256	75.8
35-39	100	1905	52.5
40-44	28	1658	16.9
45-49	6	1426	4.2
Total Fertility Rate (TFR)			2.3
General Fertility Rate (GFR)			72
Crude Birth Rate (CBR)			17.9
Crude Rate of Natural Increase (CRNI)/ Natural Growth Rate			1.2
Sex Ratio at Birth (SBR)			104

5.1.1 ASFR and TFR

ASFR is expressed as the number of births per 1,000 women in a certain age group and is an important measure to assess the current age pattern of childbearing. As shown in Table F.1 ASFRs varied from a high of 141.9 in the age group of 25-29 years to a low of 4.2 in the age group of 45-49 years.

TFR is a summary measure of fertility which is defined as the average number of births a woman would have by the end of her childbearing period if she experienced the current ASFRs. The TFR was determined by summing the ASFRs and multiplying by five year age groups. The 2012 NHS revealed a TFR of 2.3 which indicates that a Bhutanese woman, on average, would have 2.3 children by the end of her reproductive years if the current fertility pattern were to prevail.

5.1.2 GFR and CBR

The GFR is the number of live births per 1,000 women aged 15-49 years in a given time period. As illustrated in Table F.1, the GFR was found to be 72 births per 1,000 women. The survey also revealed a CBR, which is expressed as births per 1,000 population, of 17.9 births per 1,000 population.

The crude rate of natural increase / natural growth rate of population was estimated at 1.2 and the sex ratio at birth (SRB) was found to be 104 males per 100 females.

5.2 FERTILITY TRENDS

The trends in ASFRs reflect changes in fertility rates for each specific age group at the given time period. Figure F.1 illustrates the current ASFR trend in Bhutan as compared to the past NHS 1994 and 2000. Overall, the ASFR has dropped significantly across all age groups over the past two decades. The decline was substantial among the younger age groups of 15-19 years and 20-24 years. The ASFR among the 15-19 age group declined from a high of 120.2 in 1994 to 61.7 in 2000 to a current rate of 28.4. Similarly, the ASFR declined from 266.7 in 1994 to 245.4 in 2000 to 134.7 currently among the 20-24 years' age group.

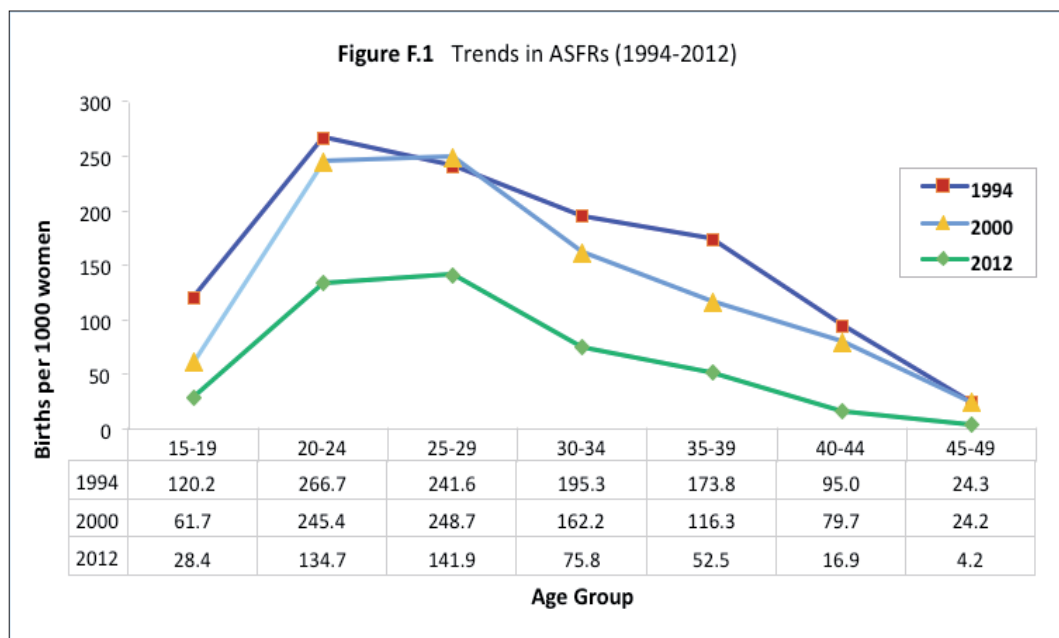
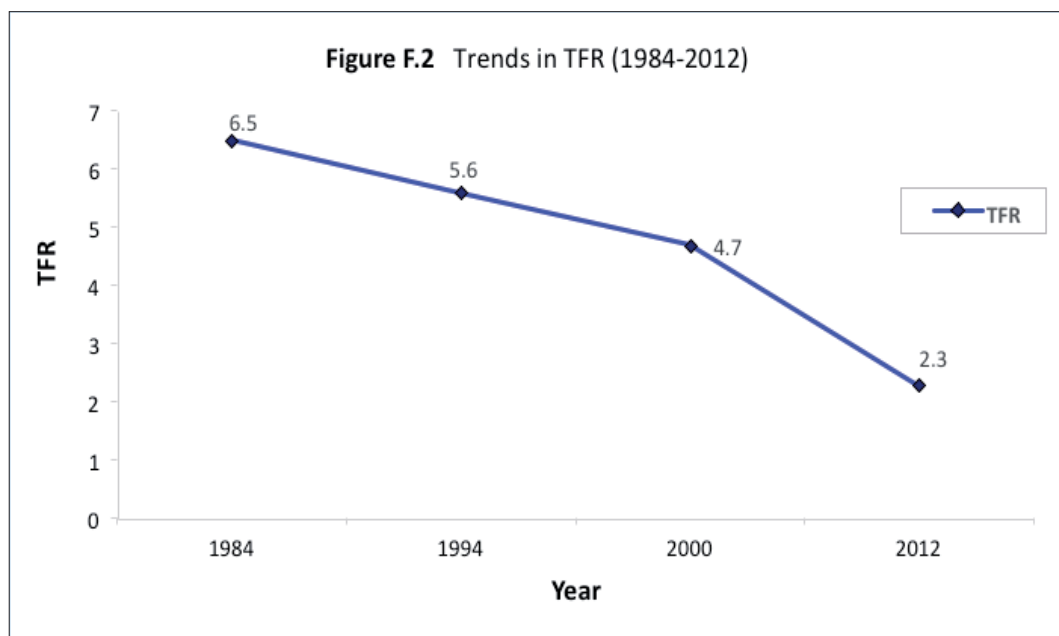
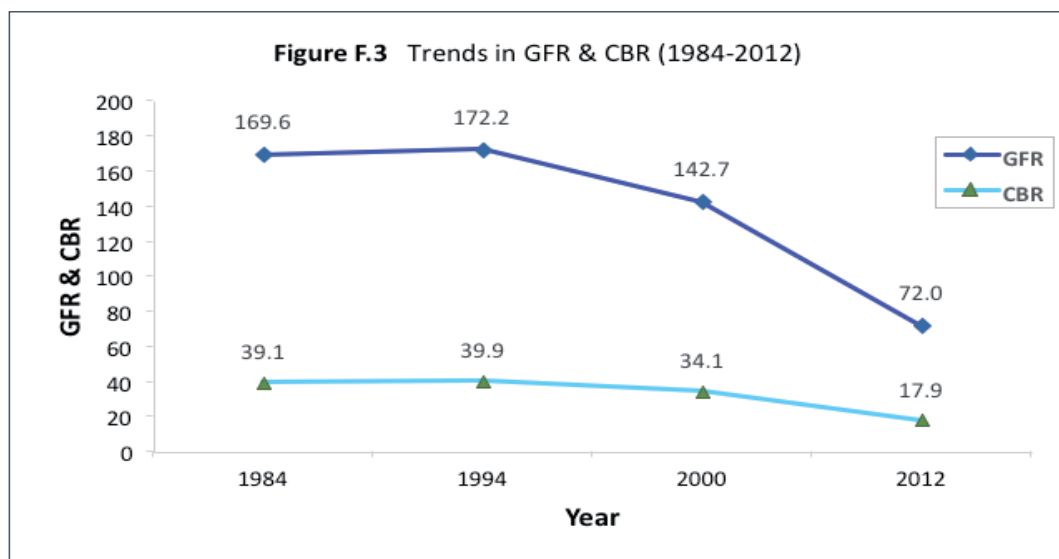


Figure F.2 depicts the declining trend in TFR over the past two decades. The average number of births that a Bhutanese woman would bear over her reproductive lifespan has dropped from a high of 6.5 in 1984 to near replacement fertility level of 2.3 in 2012.



There has been a significant decline in both GFR and CBR over the same period as illustrated by Figure F.3. The general fertility level has dropped significantly from a high of almost 170 live births per 1,000 women aged 15-49 years in 1984 to 72 in 2012. Similarly, the CBR has also declined from 39.1 births per 1,000 population to 17.9 per 1000 population in 2012.



5.3 CHILDREN EVER BORN (CEB) AND LIVING

The women's questionnaire included questions related to the total number of children a woman has ever given birth to in her lifetime. The examination of CEB is important to understand changes in women's fertility behavior from the early stage of their reproductive age (15-19 years) to their later completed fertility stage (45-49 years).

Table F.2 illustrates the distribution of ever-married women aged 15-49 years by five-year age group, number of children ever born, and by selected background characteristics. Ever-married women was defined as women who have been married at least once in their lifetime, although their current marital status may not be "married". From 10,298 ever-married women, 25.3% gave birth to two children, 20.8% to 3 children while 6.2% did not give any live births.

For all ever-married women aged 15-49 years, the mean number of CEB was found to be 2.7. The mean number of CEB increased with women's age and

ranged from 0.8 in the 15-19 years age group to 4.3 among the 45-49 years age group. The survey revealed that the mean number of children ever born varied from a high of 3.2 among those with no education to a low of 1.5 among those with university/diploma/certificate level education. Table F.3 illustrates the distribution of ever-married women by five-year age group, by number of children living, and by selected background characteristics. The mean number of children surviving/living of women aged 15-49 years was found to be 2.5 and the mean increased with women's age. The mean number of living/surviving children varied from 0.7 among 15-19 year olds to 3.9 among 45-49 year olds.

Table F.2 Children Ever Born (CEB) Percent distribution of ever-married women by number of children ever born, according to background characteristics, Bhutan 2012										
Background Characteristics	Ever-Married Women 15-49	Number of children ever-born (%)								Mean number of CEB
		Total	0	1	2	3	4	5	6 or more	
Total	10298	100.0	6.2	19.7	25.3	20.8	13.3	7.4	7.3	2.7
15-19	311	100.0	31.3	61.9	6.2	0.6	0.0	0.0	0.0	0.8
20-24	1386	100.0	15.9	51.4	27.6	4.7	0.4	0.0	0.0	1.2
25-29	2080	100.0	7.6	29.3	36.6	20.5	5.0	0.8	0.1	1.9
30-34	2018	100.0	3.5	13.0	34.7	27.7	13.7	5.4	2.1	2.6
35-39	1714	100.0	2.2	6.6	22.1	29.0	23.3	11.0	5.9	3.2
40-44	1503	100.0	1.5	5.0	15.9	22.8	21.7	16.2	16.7	3.9
45-49	1284	100.0	2.4	5.2	10.0	19.3	20.0	15.7	27.5	4.3
Urban	2815	100.0	8.3	24.4	31.8	18.4	10.6	4.8	1.7	2.2
Rural	7483	100.0	5.4	18.0	22.9	21.7	14.3	8.4	9.4	2.9
No education	5554	100.0	3.6	12.4	21.5	22.7	17.9	10.6	11.4	3.2
Primary	1206	100.0	5.7	23.9	29.5	23.6	10.1	4.9	2.4	2.3
High School	1647	100.0	13.6	37.0	32.9	12.6	2.8	0.8	0.3	1.6
University/ Diploma/ Certificate	301	100.0	16.3	38.1	27.9	15.3	2.3	0.0	0.1	1.5
Monastic School	*	*	*	*	*	*	*	*	*	*
Non-Formal Education	1541	100.0	6.3	20.4	27.5	21.3	13.0	6.3	5.2	2.6
Don't know	26	100.0	5.3**	50.8**	15.8**	10.3**	6.7**	6.6**	4.5**	2.1**
**Calculation based on just 25-49 cases										
* Fewer than 25 cases										

Table F.3 Children still surviving/ Living Percent distribution of ever-married women by number of children still surviving/living, according to background characteristics, Bhutan 2012										
Background Characteristics	Ever-Married Women 15-49	Number of children still surviving (%)								Mean number of children still surviving
		Total	0	1	2	3	4	5	6 or more	
Total	10298	100.0	6.7	20.6	27.3	22.2	12.8	5.7	4.7	2.5
15-19	311	100.0	33.4	61.5	4.8	0.3	0.0	0.0	0.0	0.7
20-24	1387	100.0	17.1	52.2	26.9	3.5	0.3	0.0	0.0	1.2
25-29	2080	100.0	7.9	30.7	38.8	18.7	3.4	0.4	0.1	1.8
30-34	2018	100.0	3.8	13.5	38.1	27.7	12.3	3.8	0.8	2.5
35-39	1715	100.0	2.6	7.1	25.0	32.2	21.1	8.5	3.4	3.0
40-44	1503	100.0	1.7	6.0	18.1	28.5	21.4	13.1	11.2	3.5
45-49	1284	100.0	2.5	6.8	11.1	24.1	24.5	12.6	18.5	3.9
Urban	2815	100.0	8.4	25.0	33.0	19.0	10.3	3.2	1.1	2.1
Rural	7483	100.0	6.0	19.0	25.1	23.4	13.8	6.7	6.0	2.7
No education	5554	100.0	4.1	13.3	23.9	25.2	17.5	8.4	7.6	3.0
Primary	1206	100.0	6.0	24.8	31.1	23.8	9.1	3.8	1.4	2.2
High School	1647	100.0	13.8	37.7	33.1	12.4	2.0	0.8	0.2	1.5
University/ Diploma/ Certificate	301	100.0	16.3	38.0	31.0	13.0	1.6	0.0	0.1	1.5
Monastic School	*	*	*	*	*	*	*	*	*	*
Non-Formal Education	1541	100.0	6.8	21.7	29.3	22.5	13.1	4.1	2.5	2.4
Don't know	26	100.0	5.3**	50.8**	16.3**	12.9**	6.9**	3.2**	4.5**	2.1**
**Calculation based on just 25-49 cases										
* Fewer than 25 cases										

5.4 AGE AT MENARCHE

The age at menarche (age at which a woman experiences her first menstrual period) determines the risk/exposure of becoming pregnant. The onset of the first menstruation cycle marks women's susceptibility to pregnancy, which rises with increasing age.

The survey collected data from all women aged 10-49 years about their age at menarche. Table F.4 illustrates distribution of women aged between 10-49 years by age at menarche and selected background characteristics. The mean age at menarche for all women aged 10-49 years was found to be 14.3 years.

The survey found that 33.6% of women aged 10-49 years had their first menstrual period at 13 or 14 years, 27.1% by age 15-16 years, while 11.3% had not yet menstruated. Of those who reported not having menstruated yet, 67.1% were among the 10-14 years age group and the remaining between 15-49 years. There was no major difference in the mean age at menarche between urban and rural women.

Table F.4 Age at menarche Percent distribution of women aged 10-49 years by age at menarche, according to selected background characteristics, Bhutan 2012									
Age group, Education and Urban-rural	Age at Menarche (%)								Average Age at Menarche
	Total	10 or less	11-12	13-14	15-16	17 or over	Not yet menstruated	Not reported	
Total	100.0	0.8	15.1	33.6	27.1	11.5	11.3	0.6	14.3
10-14	100.0	0.7	17.2	14.6	0.0	0.0	67.1	0.4	12.4
15-19	100.0	0.9	20.9	49.6	24.9	1.6	2.1	0.0	13.6
20-24	100.0	0.8	15.7	38.0	36.1	9.1	0.1	0.2	14.3
25-29	100.0	0.5	14.3	35.8	33.8	15.3	0.0	0.3	14.6
30-34	100.0	1.2	12.4	34.5	34.7	16.0	0.0	1.1	14.7
35-39	100.0	0.9	11.6	33.0	33.9	19.6	0.0	1.1	14.8
40-44	100.0	1.2	11.8	31.1	33.7	20.9	0.0	1.3	14.9
45-49	100.0	0.5	11.3	30.3	31.9	25.3	0.0	0.7	15.1
Urban	100.0	0.7	17.7	41.3	24.3	7.9	7.9	0.2	14.0
Rural	100.0	0.9	14.2	30.9	28.1	12.8	12.6	0.7	14.5

5.5 AGE AT FIRST PREGNANCY

The onset of early-age pregnancy and childbearing has a substantial effect on the health of both the mother and the child. The survey asked all women aged 15-49 years about their age at first pregnancy. Table F.5 illustrates the percentage of women aged 15-49 years who had ever given birth by age at first pregnancy and selected background characteristics. One-fourth (25.9%) of women aged 15-49 years reported that they had their first pregnancy at ages between 18-19 years, followed by 24.8% between 20-21 years. Only 5.2% of women aged 15-49 years reported that they experienced their first pregnancy at age 15 or less.

The mean age at pregnancy for women aged 15-49 years was 20.2 years. The mean age at first pregnancy was slightly higher among those with university/

diploma/certificate level education compared to those with lower education levels. By dzongkhags, the mean age at pregnancy among female aged 15-49 years ranged from 19.1 years in Trashiyangtse to 21.7 years in Paro (Figure F.4).

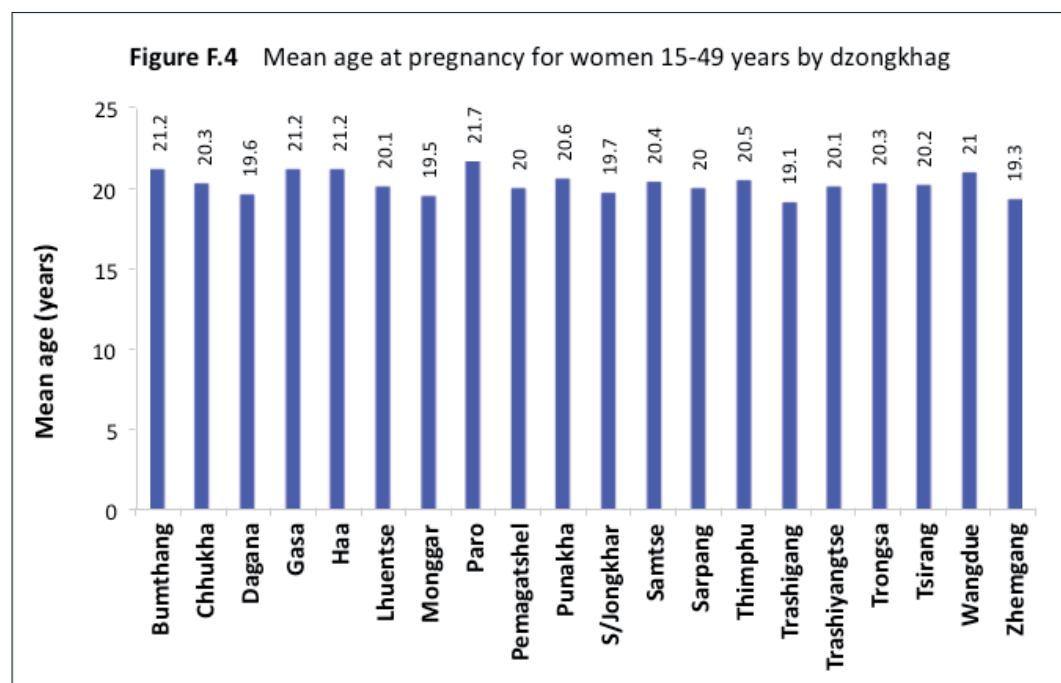


Table F.5 Age at first pregnancy
Percent distribution of women aged 15-49 years who had ever given birth to a child by age at first pregnancy, Bhutan 2012

Age group, Education, and Urban-rural	Women 15-49 who had ever given birth	Age at First Pregnancy									
		Total	15 or less	16 - 17	18 - 19	20 - 21	22 - 24	25 - 27	28 - 30	31 or more	Mean age at first pregnancy
Total	9304	100.0	5.2	15.2	25.9	24.8	17.1	8.1	2.7	1.0	20.2
15-19	206	100.0	13.1	47.4	39.5	0.0	0.0	0.0	0.0	0.0	16.9
20-24	1127	100.0	5.2	20.4	34.5	26.9	12.7	0.0	0.2	0.0	18.9
25-29	1842	100.0	4.0	13.4	24.6	23.4	23.7	10.1	0.7	0.0	20.4
30-34	1882	100.0	5.1	12.6	25.2	23.8	17.1	11.2	4.2	0.9	20.6
35-39	1624	100.0	5.4	13.6	24.5	26.9	15.2	8.6	3.9	1.9	20.5
40-44	1424	100.0	4.4	16.7	23.1	24.8	18.2	7.6	3.8	1.5	20.4
45-49	1199	100.0	6.2	11.8	23.8	28.2	15.4	9.0	3.6	2.0	20.6
No education	5184	100.0	5.7	16.4	26.5	26.5	14.4	6.6	2.9	1.0	20.0
Primary	1092	100.0	5.8	20.2	29.8	20.7	14.8	6.3	1.4	1.0	19.7
High School	1354	100.0	1.4	7.1	20.8	23.7	29.8	13.0	3.3	0.8	21.5
University/ Diploma/ Certificate	254	100.0	1.0	1.5	1.8	21.0	28.0	33.6	11.4	1.7	24.1
Monastic School	*	*	*	*	*	*	*	*	*	*	*
Non-Formal Education	1369	100.0	7.0	17.1	30.2	23.7	14.5	5.3	1.2	0.9	19.6
Don't know	29	100.0	3.0**	10.0**	11.0**	27.1**	24.3**	24.6**	0.0**	0.0**	21.9**
Urban	2457	100.0	4.1	14.0	23.1	22.3	21.5	10.8	3.4	0.9	20.7
Rural	6847	100.0	5.5	15.6	26.9	25.8	15.6	7.1	2.5	1.1	20.1

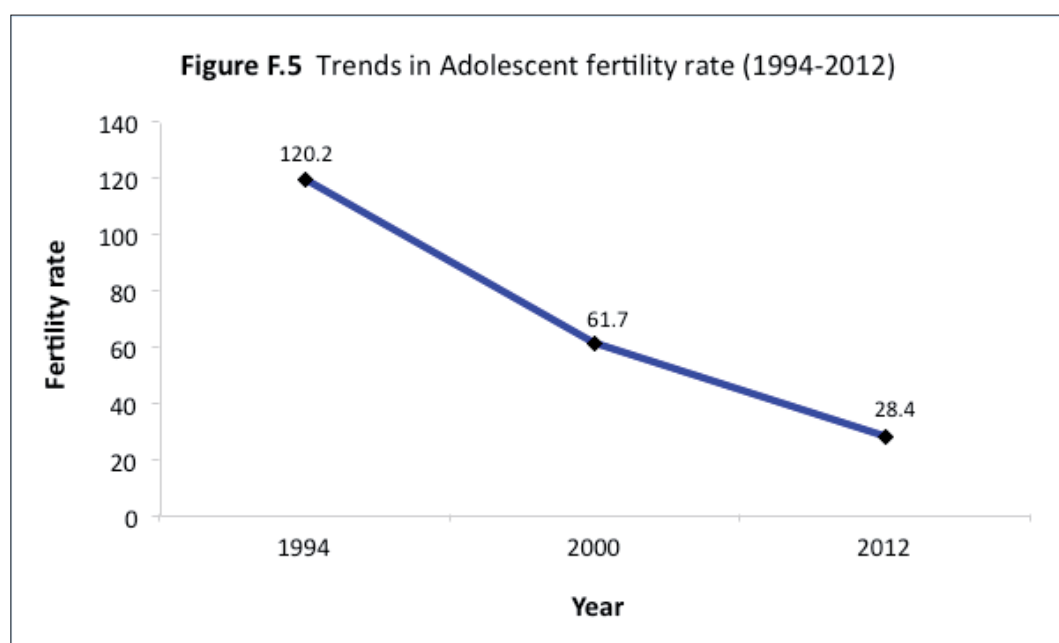
**Calculation based on just 25-49 cases

* Fewer than 25 cases

5.6 ADOLESCENT FERTILITY

Adolescent / teenage pregnancy and motherhood is a major social and health concern. It not only poses a substantial health challenge to young women and children born to them, but also deprives young women from educational and socioeconomic opportunities.

Adolescent fertility rate, which is also referred to as adolescent birth rate, is the number of live births to adolescent women (15-19 years) per 1,000 adolescent women. The survey found an adolescent fertility rate of 28.4 per 1,000 adolescent women which shows a significant decline from 120.2 in 1994 and 61.7 in 2000 (Figure F.5).



As Table F.6 shows, nearly 8 percent of adolescent women have given birth while 1.5 percent were currently pregnant during the time of the survey. The proportion of women aged 15-19 years with a live birth increased with age: from 1 percent among 15 year olds to 20.4% among 19 year olds. Early childbearing among adolescents was more common among urban residents (89.3%) than their rural counterparts (10.7%).

Table F.6 Adolescent pregnancy and motherhood					
Percent distribution of women aged 15-19 years with a live birth and currently pregnant women by age and urban-rural, Bhutan 2012					
Background characteristic	Percentage who:				Number of women
	Have had a live birth	No live birth	Are currently pregnant	Not pregnant/ Not Sure/ Not reported	
Age					
15	1.0	99.0	0.0	100	578
16	1.4	98.6	0.3	99.7	618
17	4.7	95.3	0.7	99.3	553
18	12.6	87.4	2.3	97.7	590
19	20.4	79.6	4.3	95.7	518
Rural	10.7	24.6	15.4	23.6	671
Urban	89.3	75.4	84.6	76.4	2186
Total	7.7	92.3	1.5	98.5	2857
Adolescent Fertility Rate: 28.4					

5.7 FERTILITY PREFERENCES

An examination of fertility preferences is of considerable importance for family planning programs to assess the desire for children and to examine the extent of unintended and mistimed pregnancies. The survey asked women a series of questions to ascertain their fertility preferences.

5.7.1 Desire for more children

Information on the desire for more children is important for understanding future reproductive behaviors of women. Currently married women whether pregnant or not were asked about their intention to have another child. Those who reported that they wanted another child were further asked how soon they wanted the child. For pregnant women, the same question was phrased differently to assess their desire for subsequent children after the current pregnancy. Women who reported either being sterilized or having partners who were sterilized were considered as 'want no more children'.

Overall, 73 percent of currently married women aged 15-49 years want to limit child bearing and 26 percent want to have a child some time later in the future. This shows that a majority of currently married women want to either space their next birth or cease childbearing altogether.

Table F.7 shows the percent distribution of currently married women aged 15-49 years by desire for another child according to number of living children. Overall, the proportion of women who want to have another child decreases with the increasing number of living children. Similarly, the proportion of women who want to have a child later or delay next birth for two or more years decreases with increasing number of living children - for example, from about 62 percent among those who have one living child to 2 percent among those who have six or more living children.

The proportion of women who want to stop (want no more) or limit child bearing increases with the number of living / surviving children; from 23 percent among women with one living child to 97 percent among women with six or more.

Table F.7 Fertility preferences by number of living/ surviving children Percent distribution of currently married women aged 15-49 years by desire for children, according to number of living/ surviving children, Bhutan 2012								
Desire for children	Number of living children ¹							Total 15-49 years
	0	1	2	3	4	5	6 or more	
Want another soon ²	100.0	12.6	4.6	1.8	0.7	0.6	0.0	3.3
Want another later ³	0.0	61.7	39.1	20.8	11.1	2.3	2.1	23.4
Want no more ⁴	0.0	23.4	56.2	77.4	88.2	97.1	97.1	73.0
Not reported	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	2	175	281	336	296	174	141	1406
¹ The number of living children includes current pregnancy. ² Wants next birth within 2 years. ³ Wants to delay next birth for 2 or more years. ⁴ Includes female and male sterilization.								



Chapter 6: Reproductive Health

6.1 FAMILY PLANNING

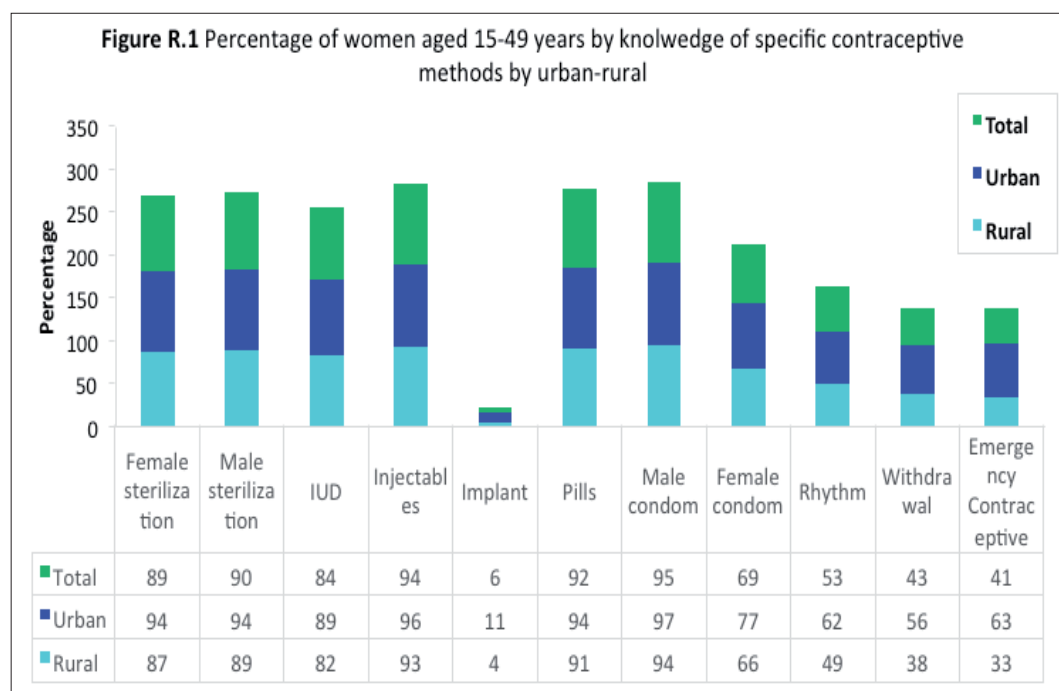
Family planning in Bhutan is entirely on a voluntary basis and services are provided free of charge by the state to all individuals and couples needing them. The state currently provides the following modern methods: oral contraceptive pills, injectables, intra-uterine devices (IUD), condoms for males and females, tubal ligation and non-scalpel vasectomy. While temporary methods are available at all BHUs and hospitals, permanent methods are currently available only at the hospital level of care.

6.1.1 Knowledge of contraceptive methods

The survey collected information on knowledge of contraception methods that can either delay or prevent pregnancy. Interviewers read out specific contraception methods from the list and asked respondents if they had ever heard about it. When spontaneous responses could not be provided on any particular method, the interviewer described the method and probed if the respondent recognized it. Information collected included 10 modern methods (male and female sterilization, IUD, injectables, implants, oral contraceptive pills, male condoms, female condoms, and emergency contraception) and two traditional methods (periodic abstinence/rhythm, and withdrawal).

Overall, 96.3% of women aged 15-49 years were aware of at least one modern contraceptive method that can either delay or prevent pregnancy. Figure R.1 shows percentage of women by knowledge of specific contraception methods by urban-rural.

The most widely known family planning methods were male condoms, injectables, pills and male and female sterilizations, all of which are widely available in the country. Women were more familiar with modern methods of contraception than traditional methods (rhythm and withdrawal methods). It is important to note that urban residents were more knowledgeable about all methods of family planning compared to their rural counterparts. Among the modern methods, women were least knowledgeable about emergency contraception (41%) and implant (6%). The implant was never introduced in the country.



6.1.2 Choice of family planning methods

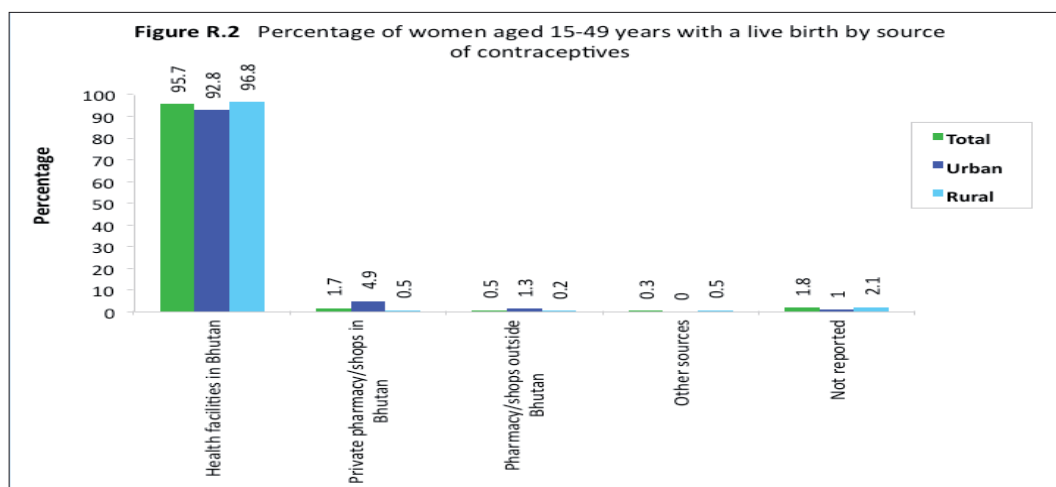
As shown in Table R.1., injectable (47.7%), male and female sterilization (about 13% each) and oral contraceptive pills (12.6%) were the most widely used family planning methods among all women aged 15-49 years with a live birth. The use of injectable decreases with increasing age - from a high of 81% among the 15-19 age group to a low of 21.4% in the 45-49 age group. On the other hand, the use of sterilization (both male and female) and IUD increased sharply after 30 years of age. Less than 1% reported using traditional method of contraception to prevent or delay their pregnancy. The proportion of women using injectable was much higher among rural residents (53.5%) compared to urban residents (33%).

Table R.1 Choice of family planning methods
Percentage of women aged 15-49 years with at least one live birth and who are currently using a contraceptive method by age and urban-rural, Bhutan 2012

Age group urban-rural	Women 15-49 with at least 1 live birth	Female sterilization	Male sterilization	IUD	Injectable	Implants	Oral pills	Male condom	Female condom	Diaphragm	Rhythm	Withdrawal
Total	5816	13.3	13.0	5.5	47.7	0.0	12.6	9.5	0.1	0.1	0.7	0.6
15-19	134	0.8	0.0	0.0	80.7	0.0	11.9	9.2	0.0	0.0	0.0	0.0
20-24	755	1.6	0.4	4.0	71.6	0.0	15.6	9.8	0.0	0.0	0.0	0.0
25-29	1263	8.1	2.7	5.0	56.1	0.1	16.2	14	0.0	0.2	0.6	0.9
30-34	1282	15.0	7.2	6.1	48.5	0.0	13.5	11.3	0.2	0.0	0.5	1.0
35-39	1072	19.3	15.7	5.5	40.8	0.0	11.2	9.1	0.2	0.0	1.3	0.4
40-44	802	17.5	30.1	7.5	31.5	0.0	9.9	3.8	0.0	0.0	1.1	0.2
45-49	509	22.9	42.8	5.7	21.4	0.0	4.8	3.3	0.0	0.4	1.5	1.3
Urban	1629	16.7	11.1	6.6	33.0	0.0	11.2	21.1	0.2	0.0	1.8	1.1
Rural	4187	11.9	13.8	5.1	53.5	0.0	13.2	5.0	0.1	0.1	0.3	0.5

6.1.3 Source of supply-based family planning methods

The survey collected data on the source of supply-based contraceptive methods among women aged 15-49 years with at least one live birth. As shown in Figure R.2, 95.7% received their supply of contraceptives from health facilities followed by private shops / pharmacies (1.7%) in Bhutan. The proportion of women who received their supply from health facilities in the country was slightly higher among rural residents (96.8%) compared to their urban counterparts (92.8%). While a vast majority of urban residents (93%) received their contraceptive supplies from health facilities in Bhutan, about 4.9% of urban residents were found to get their supplies from private pharmacies / shops in Bhutan.



Note: Contraceptive prevalence rate available from Bhutan Multiple Indicator Cluster Survey (BMIS 2010) report (<http://www.nsb.gov.bt/publication/publications.php?id=1>)

6.2 MATERNAL HEALTH

Health care for mothers during pregnancy, at the time of delivery, and soon after delivery is vital for the health and survival of both the mother and the newborn. This chapter covers various aspects of maternal health care such as antenatal care, place of delivery, skilled birth attendant, and postnatal care.

6.2.1 Antenatal care

Antenatal care refers to pregnancy related healthcare usually provided by health professionals where screening for complications occurs and advice / counselling is provided on a range of issues including preventive care, diet, delivery care, referral and postnatal care. The survey assessed data from women aged 15-49 years with a live birth in the two years preceding the survey on number and timing of antenatal care.

6.2.2 Antenatal care coverage (ANC)

Table R.2 shows percent distribution of women with a live birth in the 2 years preceding the survey who received antenatal care by urban-rural and dzongkhag. The survey found that 97.9% received at least one antenatal care during their most recent pregnancy from health care providers - a substantial increase from 51% in 2000 (Figure R.3). By dzongkhag, the proportion of women who received at least one antenatal care was lowest in Haa (93.3%).

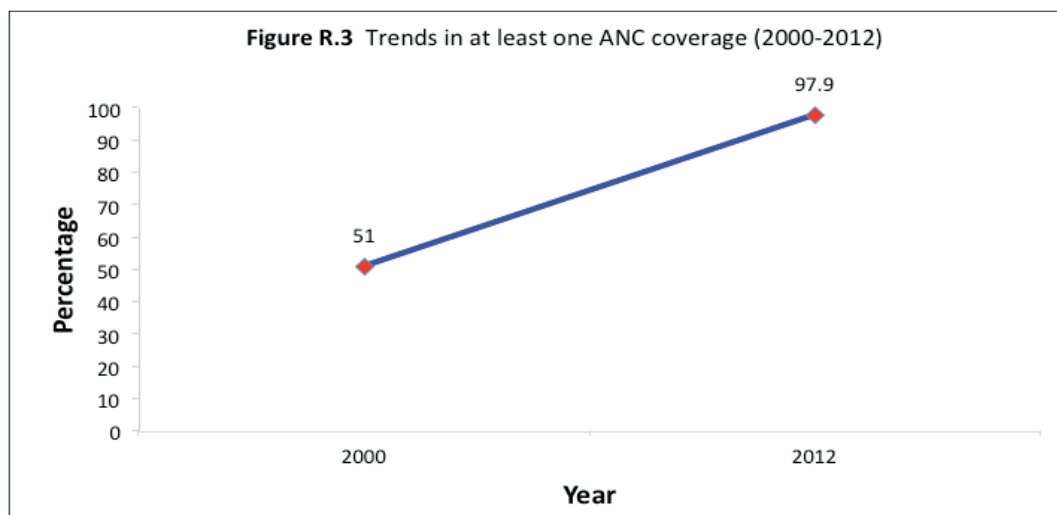
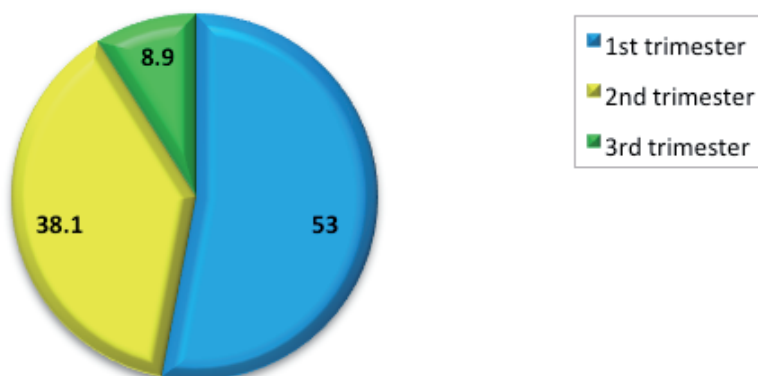


Table R.2 Antenatal care Percent distribution of women with a live birth in the past 2 years preceding the survey who received antenatal care by timing of ANC, urban-rural and dzongkhag, Bhutan 2012						
Area/ Dzongkhag	Had at least one antenatal care		Timing of first ANC			
	Number	Percent	Total	1st trimester	2nd trimester	3rd trimester
Total	2144	97.9	100.0	53.0	38.1	8.9
Urban	556	99.4	100.0	64.1	28.5	7.4
Rural	1558	98.4	100.0	49.0	41.6	9.4
Bumthang	44**	97.8	100.0	47.7	47.7	4.5
Chhukha	170	100.0	100.0	40.0	38.2	21.8
Dagana	77	97.47	100.0	48.7	46.2	5.1
Gasa	*	*	*	*	*	*
Haa	*	*	*	*	*	*
Lhuentse	63	100.0	100.0	57.1	36.5	6.3
Monggar	172	98.9	100.0	43.9	45.6	10.5
Paro	153	99.4	100.0	44.4	43.8	11.8
Pemagatshel	51	96.2	100.0	50.0	44.2	5.8
Punakha	69	95.8	100.0	26.1	24.6	49.3
Samdrup Jongkhar	107	100.0	100.0	44.9	51.4	3.7
Samtse	209	99.1	100.0	75.6	23.4	1.0
Sarpang	114	99.1	100.0	65.5	33.6	0.9
Thimphu	333	100.0	100.0	70.3	23.1	6.6
Trashigang	192	97.0	100.0	45.0	49.2	5.8
Trashiyangtse	61	98.4	100.0	79.0	19.4	1.6
Trongsa	45**	100.0**	100.0	45.5**	50.0**	4.5**
Tsirang	40**	97.6**	100.0	46.2**	43.6**	10.3**
Wangdue	118	96.7	100.0	31.6	52.1	16.2
Zhemgang	80	98.8	100.0	47.5	50.0	2.5
*Fewer than 25 cases						
**calculation based on just 25-49 cases						

Of those who received ANC, 53% had their first check during the first trimester of pregnancy, 38.1% during the second trimester and 8.9% during the third trimester as shown in Figure R.4. More rural women (9.4%) received their first ANC during the third trimester of pregnancy compared to their urban counterparts (7.1%). By dzongkhag, the proportion of women who received their first ANC during third trimester ranged from 0.9% in Sarpang to 49.3% in Punakha.

Figure R.4 Percentage of women with a live birth in the past 2 years who received ANC by timing of first ANC



6.2.3 Frequency of Antenatal Care

In order to increase the likelihood of receiving effective maternal health interventions during antenatal visits, the Ministry of Health recommends at least eight antenatal care visits during the entire pregnancy.

Table R.3. Frequency of ANC

Urban -rural	Total	Number of ANC visits			
		1-3 times	4-7 times	>8 times	Not reported
Total	100.0	16.0	55.4	26.1	2.5
Urban	100.0	11.3	57.4	30.0	1.3
Rural	100.0	17.7	54.7	24.7	2.9

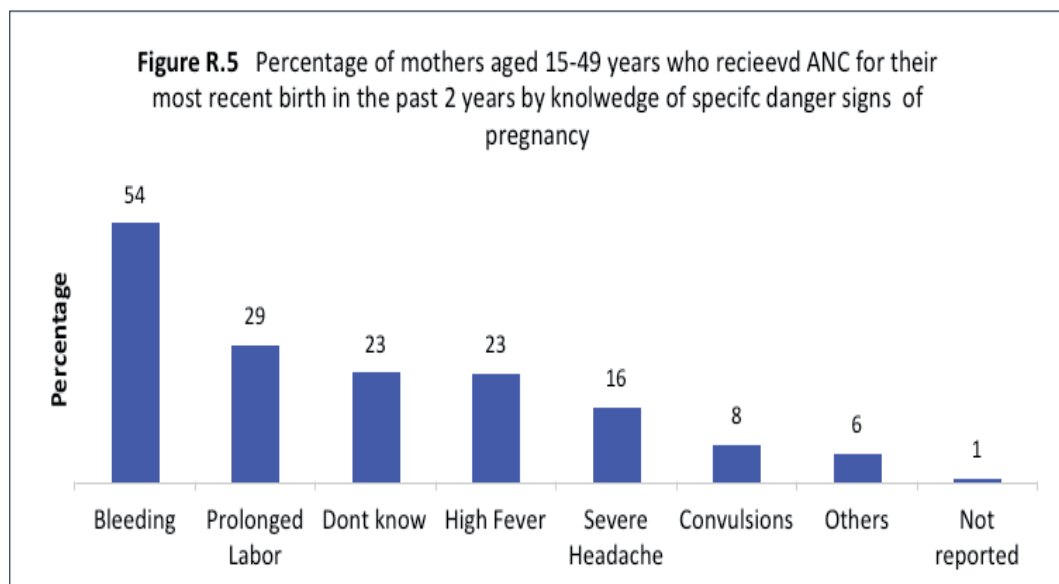
As shown in Table R.3, of those who received antenatal care, 81.7% received four or more (ANC4+) and about 26% received the recommended eight or more antenatal care for their most recent pregnancy in the past 2 years preceding the survey. The proportion of women who received 4 or more ANC was higher among urban residents (87.4%) as compared to their rural counterparts (79.4%). Similarly, the proportion of women who received 8 or more ANC was higher among urban women.

6.3 KNOWLEDGE OF DANGER SIGNS OF PREGNANCY

Women aged 15-49 years who received antenatal care for their most recent birth in the past 2 years preceding the survey were asked whether they received information on danger signs of pregnancy during any of their antenatal visits. Overall, 46.2% reported that they were informed about the danger signs of pregnancy. Slightly more women residing in urban areas (48.6%) were informed about the danger signs compared to their rural counterparts (45.3%). Among dzongkhags, women who reported being informed about the danger signs ranged from 21% in Sarpang to 87.8% in Trashiyangtse (Table R.4).

The survey also revealed that 54% of mothers were able to identify bleeding as one of the danger signs of pregnancy. Women were least knowledgeable about convulsion with only 8% of mothers able to identify it as a danger sign of pregnancy. About 23% of mothers reported not knowing any of the danger signs of pregnancy (Figure R.5).

Table R.4 Knowledge of danger signs of pregnancy Percentage of women who reported having received information on danger signs of pregnancy during antenatal visit by background, Bhutan 2012						
Background characteristics, urban-rural and district	Number of Women who had ante-natal care	Informed of dangers signs of pregnancy				
		Total	Yes	No	No, I knew it before	Not Reported
Total	2114	100.0	46.2	52.5	0.6	0.7
Urban	556	100.0	48.6	50.1	0.8	0.6
Rural	1558	100.0	45.3	53.4	0.6	0.7
Bumthang	44**	100.0	50.5**	46.6**	2.5**	0.4**
Chhukha	170	100.0	78.3	19.7	0.0	1.9
Dagana	77	100.0	66.3	28.8	4.1	0.8
Gasa	*	*	*	*	*	*
Haa	*	*	*	*	*	*
Lhuentse	63	100.0	47.7	51.0	0.6	0.7
Monggar	172	100.0	57.2	40.0	0.0	2.9
Paro	153	100.0	54.8	45.2	0.0	0.0
Pemagatshel	51	100.0	50.3	49.7	0.0	0.0
Punakha	69	100.0	37.6	61.0	1.4	0.0
Samdrup Jongkhar	107	100.0	51.0	49.0	0.0	0.0
Samtse	209	100.0	34.2	65.8	0.0	0.0
Sarpang	114	100.0	21.0	79.0	0.0	0.0
Thimphu	333	100.0	34.0	66.0	0.0	0.0
Trashigang	192	100.0	32.7	63.9	3.3	0.0
Trashiyangtse	61	100.0	87.8	10.9	1.3	0.0
Trongsa	45**	100.0	52.9**	46.2**	0.0**	1.0**
Tsirang	40**	100.0	67.0**	31.2**	0.0**	1.8**
Wangdue	118	100.0	30.1	69.9	0.0	0.0
Zhemgang	80	100.0	39.9	55.4	0.0	4.7
*Fewer than 25 cases						
**Calculation based on just 25-49 cases						



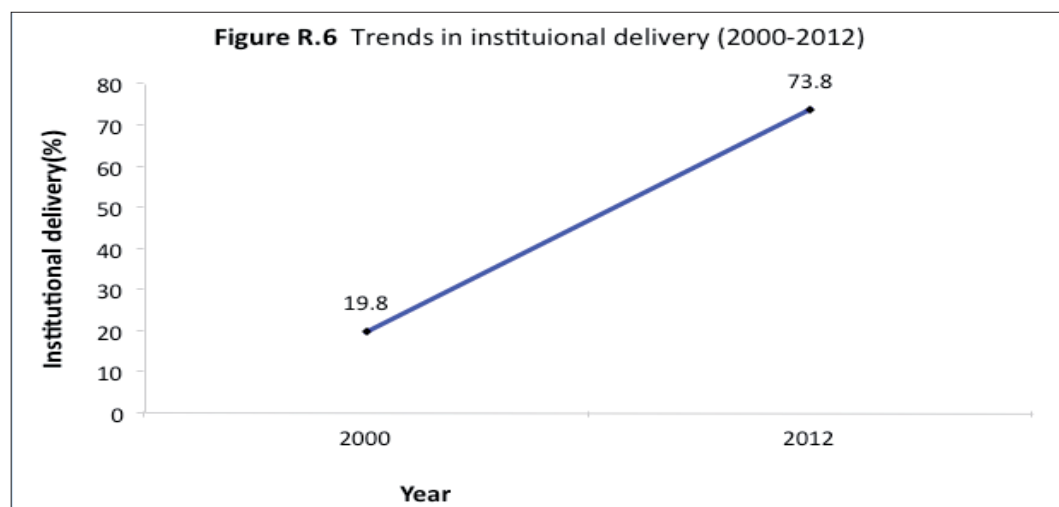
6.4 PLACE OF DELIVERY

Delivering in a health facility greatly reduces health risks to both the mother and baby. The Royal Government of Bhutan continues to intensify its efforts to encourage every pregnant mother in the country to deliver under the hygienic conditions of health facilities and under the supervision of trained health care providers.

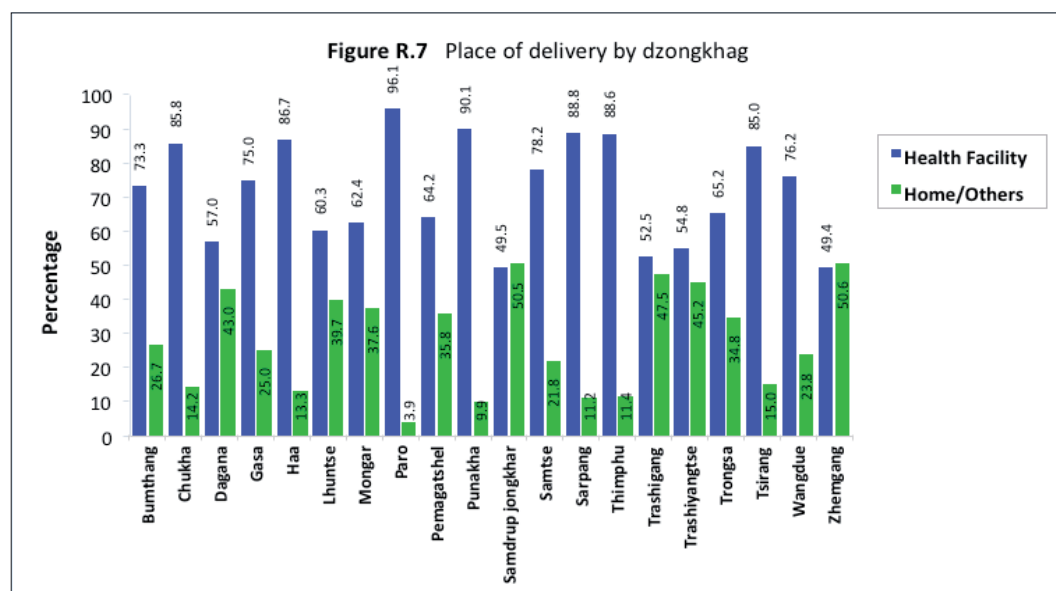
Overall, 73.7% of births in the past two years preceding the survey have occurred in health facilities. About 95% of mothers residing in urban Bhutan delivered in a health facility compared to 66.3% in rural areas. About 86% of mothers residing in urban areas delivered at hospitals in Bhutan as compared to about 55% of mothers residing in rural areas (Table R.5). The survey also revealed that 1.1% of women residing in urban Bhutan delivered at private hospitals outside Bhutan.

Table R.5 Place of delivery Percent distribution of women aged 15-49 who had a live birth in past 2 years preceding the survey by place of delivery by urban-rural, Bhutan 2012							
Age, urban-rural, Dzongkhag	Total	Place of Delivery					
		Total	Hospital	BHU	Private Hospital	At home	Others
Total	2142	100.0	62.8	10.7	0.3	25	1.2
Urban	559	100.0	86.2	7.9	1.1	4.3	0.5
Rural	1583	100.0	54.6	11.7	0.0	32.3	1.4

It is important to note that institutional delivery has significantly increased from about 20% in 2000 to 73.7% in the current national health survey as shown in Figure R.6. In addition, the utilization of Basic Health Units for delivery has increased by almost 10 fold from less than 1% in 2000 to almost 11% in 2012.



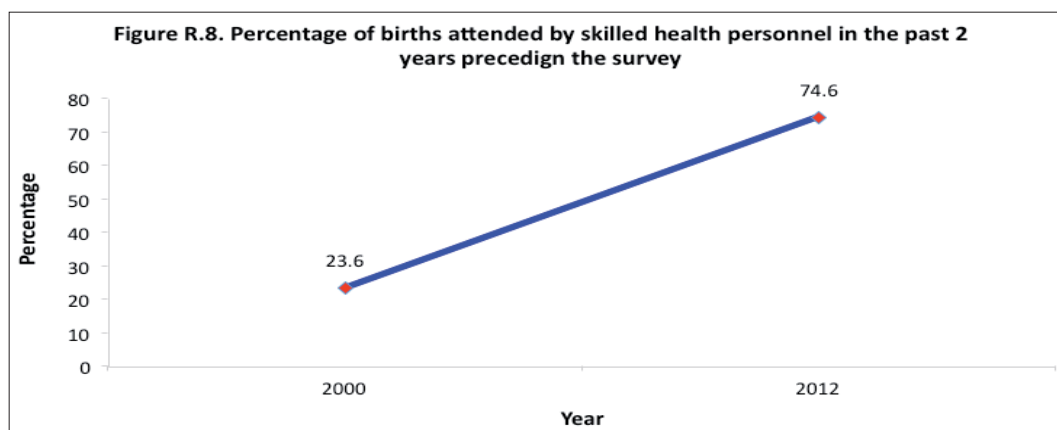
By dzongkhag, Paro (96.1%), Sarpang (88.8%) and Thimphu (88.6%) had the highest number of institutional deliveries. On the other hand, Zhemgang (50.6%), Samdrup Jongkhar (50.5%) and Trashigang (45.7%) had the highest number of mothers who did not deliver in health facilities (Figure R.7).



6.5 ASSISTANCE DURING DELIVERY

In the absence of comprehensive registration of deaths and causes of deaths, measuring proportion of women who gave live birth with assistance of trained health personnel enables the tracking of progress towards improving maternal health. The national health survey collected data from women aged 15-49 years on whether or not their most recent delivery in the past 2 years preceding the survey was assisted by skilled health care providers. In Bhutan, skilled health care providers comprise of doctors, nurses, assistant clinical officers, health assistants, and basic health workers.

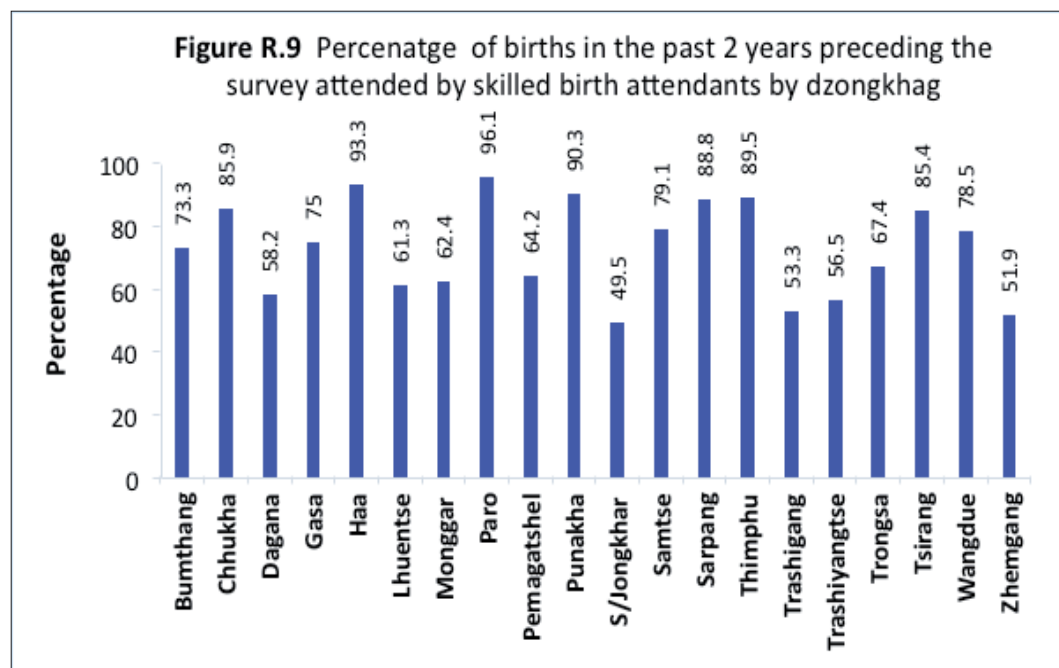
The survey found that 74.6% of births in the past 2 years preceding the survey were assisted by skilled health care providers, a sizeable increase from 23.7% in the year 2000(Figure R.8.)



A much higher proportion of deliveries in urban Bhutan (96%) compared to births in rural Bhutan (67%) were attended by skilled health personnel. Table R.6 shows percentage of births attended by skilled birth attendants by urban-rural.

Table R.6 Assistance during delivery			
Percentage of births attended by skilled birth attendant by urban-rural, Bhutan 2012			
Age, Urban-rural, Dzongkhag	Total	Number of births attended by skilled birth attendant	Proportion of births attended by skilled birth attendant
Total	2142	1598	74.6
Urban	559	536	96
Rural	1583	1062	67

By dzongkhag, Haa, Paro, Thimphu, Sarpang and Tsirang were among the top dzongkhags with the highest proportion of births assisted by skilled birth attendants while Samdrup Jongkhar (49.5%) and Zhemgang (51.9%) had the lowest proportion of births attended by skilled care providers (Figure R.9).



6.6 POSTNATAL CARE

The majority of maternal and neonatal deaths occur within 48 hours of delivery which makes postnatal care a crucial component of maternal and child health care. Postnatal care is important not only to treat complications arising from delivery to both mother and child, but also serves as an avenue to provide mothers with important information on how to take care of themselves and their newborn. Postnatal care in Bhutan is facility based and the Ministry of Health recommends the first postnatal visit to be scheduled within 1-7 days following delivery.

The survey asked whether mothers received, for their most recent births in the past two years, postnatal health checks, and if so, the timing of the first check. The practice of dietary restrictions following a childbirth and the prevalence of colostrum feeding were also assessed.

Table R.7 shows percentage of women aged 15-49 years who had postnatal check for their most recent births and the timing of their first postnatal checkup by dzongkhag. Overall, 74.6% of mothers received postnatal care. Of those who received PNC, 27.7% received within the 1st 24 hours, 48.7% within the first week and 9.7% within the 2nd week. A small proportion of mothers (1%) received their first postnatal care after the 4th week of delivery.

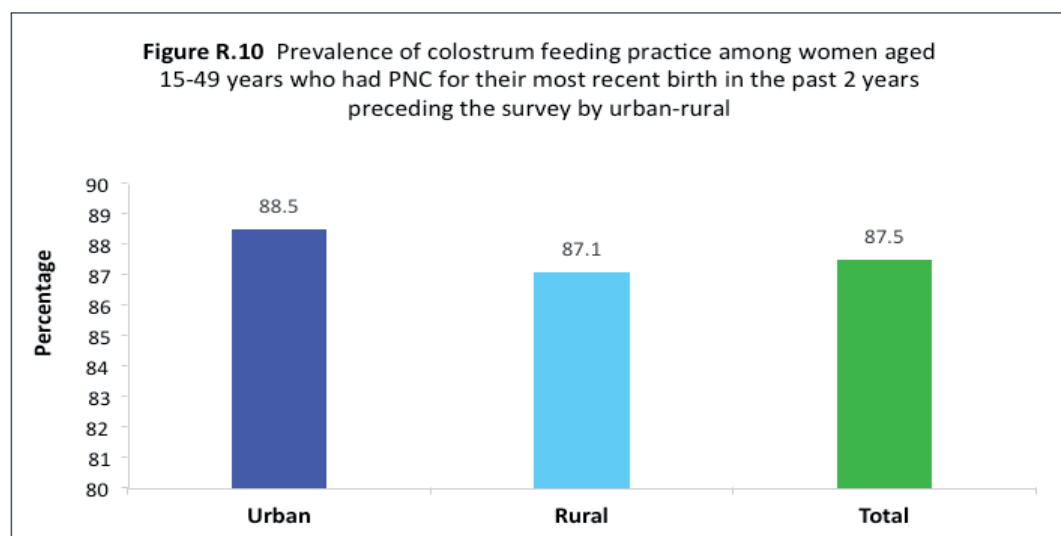
By area or residence, a much higher proportion of urban mothers (87.78%) received postnatal care for their most recent birth in the past two years preceding the survey compared to mothers residing in rural areas (69.9%).

Table R.7 Postnatal checkup (PNC) Percentage of women aged 15-49 years who had postnatal check for their most recent births in the past 2 years by timing of first postnatal check and by urban-rural, Bhutan 2012										
Urban-rural	Number of women who had post-natal checkup		Timing of First Post-natal Checkup							
	Number	Percent	Total	1st 24 hours	Within 1st week	Within 2nd week	Within 3rd week	Within 4th week	After the 4th week	Not reported
Total	1598	74.6	100.0	27.7	48.7	9.7	2.3	2.5	1.0	7.5
Urban	491	87.78	100.0	28.6	54.6	7.2	2.2	2.4	1.1	3.8
Rural	1107	69.95	100.0	27.4	46.2	10.7	2.4	2.5	1.6	9.1

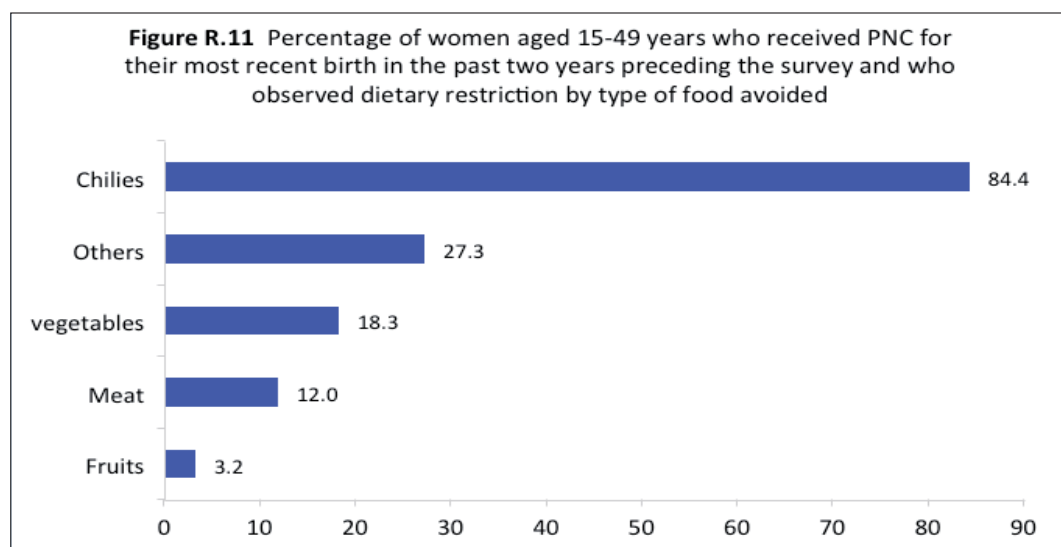
6.7 COLOSTRUM FEEDING PRACTICE AND DIETARY RESTRICTIONS AFTER DELIVERY

The World Health Organization universally recommends colostrum to be fed to every newborn within one hour of delivery. The survey collected data on prevalence of colostrum feeding practice among mothers who received PNC care for their most recent birth in the past 2 years preceding the survey.

The survey found that 87.5% of mothers fed their newborn with colostrum. There was no notable difference between urban and rural mothers in the prevalence of colostrum feeding practice (Figure R.10).



The survey also collected dietary restrictions observed by mothers after giving birth to a child. The multiple response categories included green vegetables, chili, fruits, and meat, which are believed to be food items generally avoided by different sections of the Bhutanese population after giving birth. The option category also included “others” where respondents could specify types of food avoided after delivery. Overall, 54% of mothers reported having observed dietary restrictions following delivery. Chili (84.4%) was found to be the most commonly observed dietary restriction (Figure R.11).



6.8 BREAST CANCER

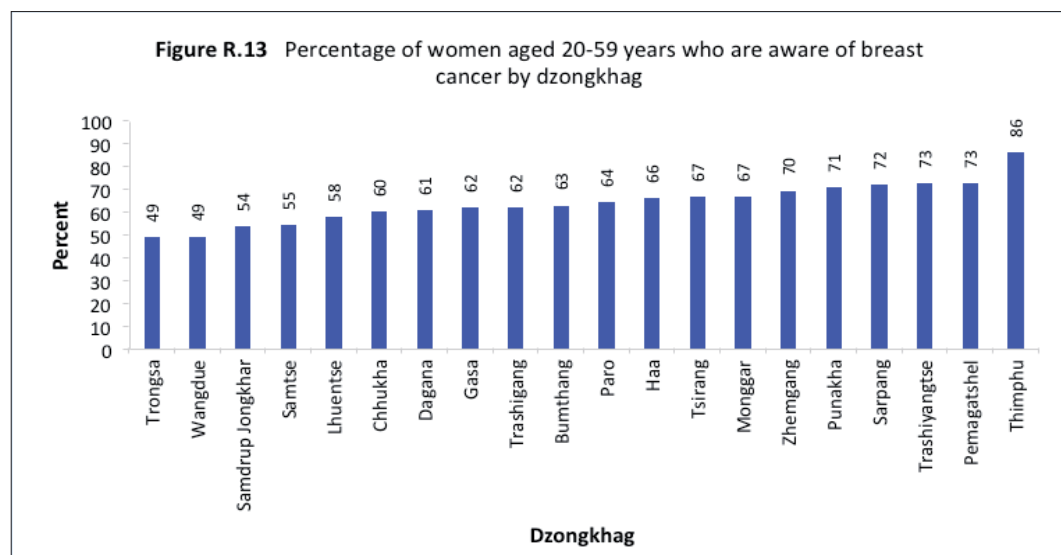
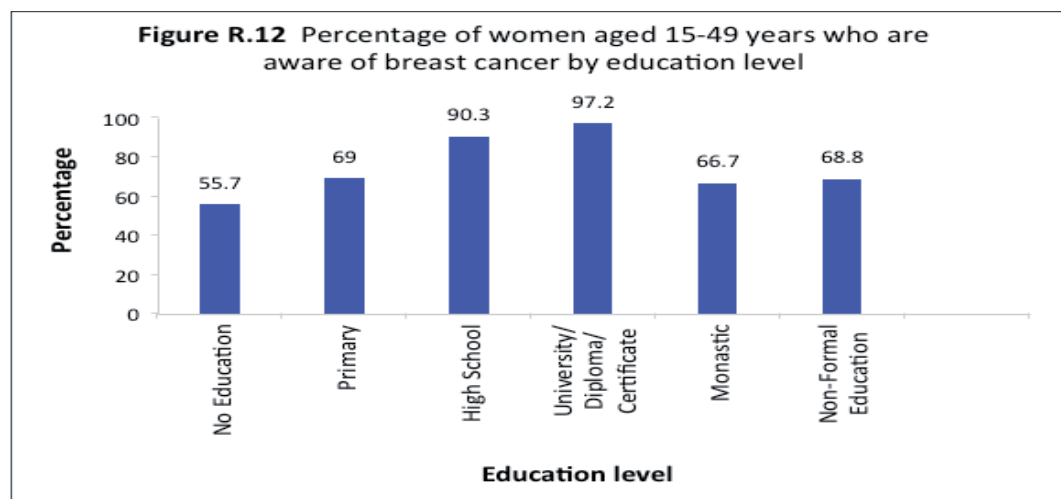
Breast cancer is the leading female cancer, both in developed and developing countries. It is the fifth most frequently occurring female cancer in Bhutan with age standardized incidence and mortality rates of 4.6 and 1.8 per 100,000 women respectively (GLOBOCAN 2012). It is widely accepted that early diagnosis is the cornerstone for improving successful treatment of breast cancer. Therefore, it is important that Bhutanese women are aware of this in order to encourage early diagnosis.

6.8.1 Awareness of breast cancer and treatment seeking behavior

The survey found that 66% of female aged 20-59 years were aware of breast cancer. The awareness of breast cancer was more prevalent among urban women - slightly more than 8 out of 10 women residing in urban areas were aware of breast cancer as compared to six in every 10 women residing in rural areas. As shown in Table R.8, the number of women aware of breast cancer decreased with increasing age.

Table R.8 Awareness of breast cancer Percent distribution of women aged 20-59 years by whether or not aware of breast cancer, heard of breast self-examination, know that breast cancer can be diagnosed early and by urban-rural and age, Bhutan 2012									
Area/Age group	Total women 20-59	% Heard of Breast Cancer		% heard of breast self-examination		% aware that breast cancer can be diagnosed early		% who have family member who have died of breast cancer	
		Number	%	Number	%	Number	%	Number	%
Total	13852	9142	66.0	3725	26.9	5809	41.9	162	1.2
Urban	3431	2895	84.4	1135	33.1	1658	48.3	42	1.2
Rural	10421	6247	59.9	2590	24.9	4151	39.8	119	1.1
20 - 24	2350	1715	73.0	637	27.1	1002	42.6	31	1.3
25 - 29	2331	1654	71.0	657	28.2	1072	46.0	19	0.8
30 - 34	2105	1460	69.3	605	28.7	974	46.2	15	0.7
35 - 39	1797	1203	66.9	533	29.7	790	43.9	26	1.4
40 - 44	1550	999	64.4	428	27.6	690	44.5	14	0.9
45 - 49	1324	821	62.1	321	24.3	490	37.0	22	1.7
50 - 54	1328	735	55.4	323	24.3	451	34.0	25	1.9
55 - 59	1067	555	52.0	221	20.7	340	31.9	10	1.0

Awareness level of breast cancer varied from a high of 97% among those with university/diploma level education to a low of 55.4% among those with no education (Figure R.12). By dzongkhag, the proportion of women aged 20-59 years who were aware of breast cancer varied from a high of 86% in Thimphu to a low of 49% in Trongsa and Wangdue dzongkhags (Figure R.13).



The survey also revealed that 27% and 42% of women aged 20-59 years were aware of breast self-examination and importance of early diagnosis of breast cancer, respectively. A small percentage of women (1.2%) reported having a family history of breast cancer. About 90% of women with a family history of breast cancer were found to be aware of breast cancer.

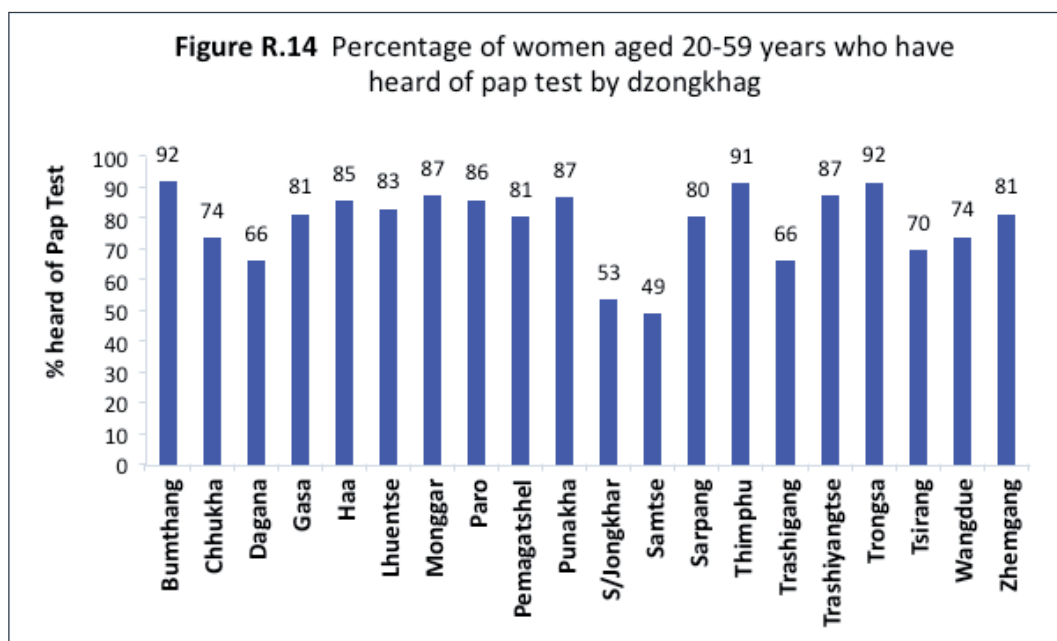
Respondents were also asked where they would go if they found a lump in their breast. For the vast majority of the respondents (89.5%), health professional would be their first point of contact should they find a lump in their breast.

6.9 CERVICAL CANCER

Cervical cancer is the leading female cancer in Bhutan. It is almost certainly curable if detected early on (before becoming invasive). Despite the free availability of Papanicoloua test (Pap test) in the country, most of the cases of cervical cancers are diagnosed at a late stage. Therefore, education to increase awareness of risk factors and promotion of early diagnosis are important aspects of prevention and control of this largely preventable cancer.

6.9.1 Awareness of Pap smear test

Overall, 76.4% of women aged 20-59 years were aware of the Pap smear test. By dzongkhag, the awareness of Pap test varied from a high of more than 90% in Thimphu, Bumthang and Trongsa to a low of 49% in Samtse, as shown in Figure R.14.

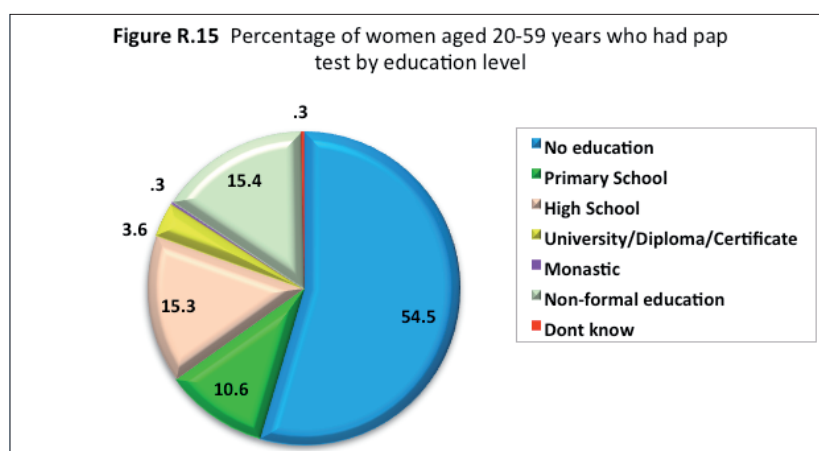


6.9.2 Pap smear test

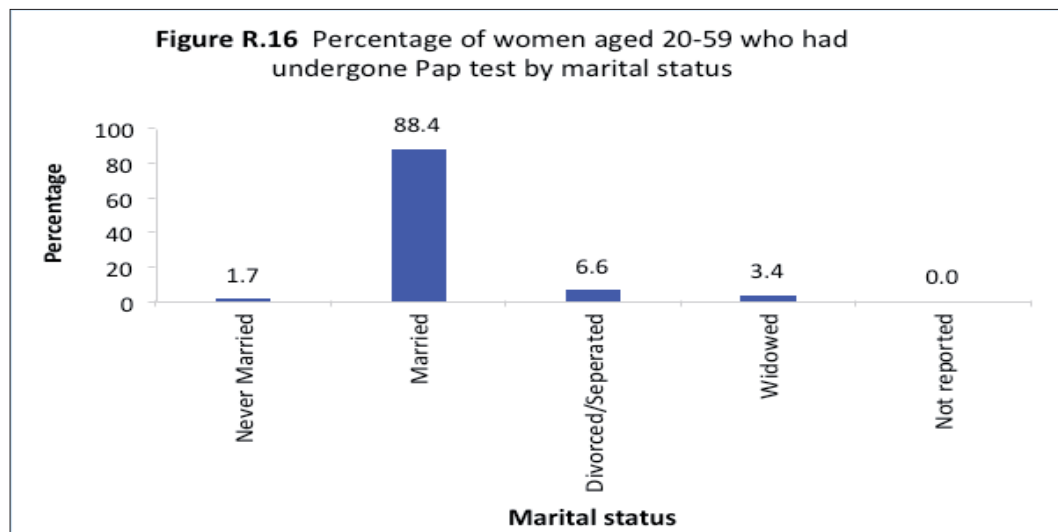
Table R.9 shows that 45% of women aged 20-59 years had undergone a Pap test at least once in their lifetime. Women aged 30-39 years followed by 40-49 years were most likely to have undergone a Pap test at least once compared to other age groups. Those who had undergone Pap test are almost 17% higher among the urbanites compared to women residing in the rural areas.

Table R.9 Pap smear test			
Percentage of women aged 20-59 who had undergone pap-test by urban-rural, Bhutan 2012			
Age/urban-rural	Number of woman 20-59 years	Women who had pap test	
		Number	Percent
TOTAL	13852	6240	45.0
20-29	4680	1645	35.1
30-39	3903	2366	60.6
40-49	2873	1505	52.4
50-59	2395	723	30.2
Urban	3431	1980	57.7
Rural	10421	4259	40.9

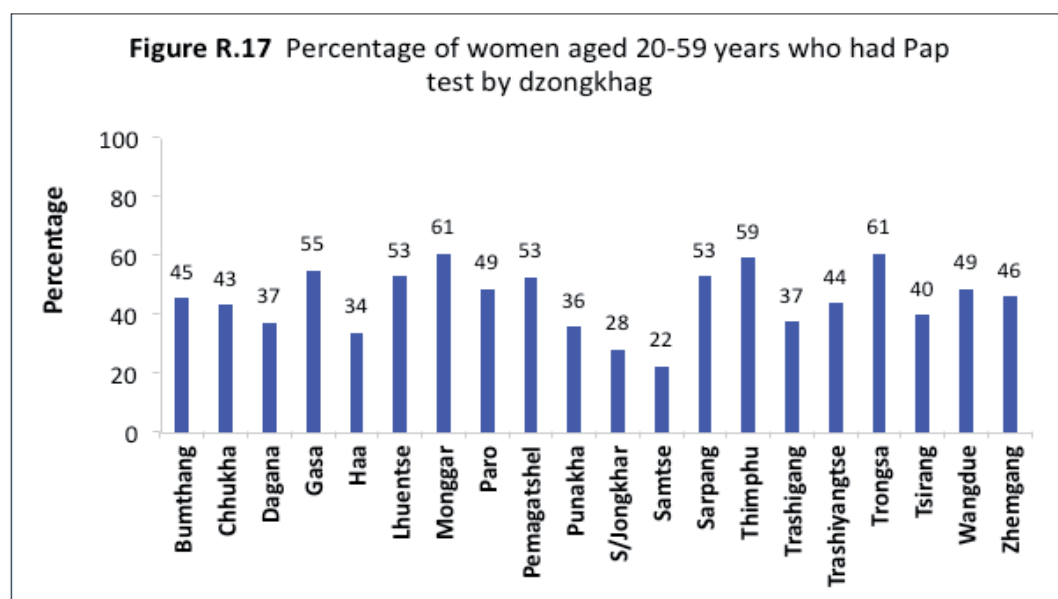
It is important to note that 54.5% of women who had Pap test were among those with no education. Only 3.6% of those with university/diploma level education reported having undergone Pap test, which may suggest other socio-cultural factors as determinants of Pap test (Figure R.15).



It is important to note that 88% of those who had Pap test are married which may be attributed to the fact that currently the Pap test is routinely offered to pregnant mothers visiting Maternal and child health clinics in Bhutan (Figure R.16).

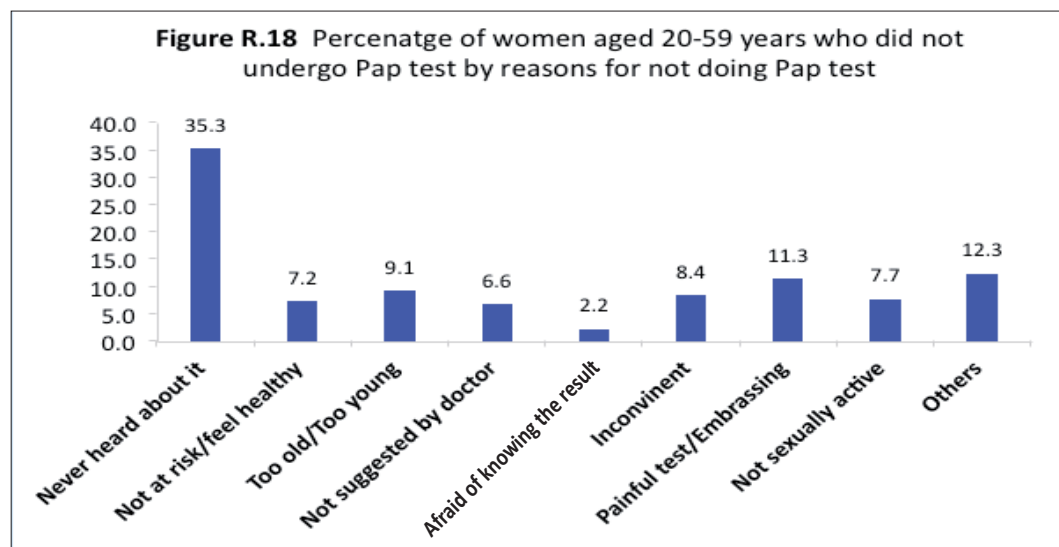


By dzongkhag, women who had undergone Pap test ranged from 22% in Samtse to 61% each in Monggar and Trongsa which shows evidence of positive association between awareness and practice of cervical cancer screening (Figure R.17).



6.9.3 Reasons for not doing Pap test

Women who did not undergo Pap test even once in their life time were asked reasons for not doing so. The most common reason cited for not doing Pap test was “never heard about it” (35.3%). The other commonly cited reasons included “painful/embarrassment” followed by “too young/too old” despite all respondents falling in the recommended age category of the Ministry of Health (Figure R.18).



6.10 MATERNAL TETANUS TOXOID (TT) IMMUNIZATION*

Tetanus toxoid injection protects pregnant mothers from maternal tetanus and their newborn babies from neonatal tetanus. The eligible respondents for the survey were women who were or became pregnant during the past year preceding the survey (i.e. from 20 November 2011- 20 November 2012).

** Sample unweighted*

6.10.1 Crude TT immunization coverage

A total of 1,234 mothers were assessed for maternal TT immunization. Of these, 73.8% were from rural areas and 27.2% from urban areas. The survey found that TT vaccination cards were available for 1,084 mothers (87.8%) while another 91 mothers (7.4%) reported having the card but did not produce it during the time of the survey.

Table R.10 shows antigen wise crude maternal TT coverage by card, history, and card plus history. As shown in the table, among those for whom cards were available, 93.1% were immunized with at least two doses of TT. However, when information was based on card plus history, the proportion of mothers immunized with at least two doses of TT was 89.5%. The survey also found that 12.2% of the mothers were protected for lifetime from tetanus toxoid.

Table R.10 Maternal Tetanus Toxoid (TT) Crude maternal TT coverage, Bhutan 2012						
Antigen	CARD		HISTORY		CARD + HISTORY	
	Number	%	Number	%	Number	%
TT1	1061	97.9	108	72.0	1169	94.7
TT2	1009	93.1	95	63.3	1104	89.5
TT3	643	59.3	67	44.7	710	57.5
TT4	317	29.2	39	26.0	356	28.8
TT5	128	11.8	22	14.7	150	12.2

6.10.2 Dropout rates

Dropout rates from TT1 to TT2 were assessed using information based on card only. The proportion of mothers who received TT1 but did not receive TT2 was 4.9%.

6.11 CHILDHOOD EXPANDED PROGRAM ON IMMUNIZATION (EPI)

The national health survey collected data to assess the coverage of childhood immunization antigens. As shown in table R.11, a total of 916 children aged 12-23 months from 20 dzongkhags were assessed for immunization status. Of these, 52.1% were males and 47.9% were females.

Table R.11 CHILDHOOD EPI IMMUNIZATION Percent distribution of children aged 12-23 months by sex, urban-rural and by region		
Sex, Urban-Rural, Regions	Number	Percent
Total	916	100.0
Male	478	52.1
Female	438	47.9
Urban	242	26.5
Rural	674	73.6

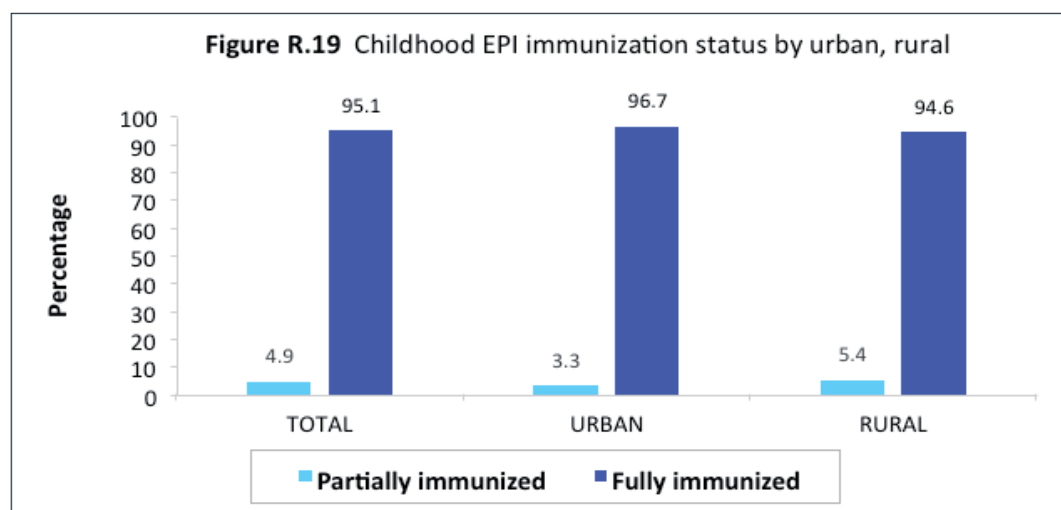
Information on immunization status was collected by examining the immunization cards provided by the Ministry of Health and where cards were not available, by history based on the personal recollections of mothers/guardians. The survey from that vaccination cards were available for 95.8% of the children. Further, 3% reported having the vaccination card but were not able to show it during the time of the survey.

6.11.1 Crude coverage of immunization among children 12-23 months

Crude coverage was defined as all antigens given as evidenced by card or by history from mothers/guardians. As shown in Table R.12, the survey found that 95.1% of children aged 12-23 months were fully vaccinated as evidenced by card plus history. It is important to note that when the analysis was confined to 836 children for whom the immunization cards were available, 95.3% were fully immunized and 4.7 percent were partially immunized. There was not a single child that was not immunized. By antigen type, crude coverage ranged from a high of 100% for BCG to a low of 97.2% for MR1.

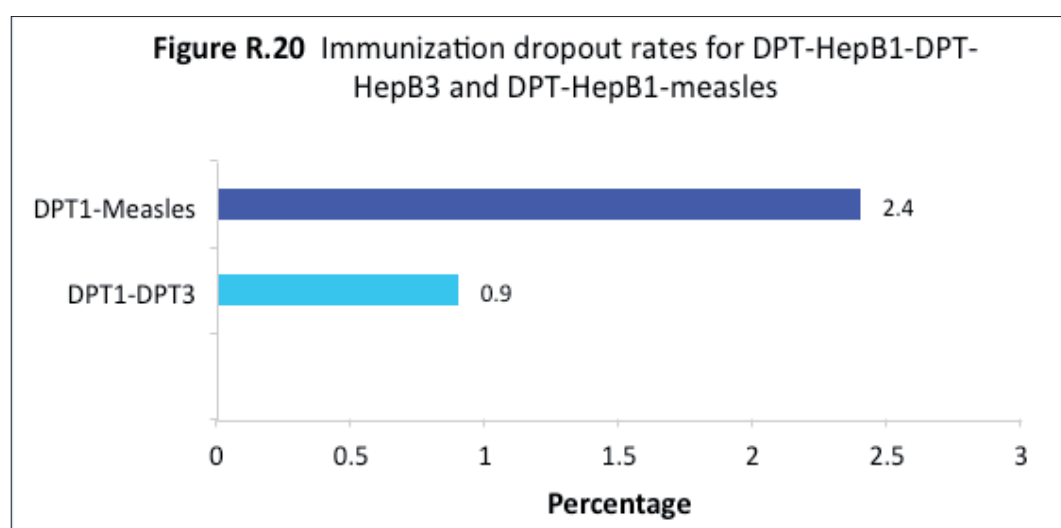
Table R.12 Child EPI immunization coverage						
Immunization coverage among children 12-23 months by antigen wise, Bhutan 2012						
Antigen	CARD		HISTORY		CARD & HISTORY	
	Number	%	Number	%	Number	%
BCG	878	100.0	38	100.0	916	100.0
DTP-HepB1	874	99.6	38	100.0	913	99.6
DTP-HepB2	870	99.1	38	100.0	908	99.1
DTP-HepB3	866	98.6	38	100.0	904	98.7
OPV0	844	96.1	38	100.0	882	96.3
OPV1	870	99.1	38	100.0	908	99.2
OPV2	870	99.1	37	95.5	907	99.0
OPV3	856	97.5	37	95.5	892	97.4
MR1	853	97.2	37	96.7	890	97.2
FIC	836	95.3	35	92.3	871	95.1
FIC = Fully immunized children						

As shown in Figure R.19, the proportion of fully immunized children (card plus history) was higher in urban areas (96.7%) than in rural areas (94.6%).



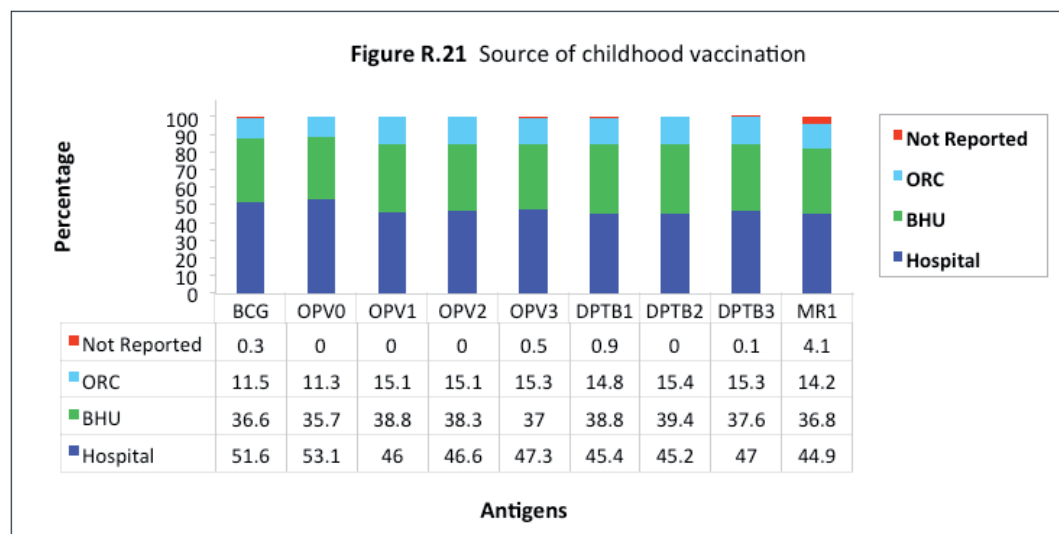
6.11.2 Dropout Rates

Vaccination dropout rates are used to measure program continuity. Dropout occurs when the child fails to receive the next dose of recommended antigens. The proportion of children who received DTP-HepB1 but failed to receive DTP-Hep3 and the proportion of children who received DTP-HepB1 but failed to receive measles are the most widely used dropout rates to assess program continuity. The national health survey found that the dropout rate for DTP-HepB1-DTP-HepB3 was 0.9% and the dropout rate for DTP-HepB1-measles was 2.4%, as shown in Figure R.20.



6.11.3 Sources of childhood vaccination (card plus history)

The survey collected data on source of vaccination using both card and history. As shown in Figure R.21, a majority of the children received their vaccination from hospitals followed by BHUs and ORCs.



6.12 HUMAN PAPILLOMA VIRUS VACCINATION (HPV)

Cervical cancer is the leading female cancer and 2nd most frequently occurring cancer in Bhutan. The RGoB introduced routine HPV vaccination for 12 year old girls in the year 2011. The national health survey collected data on the coverage of HPV vaccination among girls who turned 13 years as of 1 January 2012 or girls born during the period 1 January 1999 to 31st December 1999.

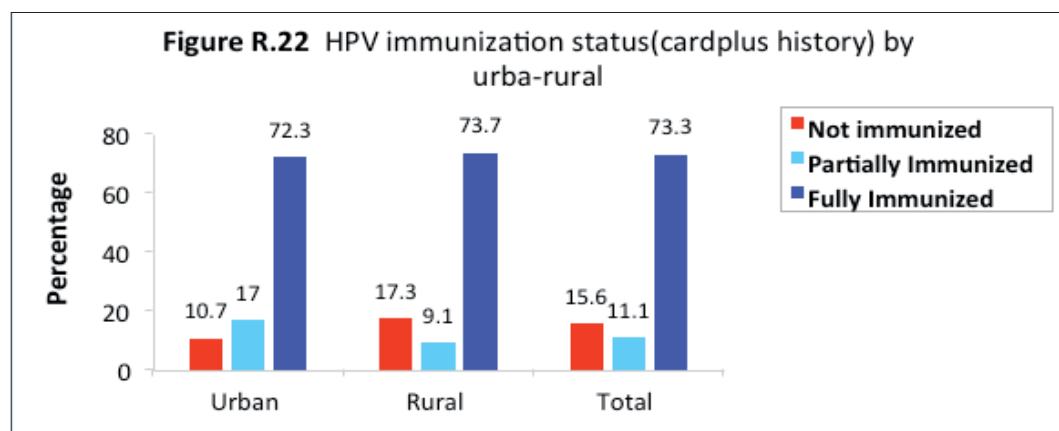
A total of 455 eligible girls from all 20 dzongkhags were assessed for HPV immunization status. Of these, 75.3% were from rural areas and 24.7 from urban areas. Information on immunization status was collected by examining vaccination cards provided by the Ministry of Health and by history provided by respondents themselves or by their mothers/guardians. The survey revealed that vaccination cards were available for 184 respondents (40.4%) while another 92 (20.2%) reported having vaccination cards but which were not available during the time of interview.

6.12.1 HPV immunization coverage

Crude coverage is defined as having received all three doses of HPV vaccine as evidenced by card or by history. As shown in Table R.12, the survey found a crude HPV vaccination coverage of 73.3% (card plus history). It is important to note that when analysis was based on card only, HPV vaccination coverage was found to be 90.5%.

Table R.12 HPV vaccination coverage						
HPV vaccination coverage by card, history and by card+ history, Bhutan 2012						
	CARD		HISTORY		CARD + HISTORY	
	Number	%	Number	%	Number	%
HPV1	182	99.2	201	74.2	384	84.2
HPV2	179	97.2	196	72.2	374	82.4
HPV3	166	90.5	167	61.6	333	73.3

Based on information obtained from card plus history, 11.1% of the respondents were found to be partially immunized while 15.6% were not immunized. A higher proportion of girls residing in rural areas were not immunized (17.3%) compared to their urban counterparts (10.7%) as shown in Figure R.22.



6.12.2 Dropout rates

Dropout rates from HPV-1 to HPV-3 and from HPV-1 to HPV-2 were assessed using information based on card only. The proportion who received HPV1 but did not receive HPV3 was 8.79% and proportion who received HPV1 but did not receive HPV2 was 1.64%.

6.12.3 Source of HPV Vaccination

The survey collected data on source of vaccination using both card and history. As table R.13 indicates, BHUs and hospitals were the most common sources of HPV vaccination. The percentage of girls who received their vaccination from outreach clinics varied from 9.5% for HPV-3 to 11.6% for HPV-2 and 12.4% % for HPV-1. A small percentage of girls reported having received HPV vaccination from private hospitals/abroad.

Table R.13 Source of HPV vaccination						
HPV vaccination by source of vaccination, Bhutan 2012						
Source	HPV1		HPV2		HPV3	
	Number	%	Number	%	Number	%
Hospital	140	30.7	140	30.8	104	22.9
BHU	177	38.9	171	37.6	138	30.4
ORC	56	12.4	53	11.6	43	9.5
Private Hospital/Abroad	5*	1.1	5*	1.1	3*	0.7
Not Reported	77	17.0	86	18.9	166	36.5
Total	455	100.0	455	100.0	455	100.0
*calculation based on fewer than 20 cases						



Chapter 7: Morbidity, Injury, Disability/ Impairment

7.1 MORBIDITY AND TREATMENT SEEKING BEHAVIOR

The levels of morbidity and treatment seeking behaviors reflect the health status of a population. The survey collected data on prevalence of morbidity, their treatment seeking behavior, and utilization of health facilities during the past month preceding the survey among household members. For the purpose of the survey, illness was defined as a condition that affected the well-being of the person for at least half a day.

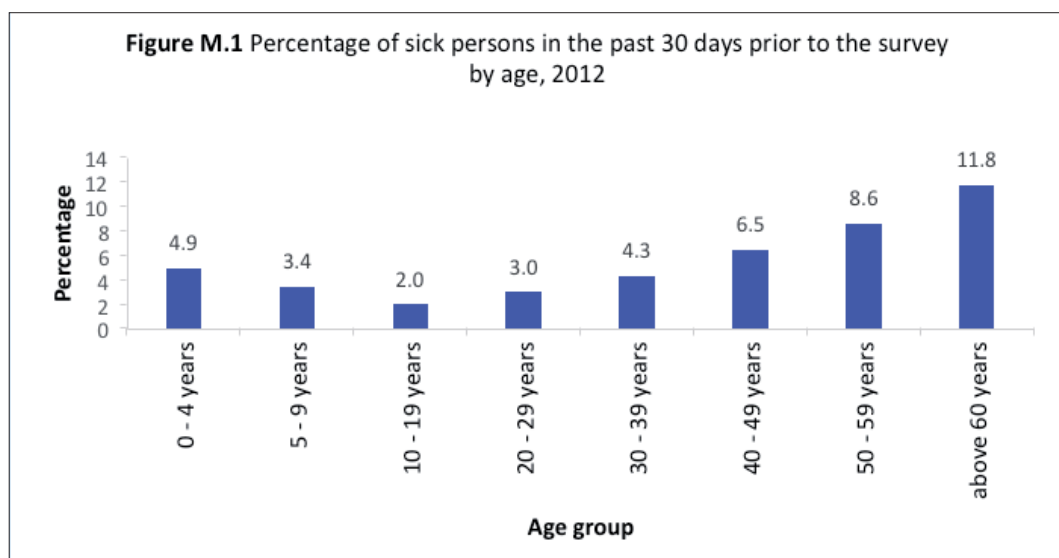
Overall, 4.9% of the population reported being sick during the recall period, on average, for 11 days. It is important to note that the question was asked to a single household respondent (usually the head of household) and that he/she may not be aware of all of the illnesses, especially mild illnesses, which may have occurred to other members of his/her household in the early part of the 30-day recall period. Consequently, this may under-represent the morbidity.

As shown in Table M.1, a higher proportion of females (5.7%) than males (4%) reported being ill during the recall period. The proportion of rural residents who fell ill (5.3%) was higher than their urban counterparts (3.6%) were.

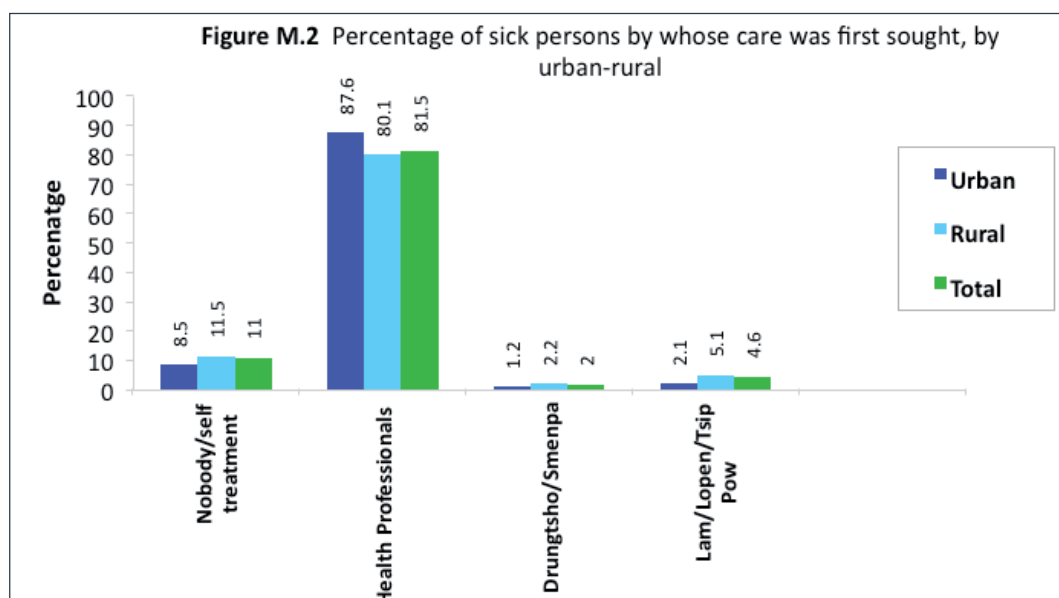
Table M.1 Morbidity Percent distribution of persons who got sick during the past month preceding the survey by sex and urban-rural, Bhutan 2012			
Sex, Urban-rural	Total number of persons in households	Sick persons	
		Number	%
Total	59521	2921	4.9
Urban	14381	515	3.6
Rural	45140	2406	5.3
Male	29159	1185	4
Female	30362	1736	5.7

Figure M.1 indicated that more people in the older age group fell ill. The oldest age group i.e. above 60 years had the highest morbidity (11.76%) compared to the rest of the age groups. Figure M1 also show that 0-4 years' age group had high

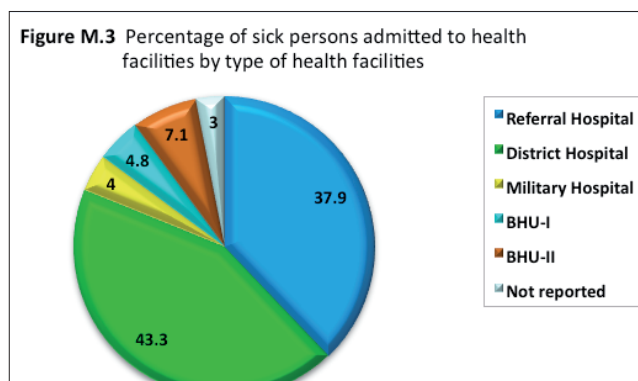
morbidity, which gradually decreased as age increased until the 10-19 years' age group after which morbidity increased with age.



Of those who were ill, 81.5% first sought treatment from health professionals, 11% sought no care, 4.6% sought care from Lam/Lopen/Pow/Tsip (spiritual/faith healers), and 2% from Drungtsho/ sMenpa (Figure M.2). The proportion of sick persons who sought first care from lam/lopen in rural areas was slightly more than twice the proportion in urban areas.



The survey also found that 26.4% of those who reported being ill were admitted to different types of health facilities. Of these, 43.3% were admitted to district hospitals, 37.9% to referral hospitals, 4.8% to BHU-Is and 4% to BHU-IIs (Figure M.3).

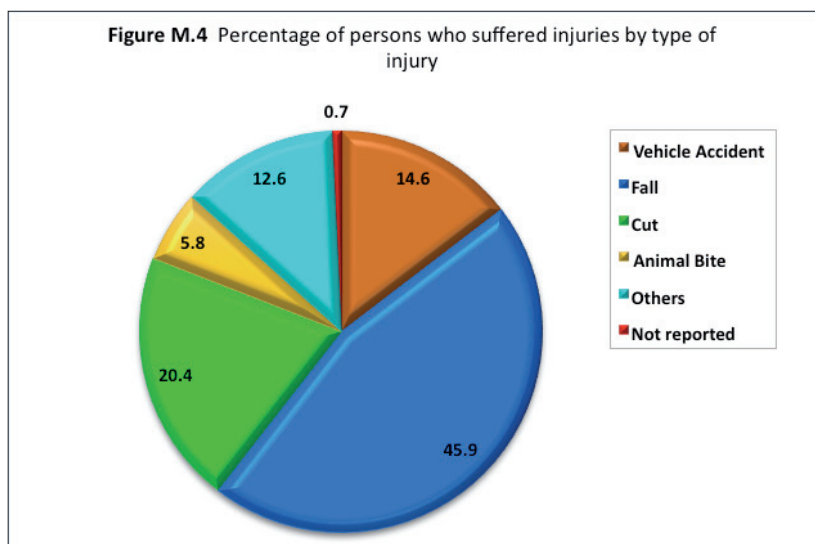


7.2 INJURY

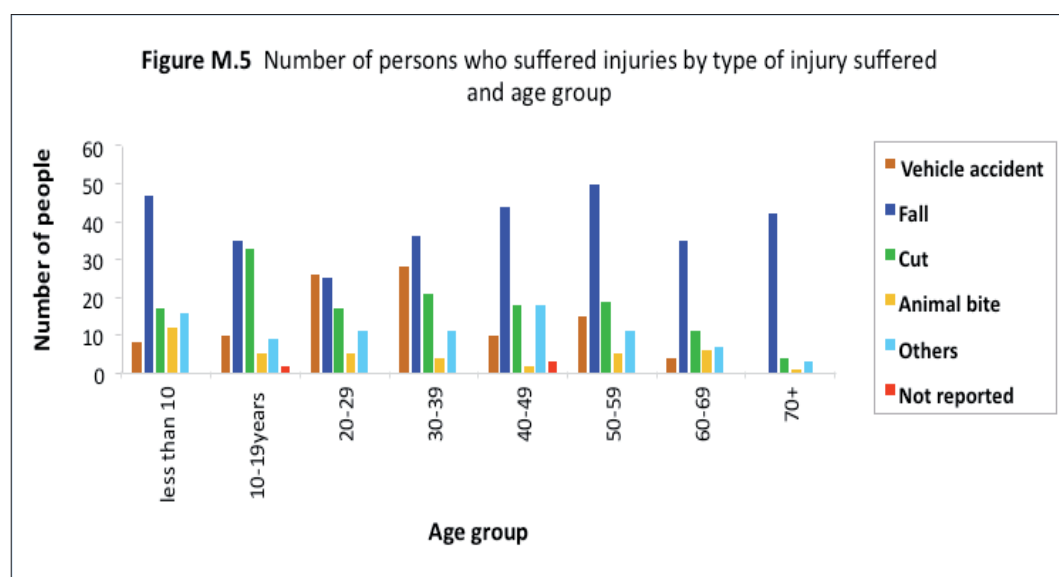
Injuries account for more than five million deaths worldwide with a large proportion of survivors suffering from temporary or permanent disabilities. The survey asked respondents if any member of the household suffered any form of injury as a result of vehicular or non-vehicular accidents in the past 12 months preceding the survey. For the purpose of the survey, injury was defined as one that debilitates or incapacitates the injured person or that results in disruption of a person's normal life for at least one day.

As shown in Table M.2 the overall prevalence of self-reported injury was found to be 1.2% (n=685). A higher proportion of males (1.5%) compared to females (0.8%) suffered from injuries in the past year preceding the survey. Among the injured, "fall" (45.9%) followed by "cut" (20.4%), "vehicular accident" (14.6%) and "others" (includes poisoning, near drowning, burns) were the leading causes of injuries in Bhutan (Figure M.4).

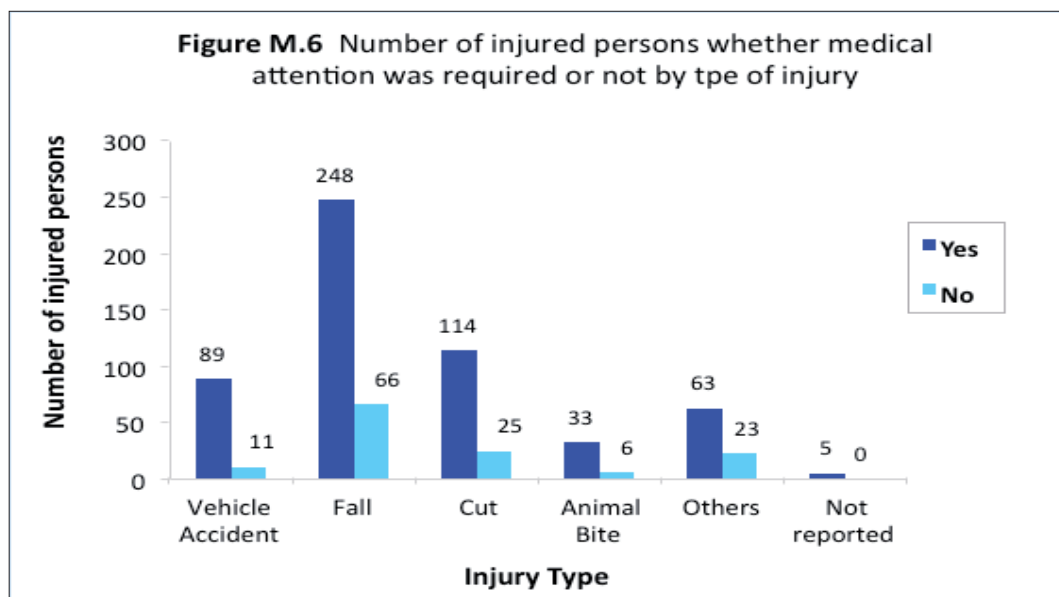
Table M.2 Injury			
Prevalence of injury by sex and urban-rural, Bhutan 2012			
Sex, Urban-Rural	Total number of persons in households	Persons who suffered injury	
		Number	Percentage to total
Total	59521	685	1.2
Male	29159	429	1.5
Female	30362	257	0.8
Urban	14381	103	0.7
Rural	45140	582	1.3



Injury due to fall was most common among people over 70 years while vehicle accident was the leading cause of injury among the 20-29 year age group (Figure M.5).



The survey also found that about 80% of all injured persons required medical attention. Figure M.6 shows number of persons injured in the past year preceding the survey by whether or not medical attention was required.



7.3 SELF-REPORTED DISABILITY/ IMPAIRMENT

The survey collected data on prevalence of disability/impairment that resulted in a person having difficulties in seeing, hearing, walking, speaking, remembering/ concentrating, and in performing self-care activities. To get more accurate information, persons suffering from impairments were directly interviewed whenever available during the time of interview.

Respondents who reported having no difficulty with sight and hearing when using spectacles and hearing aids, respectively were considered as not having these impairments. As shown in Table M.3, the survey found a prevalence of 2.9% (hearing), 2.5% (sight), 1.3% (mobility), 1.2% (speech), 0.7% (remembering/ concentrating), and 0.9% (self-care). Among those with impairments, apart from slightly higher proportion of males (3.1%) than females (2.7%) with hearing impairment, almost equal proportions of males and females were found to be suffering from other forms of impairments assessed in this survey. Prevalence of all forms of impairment/disability steadily increased with age and was relatively higher among the 50 plus year olds.

Table M.3 Self-reported disability/ impairment Distribution of persons with disability/ impairment by sex and age group, Bhutan 2012							
Sex & Age Group	Total households members	Type of Disability/ Impairment (%)					
		Seeing	Hearing	Speech	Mobility	Remembering/ Concentrating	Self-care
		Percent	Percent	Percent	Percent	Percent	Percent
Total	59521	2.5	2.9	1.2	1.3	0.7	0.9
Male	29158	2.5	3.1	1.2	1.3	0.7	0.9
Female	30362	2.5	2.7	1.2	1.3	0.7	0.9
<10 years	11950	0.5	0.4	0.6	0.3	0.2	0.4
10-19	12554	0.7	1.2	0.6	0.5	0.3	0.4
20-29	10139	0.8	0.9	0.7	0.4	0.4	0.3
30-39	7944	1.2	2.2	1.5	0.6	0.7	0.2
40-49	6073	2.5	2.4	1.0	1.0	0.5	0.5
50-59	5087	5.6	5.6	2.3	2.0	1.1	0.9
60-69	3165	8.6	11.0	3.4	4.6	2.4	2.0
70+	2586	18.2	18.0	3.7	11.4	4.5	9.1

The national health survey also collected data on the degree of difficulty in carrying out usual activities as a result of impairment. Table M.4 shows percentage of persons with impairment by degree of difficulty and type of impairment.

Table M.4 Degree of disability/ impairment Percentage of persons with impairment/disability by degree of difficulty and type of impairment, Bhutan 2012					
Impairment	Number of persons with impairment	Degree of Difficulty of impairment			
		Yes, some difficulty (%)	Yes a lot of difficulty (%)	Cannot at all (%)	Total (%)
Sight	1502	77.4	17.8	4.7	100.0
Hearing	1713	54.2	30.9	14.9	100.0
Speech	718	34.4	27.7	38.2	100.0
Mobility	790	61.0	24.6	14.3	100.0
Concentrating/ remembering	433	62.1	24.0	13.8	100.0
Self-care activities	528	41.1	23.1	35.6	100.0

7.3.1 Congenital or acquired

Respondents were asked if their impairment was congenital (since birth) or acquired. As shown in Table M.5, a majority of people suffering from the various forms of impairment assessed in the survey reported that their impairment was acquired at some point in their lives. The only exception was for speech impairments, where only 41.1% reported it as being acquired.

Table M.5 Impairment – congenital or acquired Percentage of people with impairment by whether or not acquired or congenital, Bhutan 2012					
Type of Impairment	Number of Persons with the impairment	Whether congenital or acquired (%)			
		Total	Congenital	Acquired	Not reported
Sight	1502	100.0	7.7	91.5	0.8
Hearing	1713	100.0	27.3	71.6	1.2
Speech	718	100.0	58.2	41.1	0.7
Mobility	790	100.0	16.8	81.6	1.6
Remembering/ concentrating	433	100.0	31.9	67.4	0.7
Self-care	528	100.0	23.5	75.6	0.8



སྒྲོ་ཚད་ བཤལ་ནད་ དམར་ཅུས་ ཚད་
ནད་དང་ བཅུད་ལྡན་གྱི་ཟས་རིགས་མ་
ཐོབ་པའི་སྐོན་གྱིས་ ཨ་ལོ་བརྒྱ་ཆ་༧༠འི་
ཤི་སྐོན་གྱུར་དེ་ཡོད་པ་ཡིན།

**70% of childhood deaths are due to pneumonia,
diarrhoea, measles, malaria and malnutrition**

ཨ་ལོ་ཨེམ་སི་ཨ་ལོ་གི་

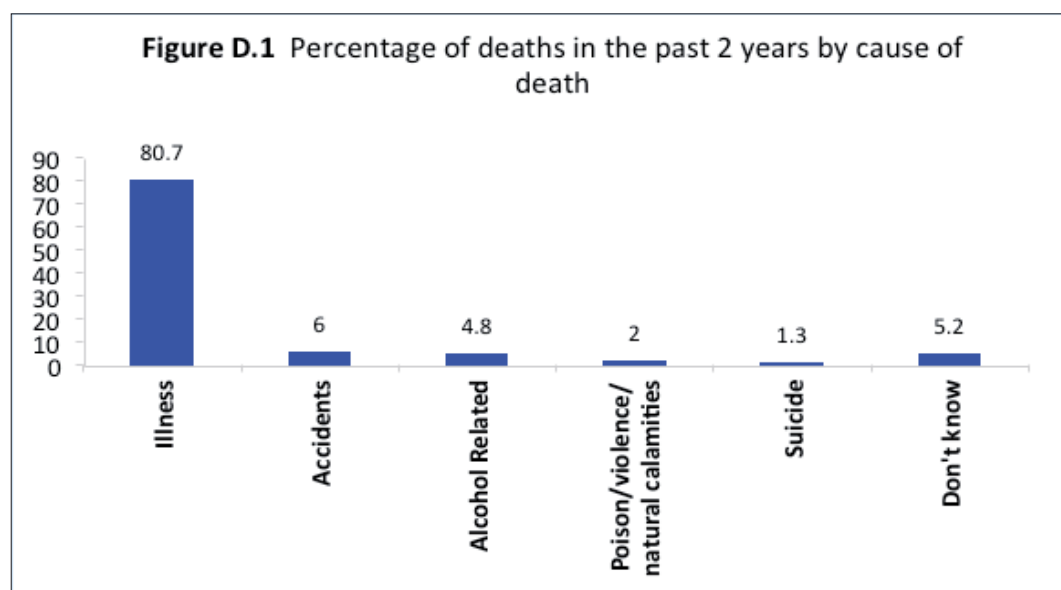
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ལོ་ཚུ་བར་ཆད་མེད་པར་ ཐོལ་སྐྱོལ་ཞི་ལུ་ ཡར་དྲག་བཟོ་ལུ་ཡིན།



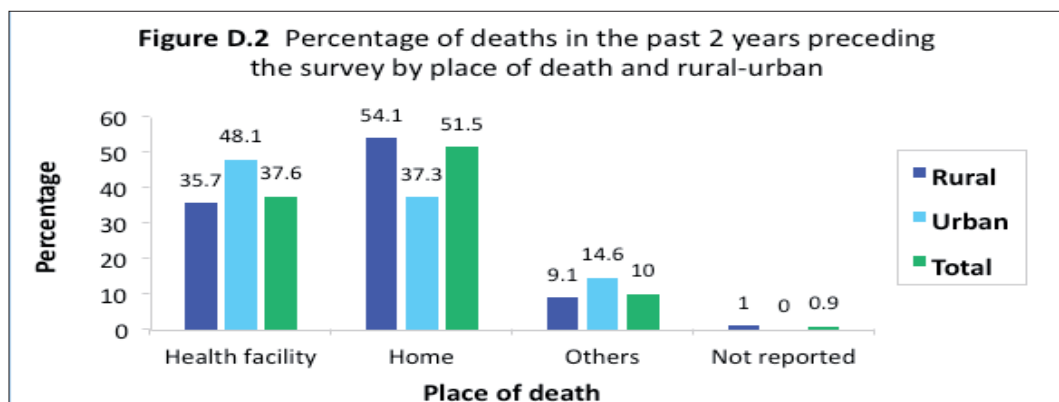
Chapter 8: Mortality

The national health survey collected data on deaths of household members including new born babies in the two years preceding the survey. During the analysis, the causes of deaths were broadly categorized as illness, accidents, alcohol related deaths, suicide, and deaths due to violence/natural disasters/poisoning. It is important to note that alcohol related deaths and deaths due to illness are not mutually exclusive. However, an attempt was made to estimate deaths related to alcohol in the country.

738 deaths were reported in the past 2 years preceding the survey. A majority of those who died in the past two years were due to illness (80.7%) followed by accidents (6%), alcohol related (4.8%), poison/natural calamities/violence (2%) and suicide (1.3%) (Figure D.1).



The survey also found that a majority of the deaths have occurred at home (51.5%) and in health facilities (37.6%). As shown in Figure D.2, urban residents were more likely to die in a health facility as compared to their rural counterparts. On the contrary, deaths in rural areas were more likely to occur at home.

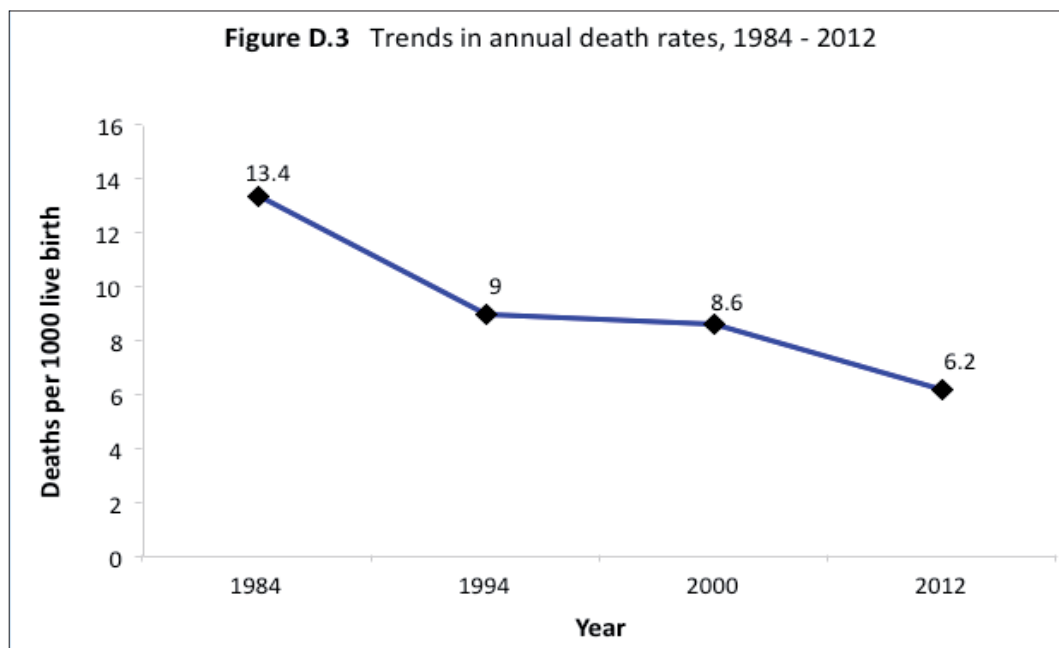


8.1 AGE-SPECIFIC DEATH RATE (ASDR) AND ANNUAL DEATH RATES

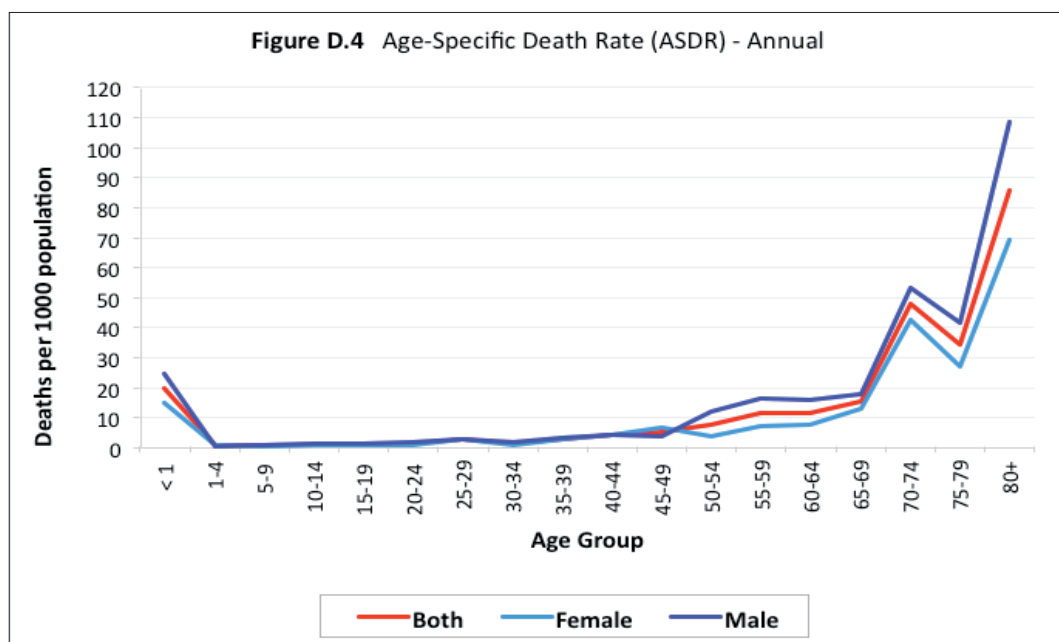
As shown in Table D.1, a higher proportion of deaths have occurred among males (58.7%) than females (41.3%). The crude/annual death rate for males was estimated at 7.4 per 1000 while for females it was 5 per 1000. The crude death rate for both sexes was estimated at 6.2 deaths per 1000 population, a sharp decline from 13.4 per 1000 in 1984 (Figure D.3). The crude death rate ranged from 69 per 1000 population among 80 plus year olds to 0.6 deaths per 1000 among 5-9 year olds. Table D.1 also shows ASDR which measures the incidence of death at each age.

Table D.1 Age-Specific Death Rate (ASDR)						
Distribution of deaths in the past 2 years and annual death rate by age and sex, Bhutan 2012						
Age Group	Number of Deaths in the Past 2 years			Annual Deaths per 1000		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Total	738	433	305	6.2	7.4	5.0
< 1 year	45	29	16	20.1	24.5	15.1
1 - 4	8	3	5	0.9	0.7	1.1
5 - 9	10	5	4	0.8	0.8	0.6
10 - 14	15	8	7	1.2	1.3	1.1
15 - 19	16	8	8	1.3	1.3	1.2
20 - 24	18	11	7	1.7	2.1	1.3
25 - 29	30	14	16	3.1	3.1	3.1
30 - 34	13	8	5	1.5	1.9	1.1
35 - 39	23	12	11	3.2	3.5	2.9
40 - 44	28	13	15	4.4	4.3	4.5
45 - 49	31	12	19	5.3	4.1	6.7
50 - 54	44	32	11	8.0	12.2	3.8
55 - 59	55	38	17	11.8	16.7	7.2
60 - 64	40	28	13	11.5	15.8	7.6
65 - 69	45	28	17	15.8	17.9	13.3
70 - 74	90	52	38	48.3	53.4	42.7
75 - 79	59	35	24	34.3	41.8	27.2
80 and over	136	75	62	85.5	108.4	69.0
Not reported	32	22	10	*	*	*

* Rates not estimated, as exact age at death was not reported.



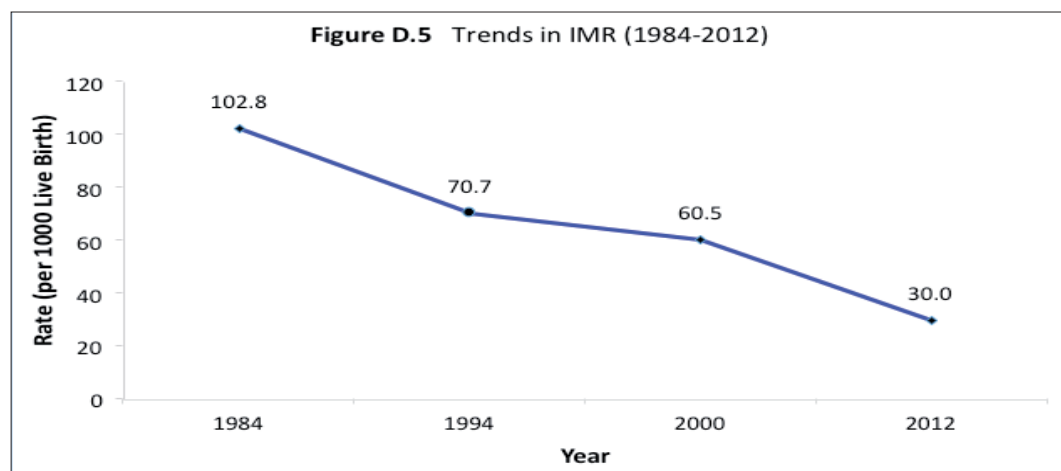
As shown in Figure D.4, the annual death rate begins at a relatively high level for infants under one year, declines to its lowest levels for children of school age, slowly increases thereafter and peaks at higher levels for age 65 and over, reflecting predominance of deaths in the older ages.



8.2 NEONATAL, INFANT AND UNDER-FIVE MORTALITY

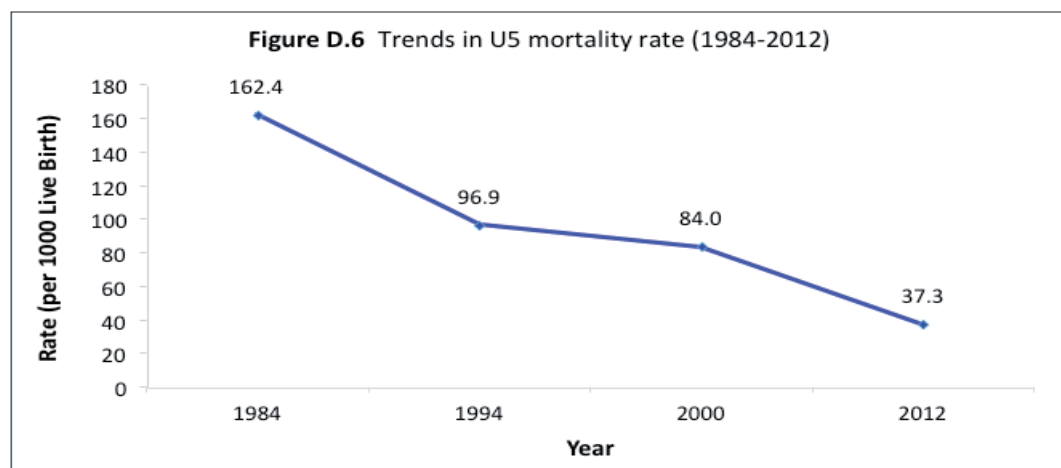
Neonatal mortality rate refers to the probability that a newly born child will die within 28 days after birth per 1000 live births. From the birth histories of mothers, neonatal mortality rate was estimated directly by considering the weighted number of births that occurred 1 to 2 years prior to the survey period (that is, births from November 2010 and October 2011) and by determining how many among them died within 28 days after delivery. During this period, there were 999 live births and 21 deaths that occurred within 28 days after birth. Using direct method, neonatal death rate was estimated at 21 deaths per thousand live births.

Infant mortality rate (IMR) refers to the probability that a newly born child will die before reaching the age of 1 year. From the birth histories of mothers, infant mortality was estimated directly by considering the weighted number of births that occurred 1 to 2 years prior to the survey period (that is, births from November 2010 and October 2011) and by determining how many among them died before reaching age 1. During this period, there were 999 live births and 30 deaths that occurred before reaching 1 year of age. Using direct method, IMR of 30 per thousand live births was estimated which indicates a significant decline from 102.8 in 1984 (Figure D.5). This also indicates that about 70% of all deaths under one year of age occur within 28 days after birth.



Under-5 (U5) mortality rate refers to the probability of death between birth and age 5. For U5 mortality rate, all live births between the periods November 2002 to October 2007 were considered so that the youngest among them would be 5 years old by the time of the survey. During this period, there were 6237 live births and

236 deaths that occurred before reaching age 5 years. Using the direct method, U5 mortality rate of 37.3 per 1000 live birth was estimated which shows a significant decline from 162.4 per 1000 live births in 1984 (Figure D.6).



8.3 MATERNAL MORTALITY RATIO

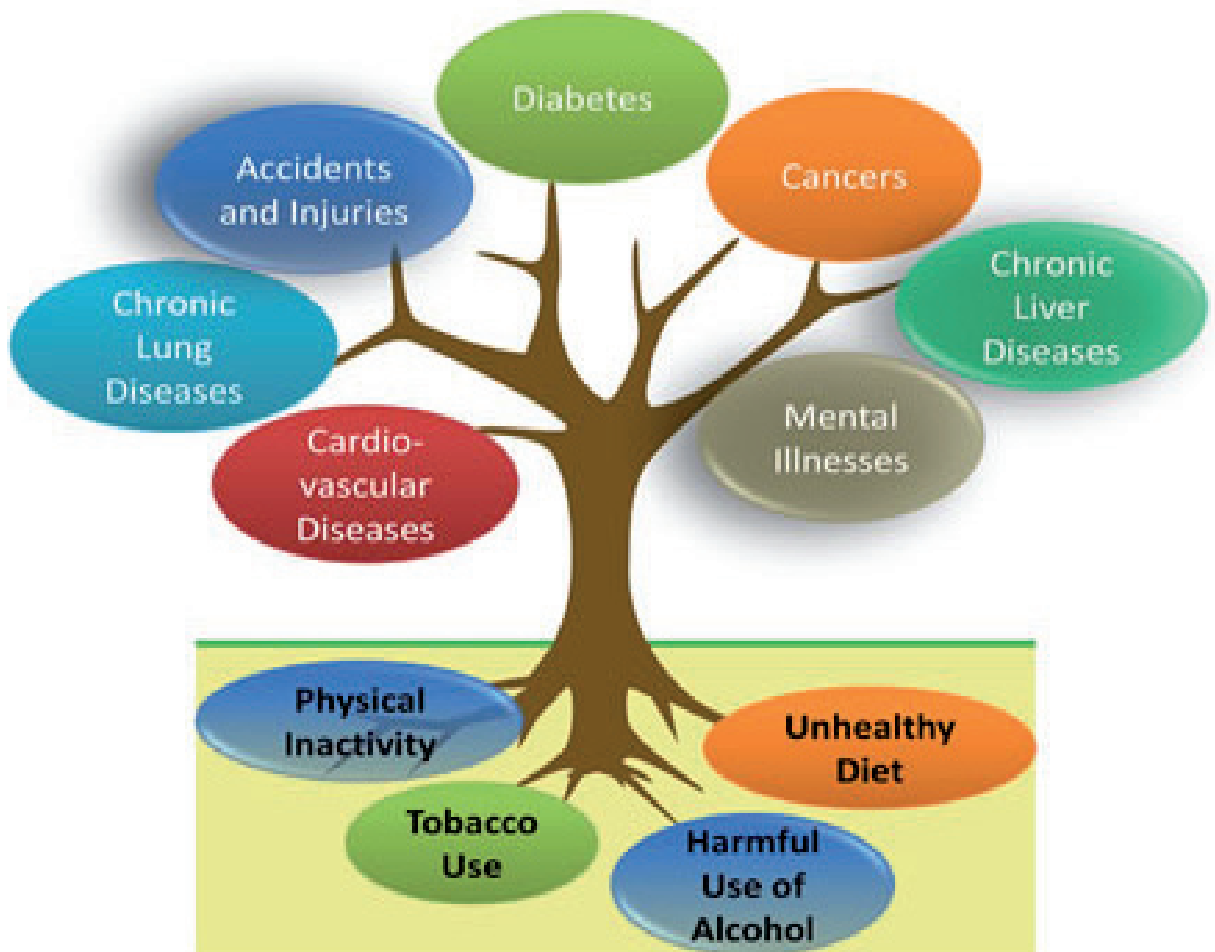
Maternal death is defined as the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.

The 2012 NHS collected data on deaths during the 2-year period prior to the survey, and for each case, the cause of death. One category of cause of death was 'pregnancy related' and for such cases, the household respondent was asked whether the deceased female member was pregnant at the time of death or died within 2 months of delivery.

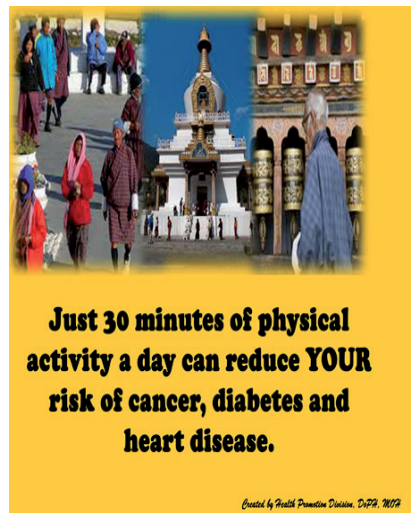
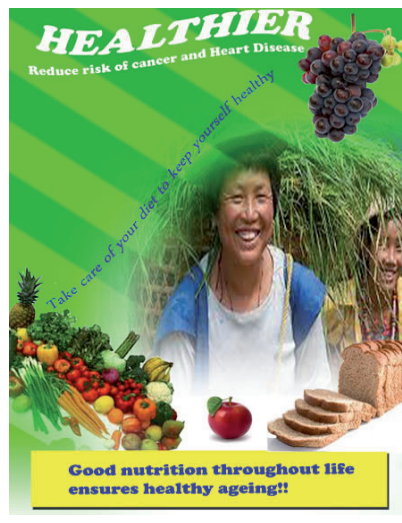
During the 2-year period prior to the survey, only 2 cases were reported as 'pregnancy-related' and both were pregnant at the time of death. During the same period, 2,338 live births were reported. Using the direct method, the maternal mortality ratio was estimated at **86 deaths per 100,000 live births**.

Note: Due to issues of sample size and limitations related to underreporting and misclassification of maternal deaths, the estimate of MMR needs to be interpreted with caution. The Ministry of Health recommends process indicators (e.g. attendance by skilled health personnel at delivery and use of health facilities for delivery) as proxies to assess progress made towards the reduction in maternal mortality in the country.

THE ROOT CAUSES OF ALL NCDs



Four modifiable risk factors are largely responsible for these diseases



Chapter 9: Knowledge, Awareness and Health Risk Behaviors

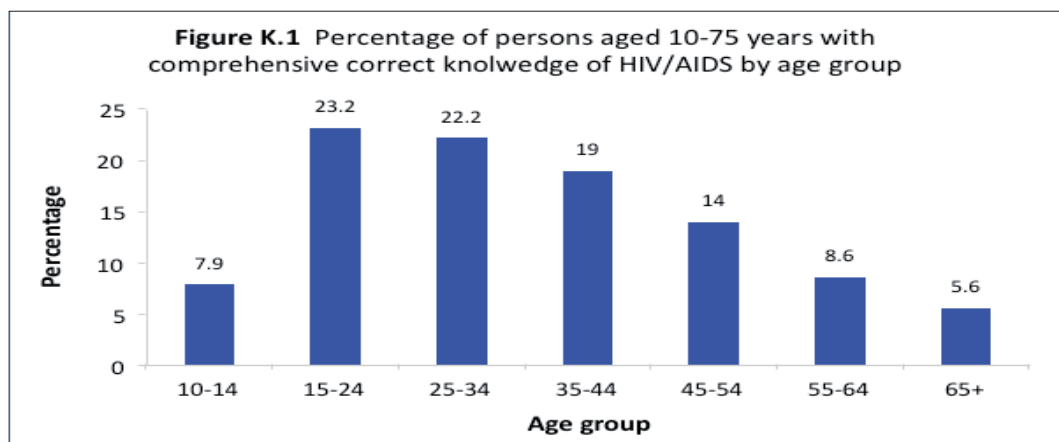
9.1 COMPREHENSIVE KNOWLEDGE OF HIV / AIDS

Having comprehensive knowledge on HIV/AIDS is being able to correctly identify two major ways of preventing sexual transmission of HIV i.e. using condom and limiting sex to one faithful, uninfected partner; knowing that a healthy looking person can transmit HIV; and rejecting two common misconceptions about HIV transmission. In this survey, “people can get HIV/AIDS from mosquito bites” and “people can get HIV/AIDS by sharing food” were the two common misconceptions used for the analysis.

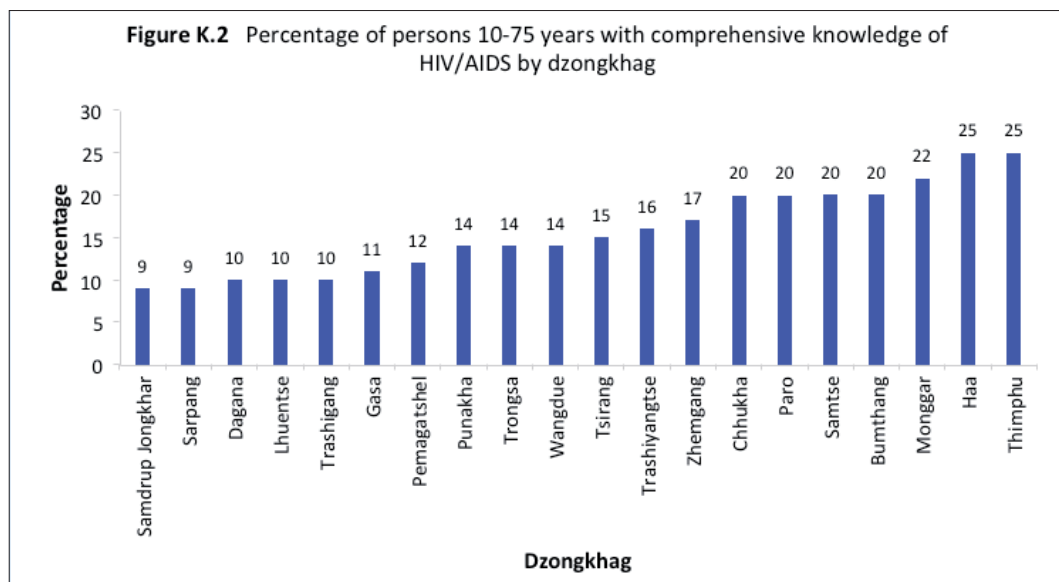
Overall, prevalence of comprehensive correct knowledge of HIV/AIDS among the population aged 10-75 years was 16.8%. The low prevalence may be attributed to the fact that only 20.2% of the respondents were able to reject the two most common misconceptions in Bhutan (Table K.1). More males (20.7%) compared to females (13.5%) have comprehensive knowledge of HIV/AIDS. The prevalence of comprehensive knowledge of HIV/AIDS among urban residents is almost twice that of their rural counterparts.

Table K.1 Comprehensive knowledge of HIV/ AIDS										
Percentage of population aged 10-75 years with comprehensive knowledge of HIV/ AIDS by gender and age, and urban-rural, Bhutan 2012										
Gender/ Age group/ urban- rural	No. of persons aged 10- 75 years interviewed	% who know transmission can be prevented by:		% of persons who know both ways	% who know that a healthy person can have the AIDS virus	% who know that HIV cannot be transmitted by:			%who reject the two most common misconceptions and know that a healthy looking person can have the AIDS virus	% with comprehensive knowledge
		Having only one faithful uninfected sex partner	Using a condom every time			Mosquito bites	Supernatural means	Sharing food with someone with AIDS		
TOTAL	39789	67.5	74.1	62.6	49.1	38.8	69.2	55.4	20.2	16.8
Male	18480	72.2	78.6	68.2	54.4	42.1	74.6	58.7	23.8	20.7
Female	21309	63.5	70.1	57.8	44.6	35.9	64.4	52.5	17.1	13.5
10-14	5458	41.9	49.5	37.4	30.3	29.6	47.8	31.8	10.7	7.9
15-24	9349	74.2	83.0	69.2	56.9	51.6	81.6	69.4	28.6	23.2
25-34	8060	76.4	84.6	71.7	55.8	46.6	80.7	70.4	26.3	22.2
35-44	6172	76.1	82.7	71.1	54.4	39.8	75.9	62.4	21.9	19.0
45-54	5100	71.4	74.9	66.1	50.0	31.2	65.9	50.6	16.1	14.0
55-64	3543	61.5	62.9	56.0	42.8	23.1	52.2	34.1	9.9	8.6
65+	2106	46.0	49.2	41.3	31.0	17.2	41.5	24.1	6.4	5.6
Urban	9579	75.0	84.6	69.8	55.7	57.4	86.0	75.4	32.2	25.9
Rural	30210	65.2	70.7	60.3	47.0	32.9	63.8	49.1	16.4	13.9

It is important to note that the prevalence of comprehensive correct knowledge of HIV/AIDS peaks at 15-24 years (23.2%) and steadily decreases with increasing age (Figure K.1).



By dzongkhag, the proportion of persons aged 10-75 years with comprehensive correct knowledge of HIV/AIDS varied from a high of 25% each in Thimphu and Haa to a low of 9% each in Sarpang and Samdrup Jongkhar (Figure K.2).



9.2 KNOWLEDGE OF PARENT TO CHILD TRANSMISSION OF HIV AMONG WOMEN AGED 15-49 YEARS

With effective and timely interventions, the risk of transmission from a HIV positive mother to a child can be reduced from 15-45% (without any interventions) to below 5%. In order to provide timely interventions, it is critical that both men and women are aware of the risks of HIV transmission to a child during pregnancy, delivery or breastfeeding.

Although 83.5% of women aged 15-49 years were aware that HIV can be transmitted from a HIV positive mother to a child, only about 47% percent were able to identify all the means of transmission while about 6% did not know any specific means of transmission. By dzongkhag, Tsirang (10.6%) followed by Samdrup Jongkhar (9.6%) and Bumthang had the highest percent of women who did not know any specific means of transmission. Women who knew all means of transmission varied from a high of 67% in Trongsa to a low of 33% in Samtse (Table K.2).

Knowledge of parent to child transmission of HIV among women aged 15-49 years by urban-rural and dzongkhag, Bhutan 2012		Percent who know HIV can be transmitted:					Does not know any of the specific means
Urban-rural/Dzongkhag/ Education and Marital Status	Number of women aged 15-49 years	Percentage who know HIV can be transmitted from mother to child	During pregnancy	During delivery	By breastfeeding	All three means	
TOTAL	14338	83.5	76.8	57.6	65.4	46.9	6.0
Urban	3800	90.7	81.4	55.5	65.1	41.3	6.2
Rural	10538	80.9	75.1	58.3	65.5	49.0	5.9
Bumthang	352	87.0	76.3	56.3	62.5	39.3	9.5
Chhukha	1190	79.3	72.1	48.2	60.0	38.1	7.0
Dagana	587	83.3	77.6	66.2	70.3	57.5	8.5
Gasa	47**	90.4**	85.9**	65.4**	75.1**	58.3**	1.5**
Haa	141	93.0	86.3	61.2	74.0	50.3	2.3
Lhuentse	365	85.6	82.6	55.5	68.0	49.3	2.6
Monggar	1019	90.3	84.6	67.7	76.6	60.1	5.1
Paro	940	88.1	84.1	62.6	66.2	52.0	5.2
Pemagatshel	512	87.8	76.8	60.7	75.8	52.2	7.0
Punakha	483	87.9	79.6	59.7	68.7	47.8	5.8
Samdrup Jongkhar	746	80.5	70.2	59.3	68.4	50.9	9.8
Samtse	1413	62.5	59.7	44.5	45.1	33.4	3.6
Sarpang	721	82.5	78.3	63.6	61.3	47.1	7.3
Thimphu	2408	91.6	81.2	53.6	65.1	39.4	6.2
Trashigang	1142	81.6	77.1	54.8	69.9	48.0	3.4
Trashiyangtse	428	86.5	81.9	70.6	72.2	62.1	8.6
Trongsa	281	93.4	87.4	76.4	80.1	67.0	2.7
Tsirang	420	81.4	70.8	59.1	62.9	44.1	10.6
Wangdue	646	78.2	70.6	58.3	67.2	51.0	6.0
Zhemgang	497	85.6	83.5	62.8	67.6	53.4	3.8

** Calculation based on just 25-49 cases

9.3 TOBACCO USE

Tobacco is the single greatest cause of preventable deaths, globally killing nearly 6 million people each year. It is a major risk factor for non-communicable diseases such as strokes, heart attacks, chronic obstructive pulmonary disease, cancer, hypertension and peripheral vascular disease. Sale of any form of tobacco products is banned by law in Bhutan. The survey collected data on tobacco smoking and use of smokeless tobacco among the population aged 10-75 years.

9.3.1 Ever smokers

The survey respondents were asked if they had ever smoked any tobacco products such as cigarettes in their lifetime. The prevalence of ever smokers among the population aged 10-75 years was 13.3% with a higher proportion of males (20.8%) compared to females (6.9%) reporting as ever smokers. The proportion of ever smokers was higher by almost 6% among the urban population as compared to rural residents. The average age at initiation of smoking was 19 years for both males and females (Table K.3).

Table K.3 Ever smokers				
Percent distribution of Persons 10-75 years who have ever smoked by average age when they started to smoke by sex, and urban-rural, Bhutan 2012				
Sex, Urban-rural and District	Persons 10-75 years interviewed	Persons who have ever-smoked		Average Age started to smoke
		Number	Percent	
Total	39789	5302	13.3	19.0
Male	18480	3839	20.8	19.0
Female	21309	1463	6.9	19.1
Urban	9579	1693	17.7	18.8
Rural	30210	3610	11.9	19.2

9.3.2 Current smokers

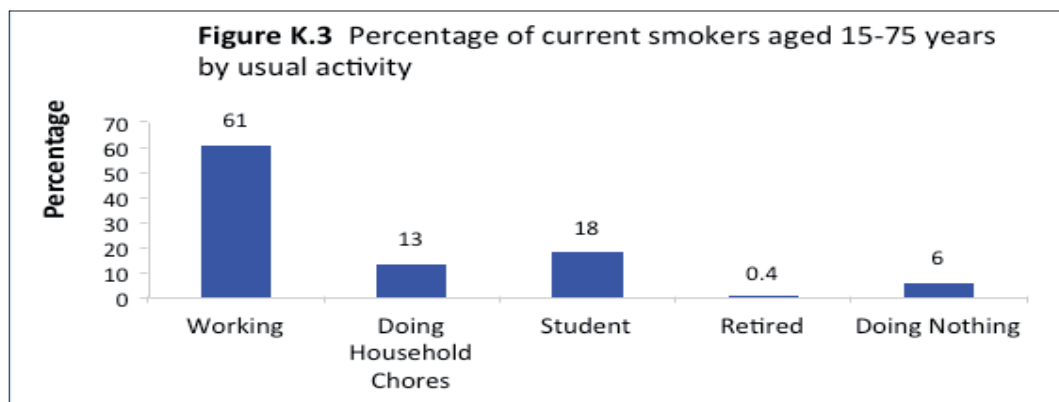
For the purpose of the survey, current smoker was defined as a person who smoked, during the time of the survey, on a daily basis or on a regular basis even if infrequently. Persons who currently smoke on a daily basis or nearly daily with regularity were defined as current daily smokers while current smokers who only smoked on occasions were defined as current occasional smokers.

As shown in table K.4., the survey revealed a prevalence of 3.5% current smokers among the population aged 10-75 years. By gender, current smokers were more prevalent among males (6.0%) than females (1.4%). A higher proportion of urban residents (6.5%) were found to be current smokers as compared to their rural counterparts (2.6%). The highest proportion of current smokers were in the age categories of 15-24 years (5.4%) and 25-34 years (5.3%). The survey found that less than 1% of the population aged 10-14 years were current smokers. Among the current smokers, 53.1% smoked daily and 46% smoked occasionally. When the analysis was confined to the population aged 15-75 years, the prevalence of current smokers increased to 4%.

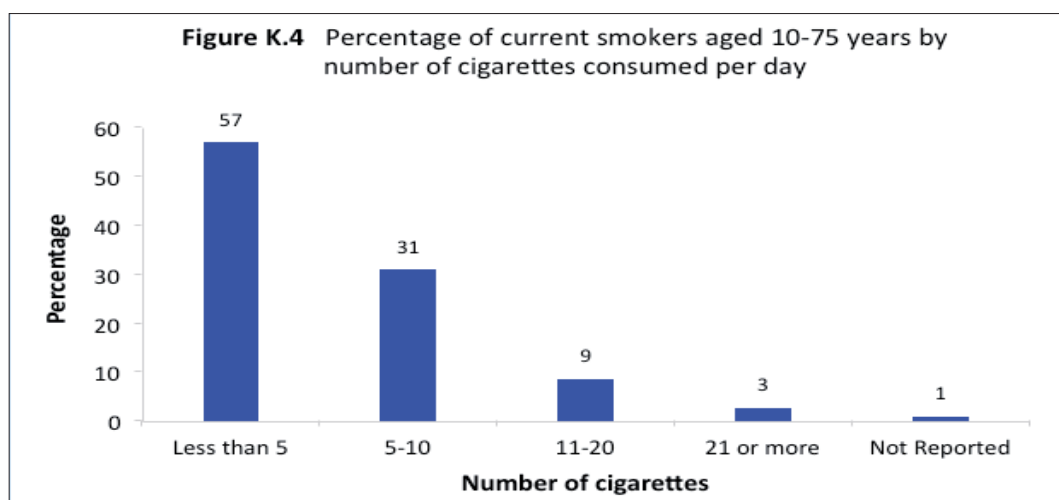
Table K.4 Current smokers Percentage of current smokers aged 10-75 years, by sex, age and urban-rural, Bhutan 2012			
Sex, age, urban-rural	Persons 10-75 years interviewed	Current Smokers	
		Number	% to total
TOTAL	39,789	1,405	3.5
Male	18,479	1,114	6.0
Female	21,310	291	1.4
10-14	5,458	17	0.3
15-24	9,343	503	5.4
25-34	8,066	431	5.3
35-44	6,172	154	2.5
45-54	5,100	111	2.2
55-64	3,543	110	3.1
65+	2,106	79	3.8
Urban	9,579	626	6.5
Rural	30,210	779	2.6

By usual activity*, among the current smokers aged 15-75 years, 18% comprised of students, 13% were those doing household chores, and 6% those doing nothing. Less than one percent of retired people reported that they were current smokers (Figure K.3).

**for the definition of "usual activity", please see ANNEXURE-I*



As shown in figure k.4., 57% of the current smokers reported smoking less than five cigarettes per day and 31% reported smoking 5-10 cigarettes per day. 12% of the current smokers smoked 11 or more cigarettes per day.



The survey also found that while 47.9% of the current smokers had plans to quit smoking, 16.4% did not want to quit but had plans to cut down on number of cigarettes smoked per day. 16.2% of the current smokers neither wanted to quit nor cut down on number of cigarettes.

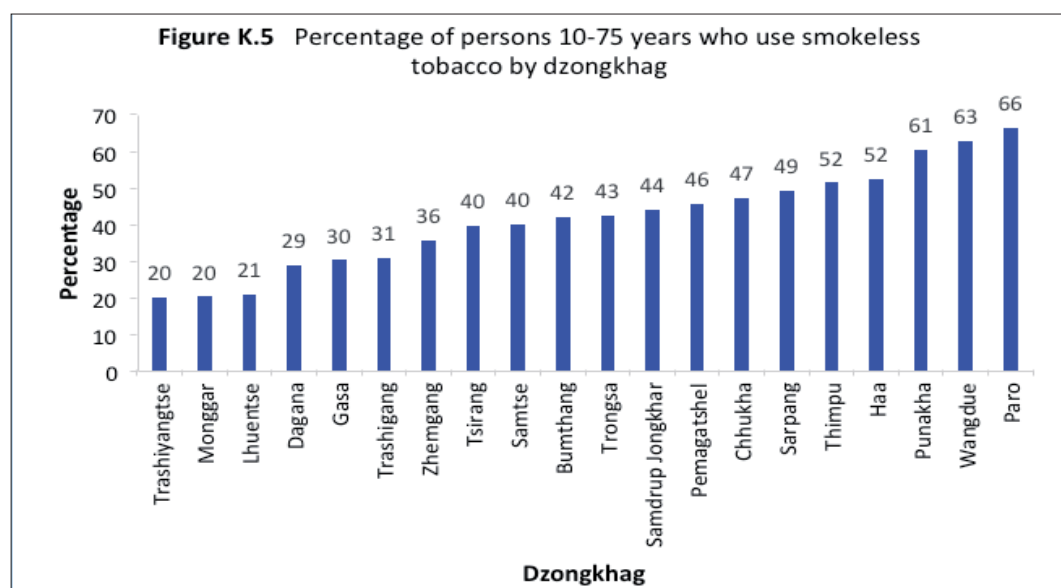
9.4 SMOKELESS TOBACCO

The survey collected data on smokeless tobacco in terms of current use and number of times consumed per day. For the purpose of this survey, smokeless tobacco included doma khamtog/betel quid, chewing tobacco, and snuff (by nose).

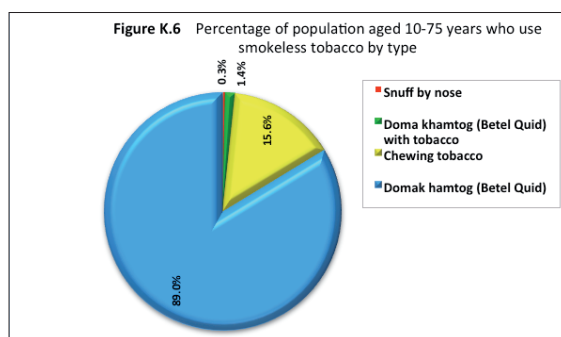
As shown in table K.5., the prevalence of any form of smokeless tobacco use in Bhutan was 43.1% among the population aged 10-75 years. The percentage of smokeless tobacco users increases to 47.9% when the analysis was confined to population aged 15-75 years. As shown in Table K.5, the proportion who used smokeless tobacco increased steadily from 12.8% among the 10-14 year olds to 57.3% among the 35-44 year olds before decreasing to 46.6% among the 65 plus year olds. Smokeless tobacco use was found to be slightly higher among males than among females. By dzongkhag, the proportion who used smokeless tobacco ranged from 20% each in Monggar and Trashiyangtse to 66% in Paro (Figure K.5).

Table K.5 Smokeless tobacco			
Percentage of smokeless tobacco users aged 10-75 years by sex and age, Bhutan 2012			
Sex, age	Persons 10-75 years interviewed in the survey	Smokeless users	
		Number	Percentage
TOTAL	39789	17142	43.1
Male	18479	8217	44.5
Female	21310	8925	41.9
10-14	5458	696	12.8
15-24	9349	3219	34.4
25-34	8060	4529	56.2
35-44	6172	3537	57.3
45-54	5100	2719	53.3
55-64	3543	1652	46.6
65+	2,106	790	37.5
Not reported	*	*	*

**Based on fewer than 25 cases*

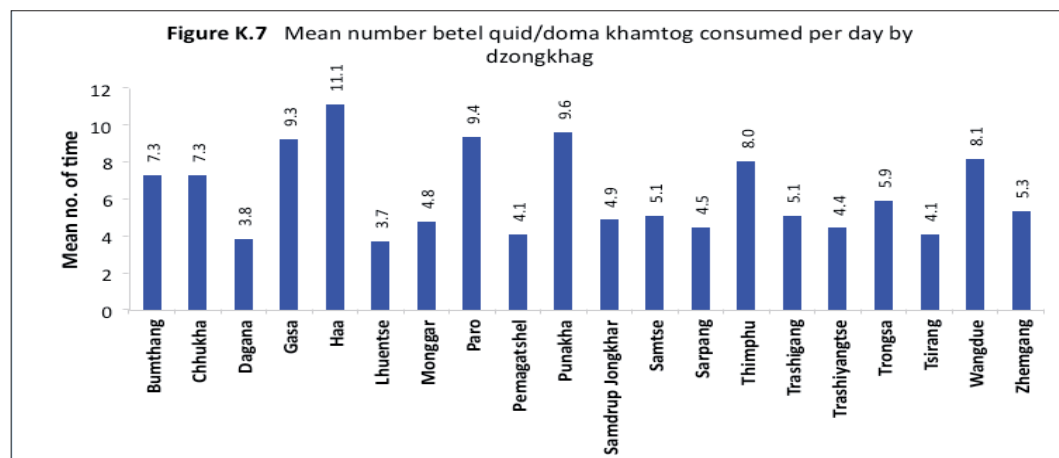


As shown in Figure K.6, doma khamtog/betel quid was the most widely used, consumed by 89% of all current users of smokeless tobacco. Among other smokeless tobacco products, chewing tobacco was consumed by 15.6% of all current users, while 1.4% of users reported consuming betelquid/doma khamtog with tobacco, and 0.3% snuff by nose.



9.4.1 Use of doma khamtog/betel quid

On average, Bhutanese men and women take doma/betel quid 7 and 6.3 times per day, respectively. As shown in Figure K.7, residents of Haa, Wangdue, Paro, Punakha and Thimphu were among the largest consumers of doma/betel quid with 8 or more times average daily consumption.



9.5 ALCOHOL USE

Harmful use of alcohol is associated with increased risks of getting non-communicable diseases, acute health conditions resulting from intentional and unintentional injuries, and adverse socio-economic consequences.

STATUS OF ALCOHOL USE

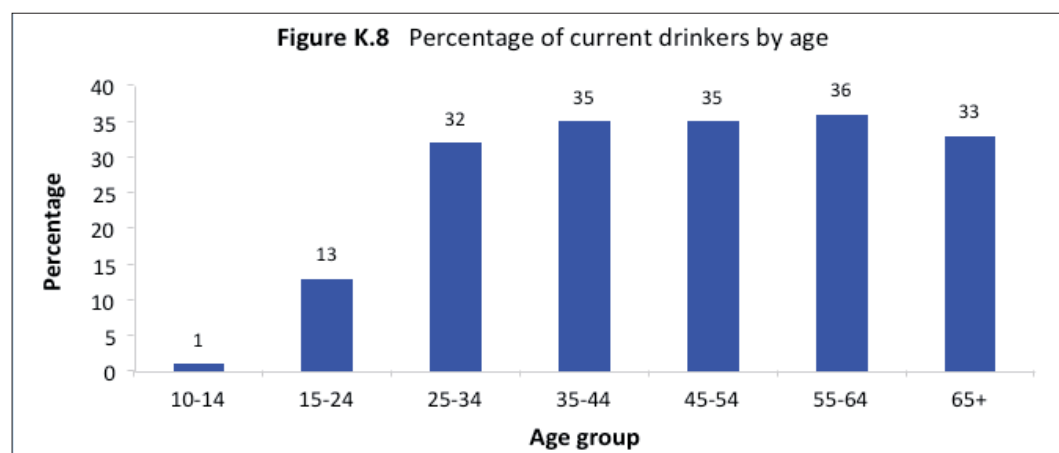
9.5.1 Current drinkers (consumed alcohol in the past 30 days)

The survey found that 24.4% of the population aged 10-75 years were current drinkers (drank alcohol in the past month preceding the survey). It is important to note that the prevalence of current drinkers increases to 28% when analysis was restricted to the population aged 15-75 years old.

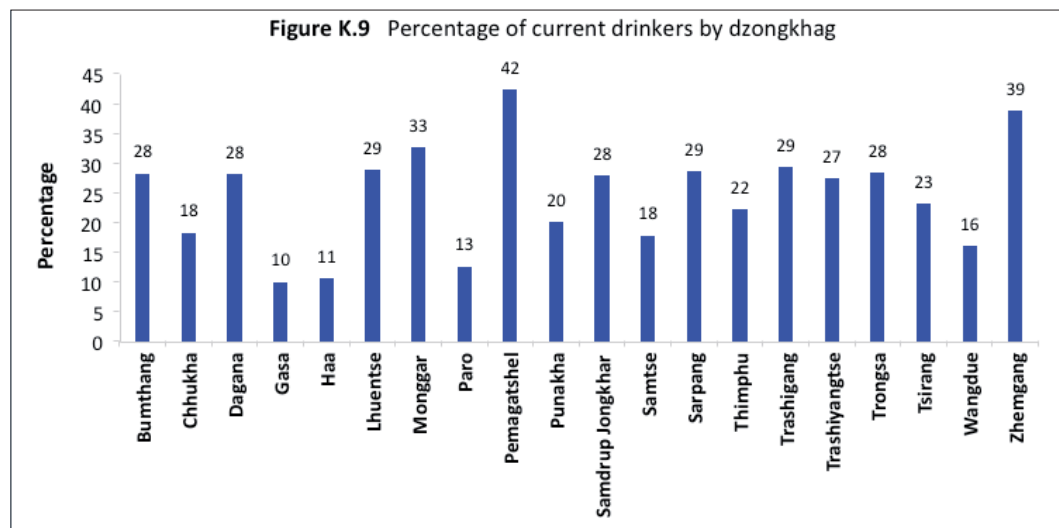
As shown in Table K.6, a higher proportion of males (31%) compared to females (18%) were found to be current drinkers. Bhutanese who currently drink alcohol spend, on average, Nu. 594/- and the average monthly spending was higher among residents of urban areas (Nu. 774) than residents of rural areas (Nu. 542).

Table K.6 Alcohol use status Percent distribution of persons 10-75 years who are current drinkers by gender, urban-rural and by monthly average expenditure on alcohol, Bhutan 2012				
Sex, urban-rural	Persons 10-75 years interviewed	Person who drank alcohol in the past 30 days		
		Number	% to total	Average monthly expenditure (nu.)
Total	39789	9722	24.4	594
Male	18480	5800	31	667
Female	21309	3922	18	486
Urban	9579	2163	23	774
Rural	30210	7559	25	542

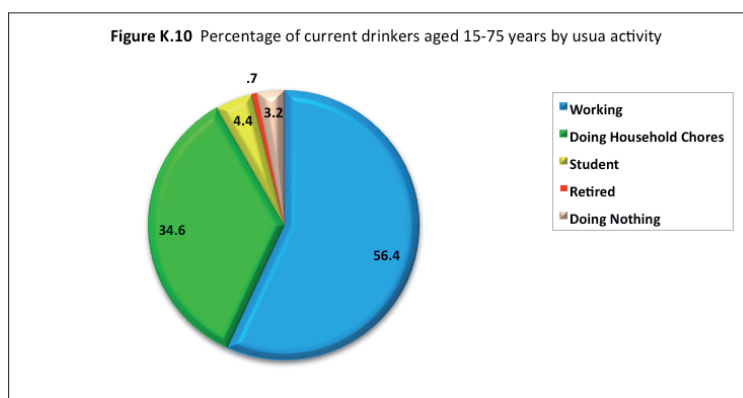
1% and 13% of the population aged 10-14 years and 15-24 years currently drink alcohol, respectively. In other age categories, the proportion of current alcohol drinkers ranged from 32% among 25-34 years to 36% among 55-64 years (Figure K.8).



By dzongkhag, Pemagatshel (42%), Zhemgang (39%), Lhuentse (29%), Trashigang (29%) and Sarpang (29%) had the highest proportion of current drinkers.



By usual activity, the survey revealed that among the current drinkers aged 15-75 years, 4.4% comprised of students (figure K.10).

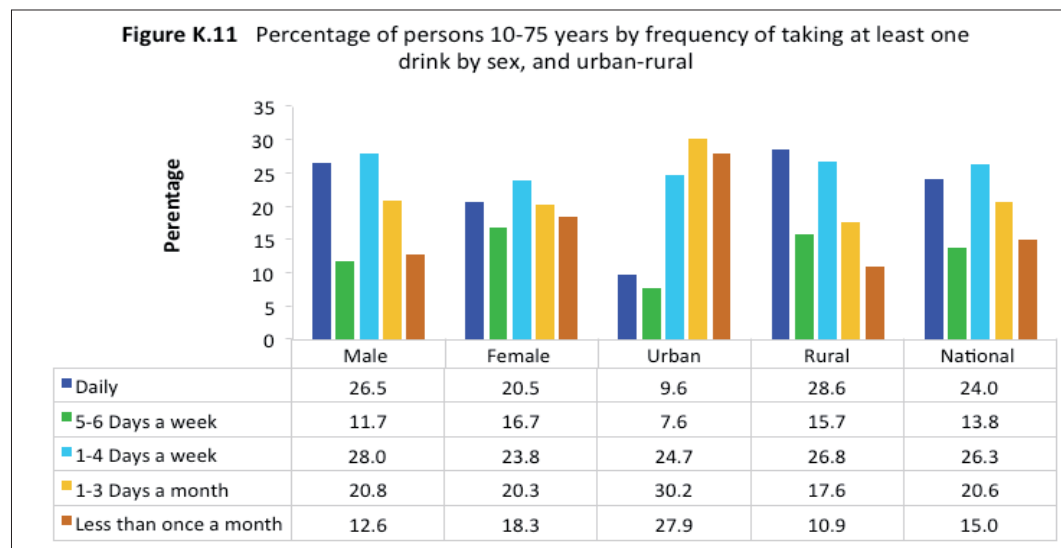


9.5.2 Alcohol consumption in the past 12 months

The survey found that 28.5% of the population aged 10-75 years consumed alcohol in the past 12 months. Of those who drank in the past 12 months, 4.1% did not drink in the past month preceding the survey.

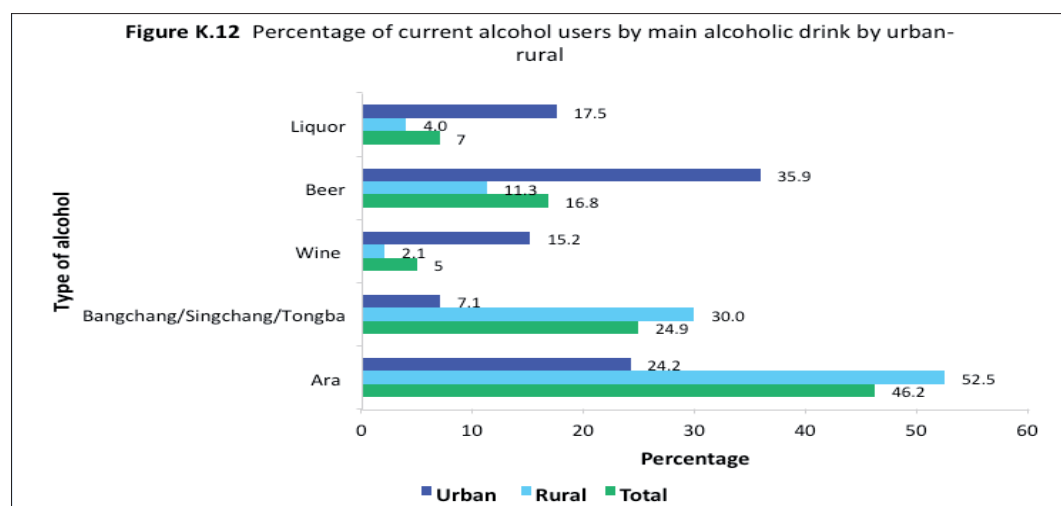
Figure K.11 shows that 24% of those who drank alcohol in the past 12 months drank on a daily basis and 13.8% drank 5-6 days in a week. The survey found

that males were more likely to drink on a daily basis compared to their female counterparts.



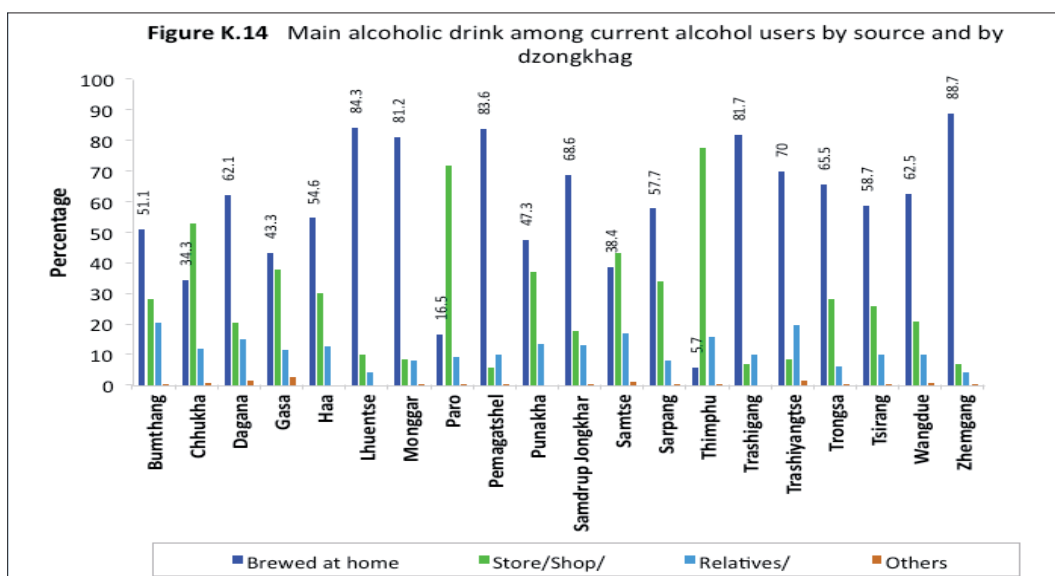
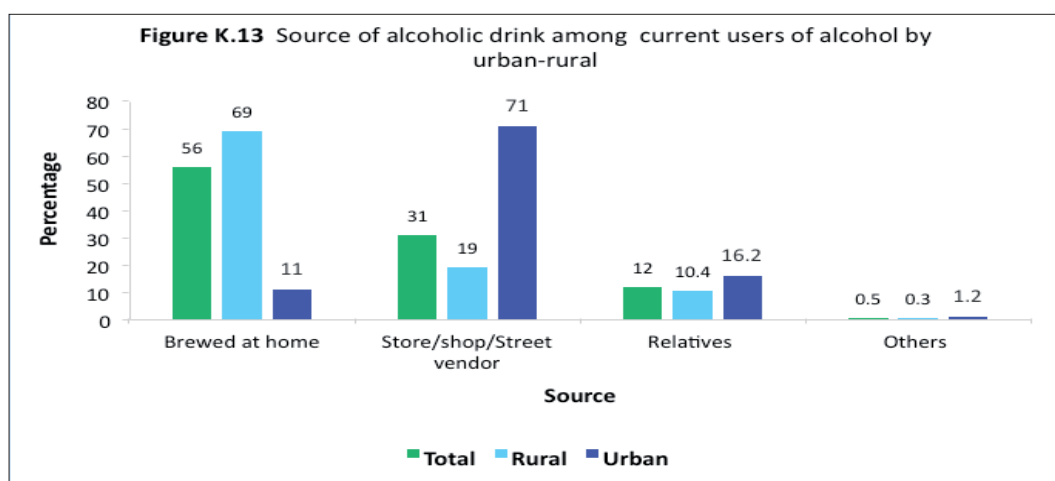
9.5.3 Main alcoholic drink

The survey collected data on respondent's choice of alcoholic drink by asking current drinkers about their main alcoholic drink in the past month preceding the survey. As shown in Figure K.12, overall 46% of current drinkers in Bhutan reported Ara (locally brewed alcohol) as their main alcoholic drink. By urban-rural, Ara and bangchang/singchang (locally brewed alcohol) were the most widely used drinks for rural residents, while beer and liquor such as whiskey/rum were the main drinks for urban residents.



9.5.4 Source of alcohol

Overall, the usual source of alcohol for a majority of the current drinkers in Bhutan was locally brewed at home (56%), followed by alcohol purchased from shops/vendors (31%) and those received from relatives/friends (12%). While a majority of current drinkers in rural areas (69%) consumed alcohol that were brewed at home, a majority of urban residents (71%) got their alcohol from shops/store/vendors (Figure K.13). The usual source of alcohol for more than 80% of current drinkers in Zhemgang, Pemagatshel, Lhuentse and Monggar was home brewed alcohol while more than 70% of current drinkers in Thimphu and Paro usually get their alcohol from shops/vendors (Figure K.14).



9.6 DIET

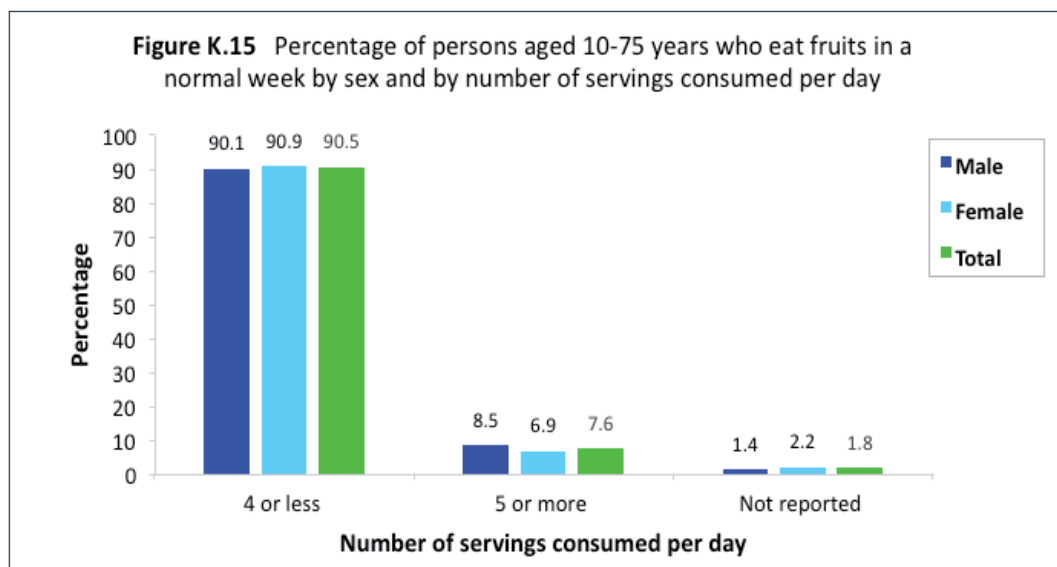
To assess the consumption (number of days per week and serving sizes) of fruits and vegetables of the population aged 10-75 years, the data collected from respondents was for a normal week. For the purpose of the survey, normal week was defined as one when respondent's consumption of fruits and vegetables was not affected by cultural, religious or social events or regardless of whether or not fruits or vegetables were available in their garden. Chili and tubers such as potatoes were not considered as vegetables for the purpose of the survey. For the definition of serving size, please refer to the definitions provided in ANNEXURE-I.

9.7 FRUITS

The survey found that 45% of the population aged 10-75 years consumed fruits, on average of 3.4 days, in a normal week. The mean number of days of fruit consumption in a normal week varied from 3.3 days for men to 3.6 days for women, and from 3.6 days among urban residents to 3.3 days among rural residents (Table K.7).

Table K.7 Fruits consumption Percentage of persons who eat fruits in a normal week by number of days and average number of days in a week, sex and urban-rural, Bhutan 2012												
Sex, urban-rural	Persons 10-75 years interviewed in the survey	Person who normally eat fruits		Number of days in a week person eats fruits (%)								Average number of days
		Number	Percent	Total	1	2	3	4	5	6	7	
Total	39789	17853	45.0	100.0	11.2	24.4	26.5	13.2	8.4	3.8	12.4	3.4
Male	18479	8608	46.6	100.0	11.7	26.1	26.3	14.1	8.5	3.5	9.9	3.3
Female	21310	9245	43.4	100.0	10.8	22.9	26.8	12.4	8.2	4.1	14.8	3.6
Urban	9579	7059	73.7	100.0	9.6	21.7	26.9	14.5	8.9	4.3	14.1	3.6
Rural	30210	10794	35.7	100.0	12.3	26.2	26.3	12.3	8.0	3.5	11.4	3.3

The survey also found that among those who normally consume fruits, 90.5% consumed 4 or less servings per day and 7.6% consumed 5 or more servings per day (figure K.15).

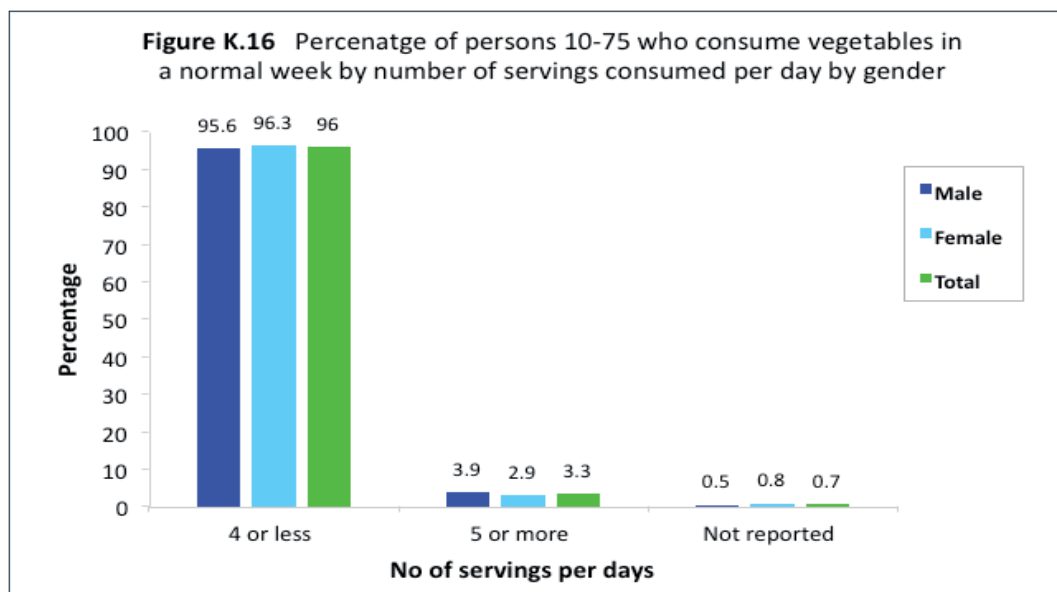


9.8 VEGETABLES

As shown in Table K.8, the survey found that 94.4% of the population aged 10-75 years consumed vegetables, on average of 4.8 days, in a normal week. There was no difference in the mean number of days of vegetable consumption between males and females, while urban residents consumed vegetables on average of 5.1 days compared to 4.8 days by their rural counterparts.

Table K.8 Vegetables consumption												
Percentage of persons who eat vegetables in a normal week by number of days and average number of days in a week, sex and urban-rural, Bhutan 2012												
Sex, urban-rural	Persons 10-75 years interviewed in the survey	Person who normally eat vegetables		Number of days in a week person eats vegetables (%)								Average number of days
		Number	Percent	Total	1	2	3	4	5	6	7	
TOTAL	39789	37548	94.4	100.0	2.0	8.9	16.9	15.3	16.2	13.1	27.7	4.8
Male	18479	17627	95.4	100	1.8	9.3	15.6	15.7	17.5	13.9	26.2	4.8
Female	21310	19921	93.5	100	2.2	8.6	18	14.9	15	12.3	29	4.8
Urban	9579	9336	97.5	100	1.2	6	13.2	15.4	20.7	17.8	25.8	5.1
Rural	30210	28212	93.4	100	2.3	9.9	18.1	15.2	14.7	11.5	28.3	4.8

The survey also found that 96% of the respondents who reported consuming vegetables in a normal week consumed four or less servings per day and 3.3% reported having consumed five or more servings per day as shown in Figure K.16.



9.9 PHYSICAL ACTIVITY

Physical inactivity (or lack of physical activity) is one of the major risk factors for non-communicable diseases and a fourth leading cause of global mortality. The survey collected data from the population aged 10-75 years on days and hours of physical activities performed at transport and sports/fitness/recreation.

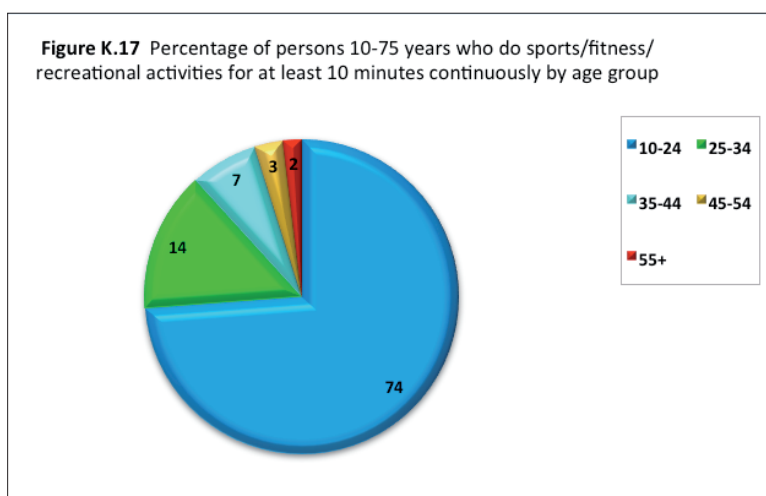
9.9.1 Physical activity (sports/ fitness/ recreational activities)

Respondents were asked if they do sports/fitness/recreational activities that cause increase in breathing or heart rate for at least 10 minutes continuously and the number of days they spend doing it in a typical week. Data was also collected on the number of hours spent doing sports /fitness/recreational activities in a typical day.

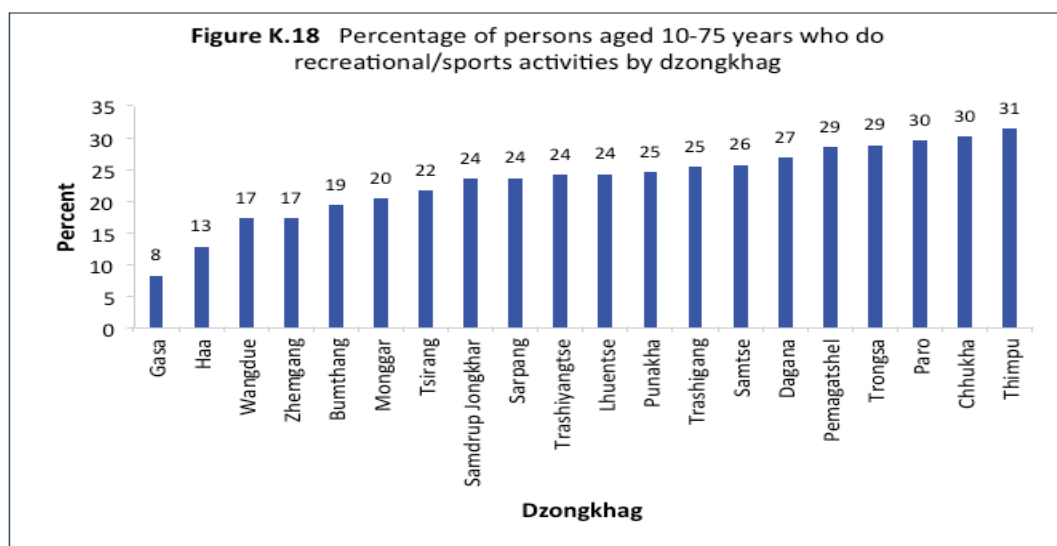
The survey found that 25.5% of the population aged 10-75 years do sports/fitness or recreational activities on average of 3 days per week and 1.6 hours in a day (Table K.9). A higher proportion of males (36.6%) compared to females (16.7%) were found to indulge in sports/fitness/recreational activities. It is important to note that majority (74%) of those who do sports/fitness/recreational activities were in the age group of 10-24 years and 25-34 years (14%) (Figure K.17).

Table K.9 Physical activity – doing sports/ fitness/ recreational activities
Persons 10-75 years who do sports/ fitness/ recreational activities by average number of days in a week by average number of hours doing it and by sex, Bhutan 2012

Gender/Age group	Persons 10-75 years interviewed in the survey	Persons who do sports/recreational activities		Duration	
		Number	Percent	Average number of days per week	Average number of hours per day
Total	39789	10142	25.5	3.0	1.6
Male	18480	6582	36.6	3.1	1.8
Female	21309	3561	16.7	2.8	1.3
Urban	9579	3237	33.8	3.3	1.5
Rural	30210	6906	22.9	2.8	1.6



A higher proportion of urban residents (33.8%) indulge in sports/recreational activities compared to their rural counterparts (22.9%). The proportion who do sports/fitness/recreational activities ranged from 8% in Gasa dzongkhag to 31% in Thimphu dzongkhag (Figure K.18).



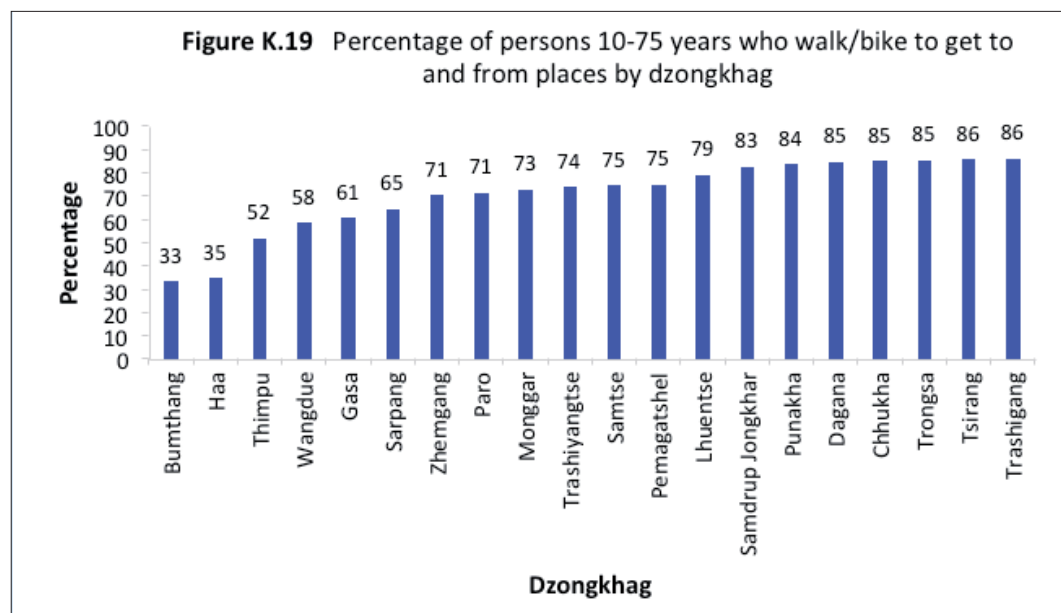
9.9.2 Physical activity at transport (going to and from places)

Respondents were asked if they walk or bicycle to get to and from places continuously for at least 10 minutes in a typical day. The survey found that 71.6% of the population aged 10-75 years walk/bicycle to get to and from places on average of 4.4 days per week and 1.3 hours per day as shown in Table K.10. While there was no significant difference in the average number of days per week and hours spent per day doing this physical activity between males and females, walking/ bicycling to get to and from places was more prevalent among males (75.8%) than females (68%). It is important to note that the proportion who walk to get to and from places was much higher among rural residents (75.4%) compared to their urban counterparts (59.7%).

Table K.10 Physical activity at transport – going to and from places Persons 10-75 years who walk/bicycle for at least 10 minutes to go to and from places by average number of days in a week and average number of hours spent per day doing such activity by urban-rural, sex and age, Bhutan 2012					
Age group	Persons 10-75 years interviewed in the survey	Persons who walk or bicycle*		Duration	
		Number	Percent to Total	Average number of days per week	Average number of hours per day
Total	39789	28503	71.6	4.4	1.3
Male	18479	14008	75.8	4.7	1.4
Female	21310	14495	68.0	4.2	1.2
Urban	9579	5722	59.7	4.3	0.9
Rural	30210	22781	75.4	4.5	1.4

*Use of bicycle for transport purpose in Bhutan is uncommon.

By dzongkhag, the survey revealed that the proportion of population aged 10-75 years who walk/bike continuously for 10 minutes to get to and from places varied from a high of 86% each in Trashigang and Tsirang to a low of 35% each in Bumthang and Haa (Figure K.19).

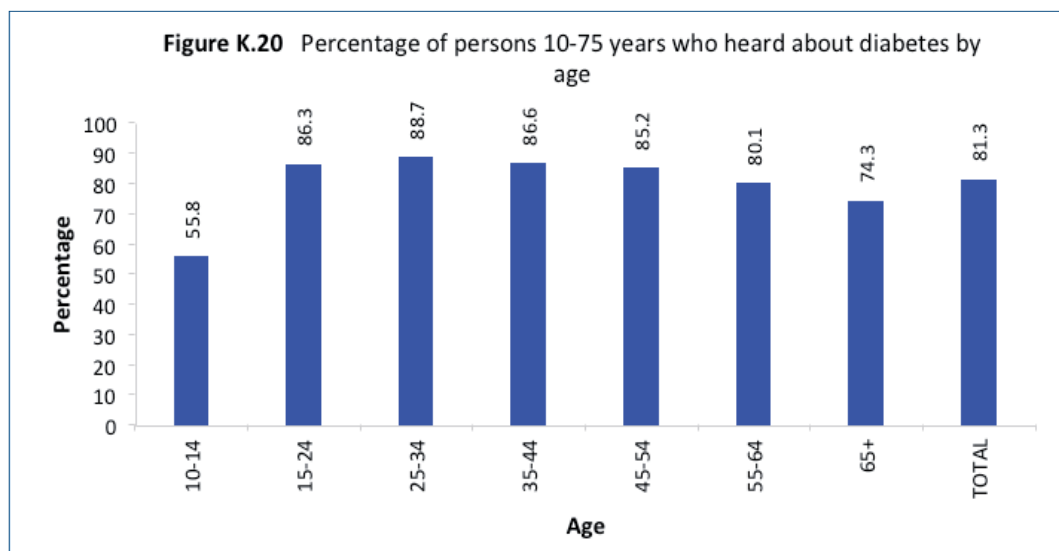


9.10 SELF-REPORTED DIABETES

The burden of life style related non-communicable diseases like diabetes is becoming a growing concern with health facility data from across the country showing a growing incidence of diabetes in the country.

9.10.1 Awareness of diabetes

The survey asked respondents aged 10-75 years whether or not they had heard about diabetes. As shown in Figure K.20, 81.3% of the respondents had heard about diabetes. Apart from respondents in the age category of 10-14 years and 65 plus years, more than 80% of the respondents aged 15-64 years were aware of diabetes.



9.10.2 Self-reported cases of diabetes

Respondents were asked whether they have been ever told by health professionals if they had diabetes. Overall, 1.4% of the respondents aged 15-75 years reported having been diagnosed with diabetes. As seen in Table K.11, no significant difference was noted in the proportion of males and females who reported having been diagnosed with diabetes. The average number of years since being diagnosed with diabetes increased steadily from 1 year among 15-24 year olds to 7.5 years among 65 or more years of age.

Table K.11 Reported cases of Diabetes Percentage of persons 15-75 years who have been told by health professionals that they have diabetes by sex and age groups, Bhutan 2012				
Sex and Age Group	Persons 15-75 years interviewed in the survey	Diagnosed with Diabetes		
		Number	Percent	Average number of years with diabetes
TOTAL	34331	493	1.40	4.5
Male	15830	243	1.50	5.4
Female	18501	250	1.30	3.6
15-24	9349	17	0.20	1.0
25-34	8060	33	0.40	2.3
35-44	6172	75	1.20	2.6
45-54	5100	104	2.00	3.6
55-64	3543	162	4.60	4.8
65+	2106	101	4.80	7.5

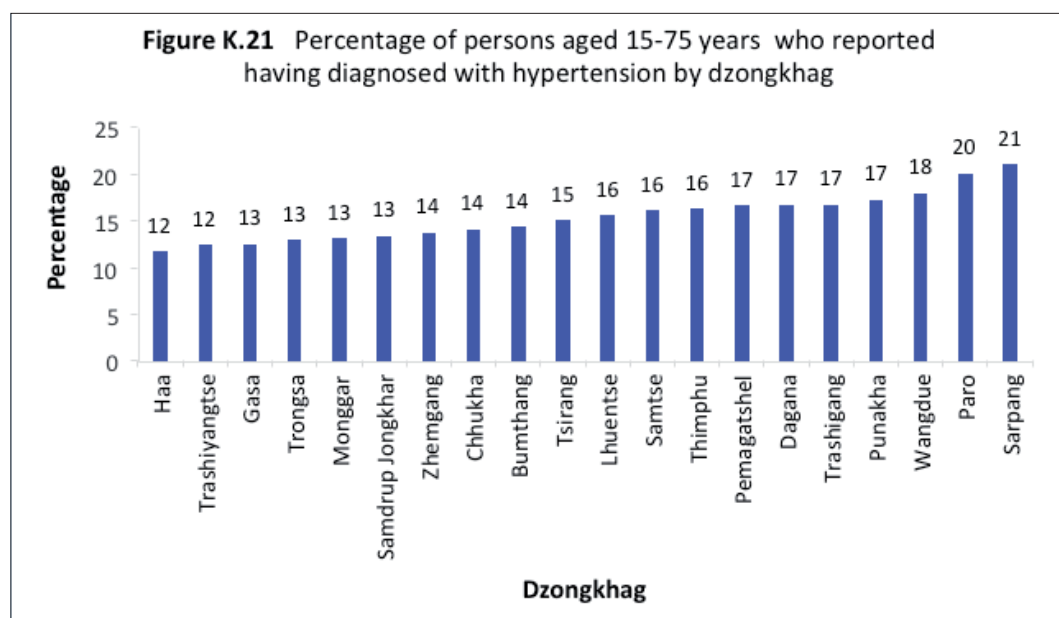
9.11 SELF-REPORTED HYPERTENSION

Hypertension or blood pressure is a chronic medical condition in which blood vessels have persistently raised blood pressure. One in three adults worldwide suffer from it. It is a risk factor for stroke, myocardial infarction and heart failure. Dietary and lifestyle modifications can help minimize the chance of developing blood pressure, improve blood pressure control and decrease the risks of associated health implications.

As shown in Table K.12, 16% of the population aged 15-75 years reported that they were diagnosed with hypertension by health professionals. Among those who reported having been diagnosed with hypertension, the average duration of years since diagnosis was 3.7 years. A higher proportion of females (19%) reported having been diagnosed with hypertension compared to males (13%). The proportion of persons diagnosed with hypertension and mean duration of years since diagnosis increased with age.

Table K.12 Reported cases of Hypertension Percentage of persons 15-75 years who have been told by health professionals that they have hypertension by sex and age, Bhutan 2012				
Sex and Age Group	Persons aged 15-75 years interviewed in the survey	Diagnosed with Hypertension		
		Number	Percent	Average number of years with hypertension
TOTAL	34331	5493	16	3.7
Male	15830	2069	13	3.8
Female	18501	3424	19	3.7
15-24	9349	527	6	2.0
25-34	8060	1063	13	2.5
35-44	6172	1193	19	3.3
45-54	5100	1190	23	4.2
55-64	3543	904	26	4.7
65+	2106	615	29	5.6

By dzongkhag, the proportion of persons aged 15-75 years who reported having been diagnosed with hypertension ranged from 12% each in Haa and Trashiyangtse to 21% in Sarpang (Figure K.21).



9.12 ORAL HEALTH

Oral health is an important aspect of overall wellbeing and quality of life of an individual. Dental cavities, gum disease, and oral cancers are among the most common oral diseases. The national health survey collected data on the status of oral health and related risk behaviors among population aged 10-75 years old.

9.12.1 Frequency of brushing teeth

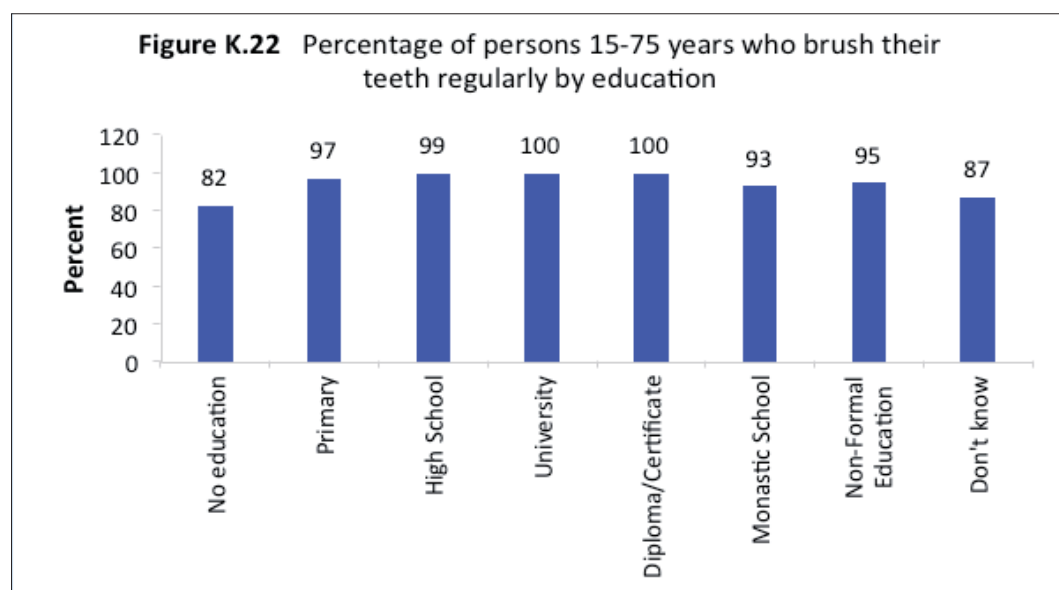
Table K.13 shows percentage of persons who brush their teeth regularly by frequency of brushing, sex and age group. In terms of assessing frequency of brushing, “regular” was defined as the respondent consistently brushing his/her teeth following a more or less established frequency. Overall, 91.3% of the population aged 10-75 years brushed their teeth regularly. Of those who brush their teeth regularly, 84.4% brushed at least once a day while 2% brushed only few times a month. The proportion who brushed their teeth regularly atleast once a day was highest among 20-29 years (98.5%) and lowest among 70 plus years (45%).

Table K.13 Frequency of brushing teeth
Percentage of persons 10-75 years who brush their teeth regularly by frequency of brushing by sex, by age group, Bhutan 2012

Sex, Age Group	Persons 10-75 years interviewed in the survey	Persons who brush regularly		Frequency of Brushing			
		Number	Percent	Total	At least once a day	Few times a week	Few times a month
Total	39789	36310	91.3	100.0	84.4	13.5	2.0
Male	18479	16873	91.3	100.0	84.0	14.3	1.8
Female	21310	19437	91.2	100.0	84.8	12.9	2.3
10 – 19	10615	10280	96.8	100.0	89.9	9.8	0.3
20 – 29	8396	8270	98.5	100.0	91.6	7.7	0.8
30 – 39	7133	6849	96.0	100.0	85.1	13.1	1.8
40 – 49	5519	5107	92.5	100.0	78.8	18.1	3.1
50 – 59	4514	3639	80.6	100.0	72.0	22.7	5.2
60 – 69	2732	1768	64.7	100.0	63.8	28.8	7.3
70 and over	879	396	45.1	100.0	61.3	29.0	9.6
Not reported	*	*	*	*	*	*	*

*based on fewer than 25 cases

Among the population aged 15-75 years, the proportion who brushed their teeth regularly varied from a high of 100% among those with certificate/diploma/university level education to a low of 82% among those with no education.



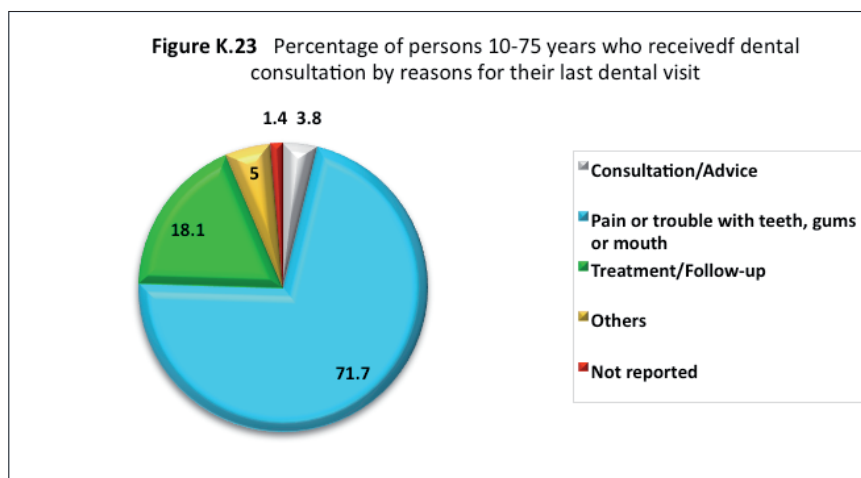
9.12.2 Oral check-up

The survey collected data on oral health care seeking behavior by asking respondents about the time since their last oral check-up. Table K.14 shows the percentage of population aged 10-75 years by time since last oral check-up/treatment by sex and dzongkhag. As shown in the table, 66.2% of the population never received oral check-up/treatment, 8% received their last check less than six month prior to the survey and 14.2% received their last check 2 or more years prior to the survey. By dzongkhag, the proportion who never received oral check-up/treatment varied from a high of 80.7% in Zhemgang to a low of 47.5% in Bumthang.

Table K.14 Oral checkup Percentage of persons 10-75 years by time since last oral checkup/treatment by sex and dzongkhag, Bhutan 2012								
Sex and Dzongkhags	Persons 10-75 years interviewed in the survey	Time since last oral check-up						
		Total	Less than 6 months	6-12 months	1-2 years	2 or more years	Never had dental care	Not Reported
TOTAL	39789	100.0	8.0	4.6	6.7	14.2	66.2	0.3
Male	18470	100.0	7.3	4.4	5.7	13.9	68.4	0.3
Female	21309	100.0	8.6	4.9	7.5	14.5	64.2	0.2
Bumthang	921	100.0	10.8	5.5	10.4	25.6	47.5	0.2
Chhukha	3258	100.0	6.2	4.4	6.5	11.6	70.8	0.5
Dagana	1710	100.0	9.0	5.8	4.7	15.6	64.8	0.0
Gasa	140	100.0	16.8	4.7	9.6	16.4	52.4	0.0
Haa	425	100.0	7.6	5.7	7.2	13.5	65.6	0.4
Lhuentse	975	100.0	7.8	4.2	6.3	14.4	67.2	0.2
Monggar	2781	100.0	11.6	4.6	7.5	16.1	59.7	0.5
Paro	2433	100.0	7.7	5.4	9.6	16.3	60.5	0.5
Pemagatshel	1497	100.0	9.8	5.2	7.3	22.2	55.0	0.5
Punakha	1401	100.0	7.2	7.1	7.9	14.4	63.2	0.2
Samdrup Jongkhar	2124	100.0	5.5	2.9	6.5	16.4	68.7	0.0
Samtse	4321	100.0	5.0	4.0	5.0	10.0	76.0	0.1
Sarpang	2082	100.0	7.2	2.9	5.9	11.3	72.7	0.1
Thimphu	6056	100.0	12.8	6.5	5.7	13.2	61.9	0.0
Trashigang	3131	100.0	7.9	3.8	8.8	17.7	61.5	0.2
Trashiyangtse	1157	100.0	5.0	4.8	9.7	19.9	60.6	0.1
Trongsa	804	100.0	9.0	3.0	5.3	15.4	66.9	0.4
Tsirang	1309	100.0	6.2	4.0	6.3	17.6	64.9	1.0
Wangdue	1824	100.0	4.1	3.5	5.3	6.9	79.4	0.8
Zhemgang	1438	100.0	3.3	3.1	5.0	7.5	80.7	0.5

9.12.3 Reasons for dental visit

The survey also collected data on reasons for the last dental visit among those who received dental care. As shown in Figure K.23, the majority (72%) cited pain or trouble with teeth/gum/mouth followed by treatment/follow-up (18%) as reasons for their visit. Only 4% visited a dentist for consultation/advice, which may be indicative of poor oral health care seeking behavior among the Bhutanese population.



9.13 TRADITIONAL HEALER

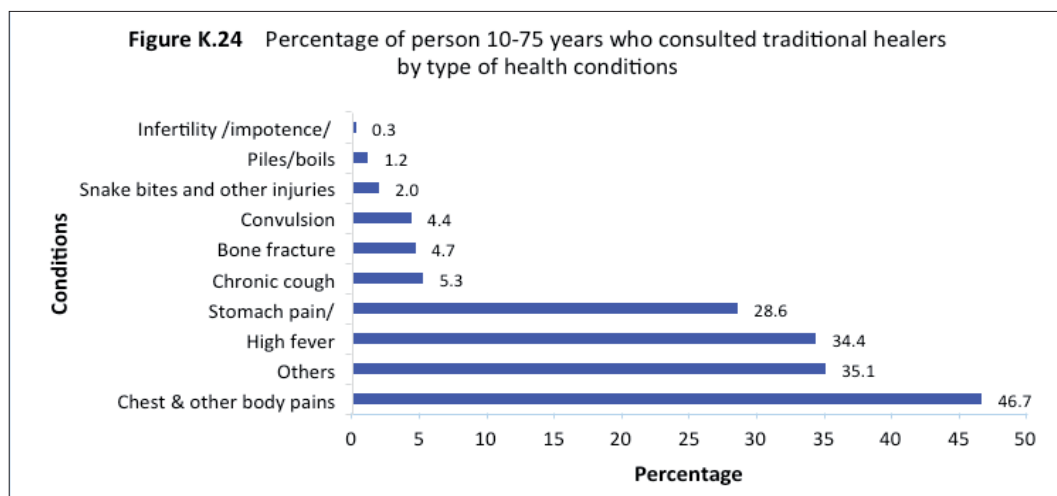
Despite free modern medical services and its reach to every corner of the country, traditional healers (local spiritual/faith healers) are still relied upon by many Bhutanese for health related problems, particularly in rural areas. Traditional healers do not fall under the purview of the Ministry of Health. The national health survey collected data on traditional healers and on the types of health problems for which the services of traditional healers were sought.

Table K.15 shows that 46.3% of the population aged 10-75 years consulted a traditional healer for their health concerns in the past 12 months preceding the survey.

Table K.15 Traditional Healer Percentage of population 10-75 years who have consulted traditional healers other than Drungtshos or sMenpa by sex, age and urban-rural, Bhutan 2012			
Sex, Age and Urban-Rural	Number of persons aged 10-75 years interviewed in the survey	Consulted traditional healer other than Drungtshos/ sMenpa	
		Number	Percent
TOTAL	39789	18441	46.3
Male	18480	7873	42.6
Female	21309	10568	49.6
10-19	10616	4177	39.3
20-29	8395	3800	45.3
30-39	7132	3427	48.1
40-49	5519	2707	49.0
50-59	4515	2362	52.3
60-69	2732	1482	54.3
70 and over	879	486	55.3
Not reported	*	*	*
Urban	9579	3214	33.6
Rural	30210	15227	50.4

*fewer than 25 cases

The percentage of respondents who consulted traditional healers increased steadily with age and ranged from 55.3% among the 70 plus year olds to 39.3% among 10-19 years. A higher proportion of rural residents (50.4%) consulted a traditional healer compared to their urban counterparts (33.6%). As shown in Figure K.24, chest and body pains (46.7%) followed by high fever were the most common health problems for which the services of traditional healers were sought. It is important to note that 35.1% of respondents reported “others” category which included spiritual healing such as warding off evil spirits.



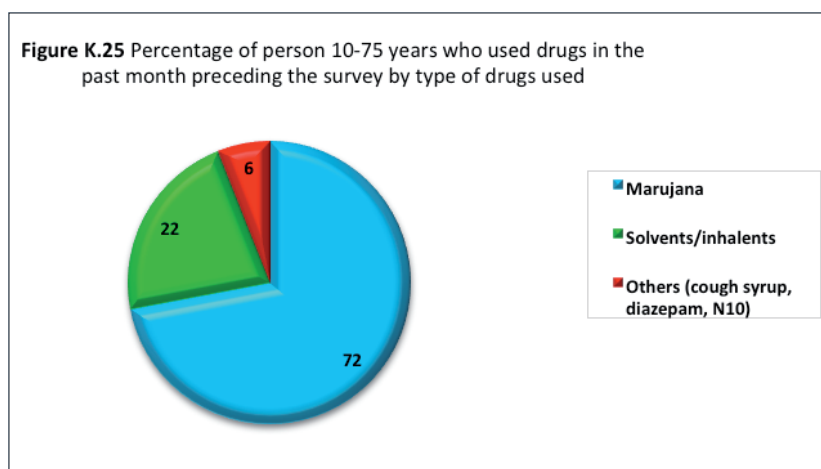
9.14 DRUG USE / SUBSTANCE ABUSE

For the purpose of the survey, drug use or substance abuse refers to use of psychoactive substances including illicit drugs to get high. The survey revealed that 1.8% of the population aged 10-75 years have used drugs or substances to get high.

As shown in Table K.16, males were almost four times (3.7%) more likely than females (0.2%) to have ever used drugs or abuse substances to get high. Among those who reported having ever used drugs, the mean age at starting drug/substance use was 18.8 years. The proportion who ever used drugs was highest in the age category of 15-19 years (4.2%) followed by 20-24 years (3.1%). Urban residents were twice more likely to have ever used drugs than their rural counterparts.

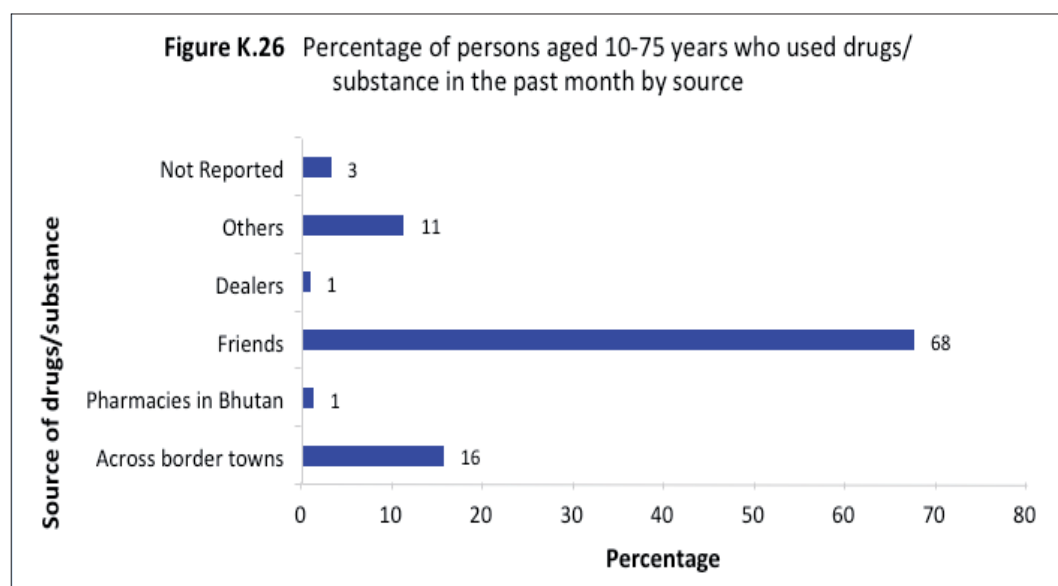
Table K.16 Ever used drugs/ substance to get high Percent distribution of persons who have ever-used drugs/ substance and mean age at starting drug use, Bhutan 2012				
Sex, Age Group, and Urban-rural	Persons 10-75 interviewed in the survey	Persons who have ever-used drugs		Mean Age at start of Drug Use
		Number	Percent to total	
Total	39789	726	1.8	18.8
Male	18480	679	3.7	18.2
Female	21309	47	0.2	26.4
10-14	5458	17	0.3	19.1
15 - 19	9349	397	4.2	17.3
20 - 24	8061	249	3.1	19.6
25 - 29	6173	41	0.7	22.8
30 - 34	5100	11	0.2	25.2
35 - 39	3543	7	0.2	32.5
40 and over	2106	4	0.2	25.0
Urban	9579	358	3.7	17.8
Rural	30210	368	1.2	19.7

Of those who ever used drugs, 41% reported having used drugs/substances to get high in the past month preceding the survey. Of those who used drugs in the past month, 72% reported using marijuana, inhalents/solvents (22%) and "others" (6%) which included drugs such as N10, cough syrup, diazepam (Figure K.25).



9.15 SOURCE OF DRUGS/SUBSTANCE

Those who used drugs/substances in the past month preceding the survey were asked about the source of their drugs/substances. As shown in Figure K.26, a majority of those who used drugs (68%) reported friends as their main source while 16% reported that they got their drugs/substance from across the border.





Chapter 11: Violence Against Women

Violence against women is a universal phenomenon that is prevalent in almost all countries and is the major contributor to the ill health of women. The 2012 National Health Survey attempted to assess the current prevalence of violence against women by their intimate partners in the past year as well as non-partner violence (i.e. violence by perpetrators other than their intimate partners) against women. The survey also assessed women's attitude towards violence by intimate partners.

11.1 DOMESTIC VIOLENCE

For the purpose of the survey, domestic violence refers to violence against women by their intimate partners. The national health survey estimated the current prevalence of physical, sexual and psychological violence against currently married women by their husbands in the past year preceding the survey. The survey tool was adapted from WHO's Multi-Country Study on Women's Health and Domestic Violence Against Women. For the purpose of the survey, the following definitions were used:

Physical violence	A woman is considered to have experienced physical violence when she was: <ul style="list-style-type: none">• slapped or had something thrown at her that could hurt her• hit with a fist, kicked or beaten up• choked or burned on purpose• threatened with the use or actual use of a gun, knife or other weapon
Sexual Violence	A woman is considered to have experienced sexual violence when she: <ul style="list-style-type: none">• was physically forced to have sexual intercourse when she did not want to• was forced to do something sexual which she found degrading or humiliating
Psychological violence	A woman is considered to have experienced psychological violence when she: <ul style="list-style-type: none">• was insulted or humiliated in front of other people• when the perpetrator had done things to scare her or intimidated her on purpose by yelling at her and smashing things
Non-partner violence	Violence against women by perpetrators other than intimate partners
Intimate partner	Husband and/or partner in an intimate relationship such as living together

11.2 PHYSICAL VIOLENCE AGAINST CURRENTLY MARRIED WOMEN AGED 15-75 years BY INTIMATE PARTNER

As shown in table DV.1, 6.1% of currently married women aged 15-75 years experienced intimate partner physical violence in the past year preceding the survey. Of those who experienced physical violence, 28.9% reported experiencing it once, 45.1% a few times and 26% many times. The proportion who experienced physical violence was highest (8.9%) in the 55-59 year age group and lowest (2.3%) among the 70-75 year olds.

Women residing in rural Bhutan (6.5%) are more likely to experience intimate partner physical violence as compared to their urban counterparts (4.7%). By dzongkhag, the prevalence of intimate partner physical violence ranged from 1.2% in Paro to 13.7% in Trashigang.

The survey found that prevalence of intimate partner physical violence was higher among women whose partner drank on a daily basis. The proportion of women who experienced physical violence 'many times' in the past year varied from a high of 43% among those whose husbands drank daily to a low of 20% among women whose husbands never drink (Table DV.1)

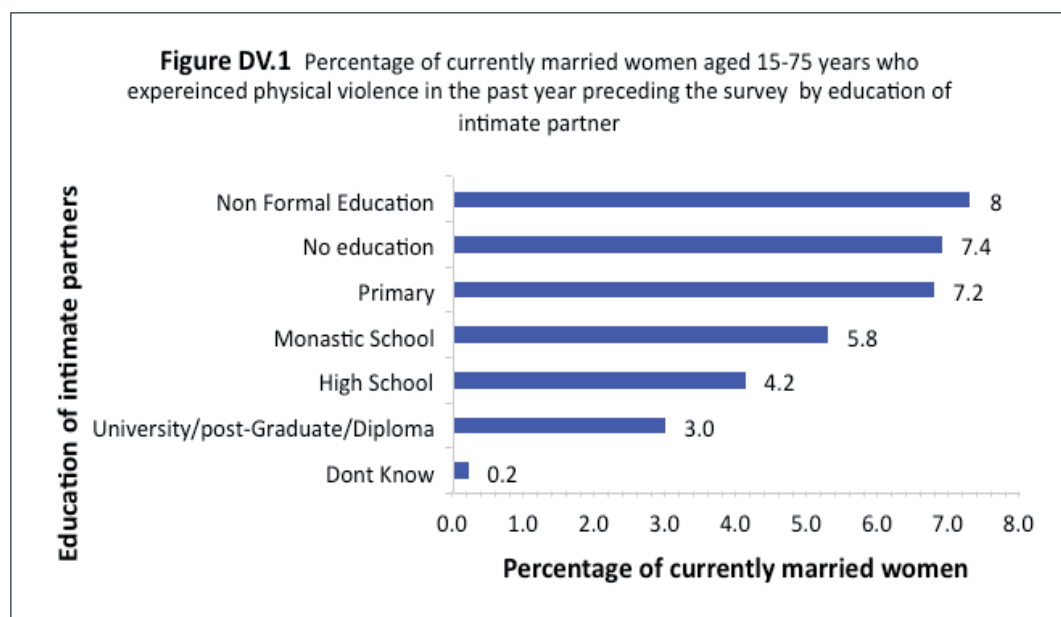
Table DV.1 Physical Violence

Percentage of currently married women aged 15-75 years who experienced physical violence from their intimate partner during the past 12 months preceding the survey by number of times they experienced it by age of women, rural-urban, husband's drinking habits and by dzongkhag, Bhutan 2012

Age of woman/ urban-rural, Husband Alcohol drinking habit, dzongkhag	Currently married women 15- 75 years	Experienced physical violence		Frequency of experience (%)			
		Number	Percent	Total	Once	A few times	Many times
Total	12213	741	6.1	100.0	28.9	45.1	26.0
15-19	283	11	4.0	100.0	32.0	42.8	25.2
20-24	1267	85	6.7	100.0	38.1	45.4	16.5
25-29	1923	112	5.8	100.0	38.5	44.0	17.6
30-34	1846	103	5.6	100.0	32.0	48.4	19.6
35-39	1541	98	6.3	100.0	29.3	47.0	23.7
40-44	1349	68	5.1	100.0	19.8	43.1	37.1
45-49	1088	74	6.8	100.0	31.0	37.2	31.8
50-54	1038	60	5.8	100.0	20.9	49.5	29.6
55-59	818	73	8.9	100.0	14.9	44.0	41.1
60-64	502	35	7.1	100.0	16.2	51.6	32.2
65-69	351	18	5.3	100.0	42.0	36.3	21.7
70-75	208	5	2.3	100.0	6.7	62.5	30.8
Urban	2947	138	4.7	100.0	41.1	35.7	23.2
Rural	9266	603	6.5	100.0	26.0	47.3	26.7
Everyday	1691	255	15.1	100.0	21.2	36.8	42.1
Once or twice a week	1554	150	9.6	100.0	34.8	53.2	12.0
1-3 times a month	500	22	4.4	100.0	33.8	37.0	29.3
Occasionally	2382	100	4.2	100.0	34.5	48.3	17.2
Never drink	6044	212	3.5	100.0	30.0	49.2	20.8
Not Reported	43	2	4.7	100.0	100.0	0.0	0.0
Bumthang	268	19	6.9	100.0	46.0	49.7	4.3
Chhukha	976	35	3.6	100.0	40.0	19.4	40.6
Dagana	516	20	3.9	100.0	43.0	27.7	29.4
Gasa	41	3	6.6	100.0	25.5	72.5	2.0
Haa	134	5	3.8	100.0	43.7	14.2	42.1
Lhuentse	294	8	2.9	100.0	23.5	36.7	39.8
Monggar	890	59	6.6	100.0	18.3	33.4	48.3
Paro	713	9	1.2	100.0	15.4	74.6	10.0
Pemagatshel	441	25	5.7	100.0	21.8	58.0	20.2
Punakha	393	36	9.2	100.0	32.3	19.9	47.8
Samdrup Jongkhar	654	44	6.7	100.0	31.4	48.3	20.3
Samtse	1360	54	4.0	100.0	47.3	39.3	13.4
Sarpang	690	59	8.5	100.0	30.5	50.2	19.3
Thimphu	1763	97	5.5	100.0	27.7	51.6	20.8
Trashigang	1011	139	13.7	100.0	19.1	51.0	29.9
Trashiyangtse	344	13	3.9	100.0	17.2	63.6	19.3
Trongsa	246	11	4.4	100.0	47.9	43.0	9.2
Tsirang	443	38	8.5	100.0	19.6	63.8	16.6
Wangdue	573	43	7.6	100.0	30.3	47.1	22.6
Zhemgang	462	26	5.6	100.0	39.5	35.1	25.4

*calculation based on just 25-49 cases

As shown in figure DV.1, of those who experienced physical violence, the prevalence was less among women whose intimate partners had high school or higher level of education.



11.3 SEXUAL VIOLENCE AGAINST CURRENTLY MARRIED WOMEN AGED 15-75 YEARS BY INTIMATE PARTNER

As shown in Table DV.2, 2.1% of currently married women experienced sexual violence at the hands of their husbands in the past year preceding the survey. Of those who experienced sexual violence, slightly over 80% experienced it more than once while 27% reported experiencing it 'many times'. The proportion of women who experienced sexual violence was highest among females between 15-19 years. Sexual violence was more prevalent among women residing in rural Bhutan (2.2%) as compared to their urban counterparts (1.7%). By dzongkhag, the prevalence of intimate partner sexual violence varied from a high of 5% each in Samdrup Jongkhar and Tsirang to a low of 0.6% each in Paro and Lhuentse.

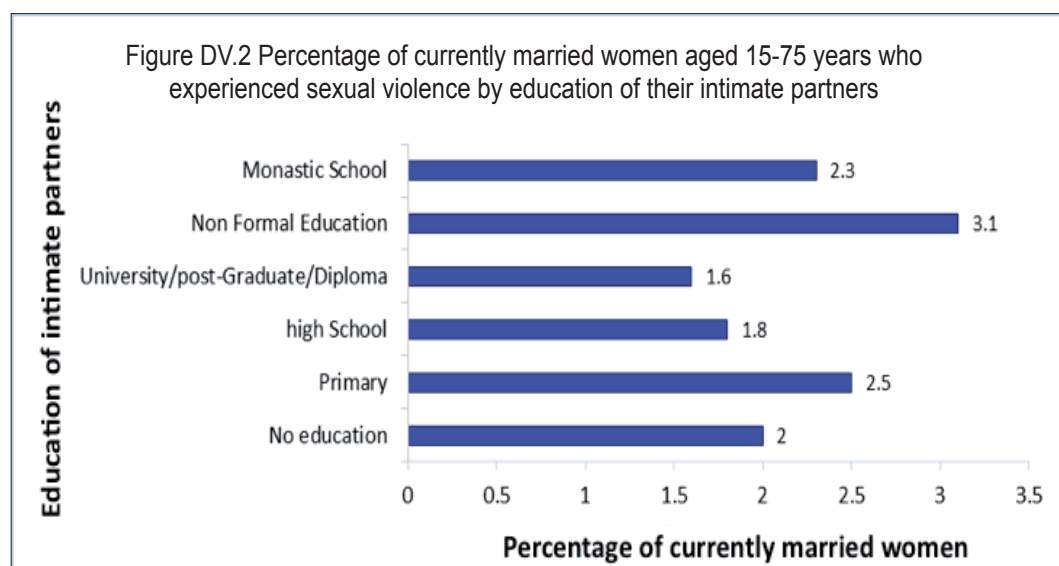
Table DV.2 Sexual violence

Percentage of currently married women aged 15-75 years who experienced sexual violence from their intimate partner during the past 12 months preceding the survey by number of times they experienced it by age of woman, rural-urban, and by husband's drinking habits, Bhutan 2012

Age of woman, urban-rural, Husband's Alcohol drinking habit, and dzongkhag	Currently married women 15- 75 years	Experienced sexual violence		Frequency of experience (%)			
		Number	Percent	Total	Once	A few times	Many times
Total	12213	255	2.1	100.0	19.4	54.0	26.6
15-19	283	9	3.1	100.0	22.6	76.1	1.3
20-24	1267	28	2.2	100.0	4.0	50.9	45.2
25-29	1923	34	1.8	100.0	21.9	51.6	26.5
30-34	1846	34	1.8	100.0	30.8	48.2	21.0
35-39	1541	38	2.5	100.0	20.7	50.8	28.5
40-44	1349	13	1.0	100.0	18.7	50.5	30.8
45-49	1088	31	2.9	100.0	19.4	45.8	34.8
50-54	1038	27	2.6	100.0	11.0	69.9	19.1
55-59	818	23	2.8	100.0	8.6	70.0	21.4
60-64	502	11	2.1	100.0	42.8	32.5	24.7
65-69	351	7	2.1	100.0	35.2	57.1	7.7
70-75	208	0	0.0	100.0	0.0	0.0	0.0
Urban	2947	50	1.7	100.0	10.1	65.6	24.3
Rural	9266	205	2.2	100.0	21.6	51.2	27.2
Everyday	1691	88	5.2	100.0	16.7	43.5	39.8
Once or twice a week	1554	35	2.3	100.0	24.4	52.9	22.7
1-3 times a month	500	4	0.8	100.0	58.7	24.7	16.5
Occasionally	2382	46	1.9	100.0	26.4	70.5	3.1
Never drink	6044	81	1.3	100.0	14.3	57.7	28.0
Not Reported	43	1	1.5	100.0	0.0	100.0	0.0
Bumthang	268	3	1.2	100.0	70.1	20.2	9.7
Chhukha	976	17	1.8	100.0	0.0	32.1	67.9
Dagana	516	10	2.0	100.0	10.0	63.4	26.6
Gasa	41	1	1.8	100.0	0.0	50.0	50.0
Haa	134	2	1.8	100.0	41.0	40.6	18.4
Lhuentse	294	2	0.6	100.0	25.9	53.3	20.8
Monggar	890	27	3.1	100.0	5.1	29.8	65.2
Paro	713	5	0.6	100.0	15.8	84.2	0.0
Pemagatshel	441	3	0.8	100.0	0.0	17.7	82.3
Punakha	393	12	3.0	100.0	25.6	60.5	14.0
Samdrup Jongkhar	654	33	5.0	100.0	17.0	71.8	11.2
Samtse	1360	9	0.7	100.0	64.5	35.5	0.0
Sarpang	690	18	2.6	100.0	27.3	47.1	25.6
Thimphu	1763	44	2.5	100.0	11.2	65.6	23.2
Trashigang	1011	24	2.3	100.0	22.9	68.6	8.5
Trashiyangtse	344	2	0.6	100.0	0.0	37.5	62.5
Trongsa	246	3	1.3	100.0	57.1	42.9	0.0
Tsirang	443	22	5.0	100.0	17.6	70.2	12.3
Wangdue	573	9	1.5	100.0	51.7	33.2	15.1
Zhemgang	462	9	2.0	100.0	28.4	27.0	44.6

*calculation based just 20-49 cases

The survey revealed that intimate partners who drank every day were more likely to commit sexual violence (Table DV.2). The proportion of women who experienced sexual violence was highest (5.2%) among those with partners who drank on a daily basis. The survey also found that husbands with high school or higher level of education were less likely to commit sexual violence compared to those with primary or lower level of education as shown in Figure DV.2.



11.4 PSYCHOLOGICAL VIOLENCE AGAINST CURRENTLY MARRIED WOMEN AGED 15-75 YEARS BY INTIMATE PARTNER

The survey revealed that 3.2% of currently married women reported experiencing psychological violence from their husbands/partners in the past year preceding the survey. Of those who experienced psychological violence, 81% experienced it more than once and 34% reported experiencing the violence 'many times'. The proportion of women who experienced psychological violence was highest in the 55-59 year range (5.2%) and 60-64 year range (5%) and least among females between 70-75 years (0.3%). Psychological violence was more prevalent among women residing in rural Bhutan (3.4%) as compared to their urban counterparts (2.7%). By dzongkhag, the prevalence of intimate partner psychological violence ranged from 0.4% in Paro to 12.2% in Tsirang.

Table DV.3 Psychological Violence

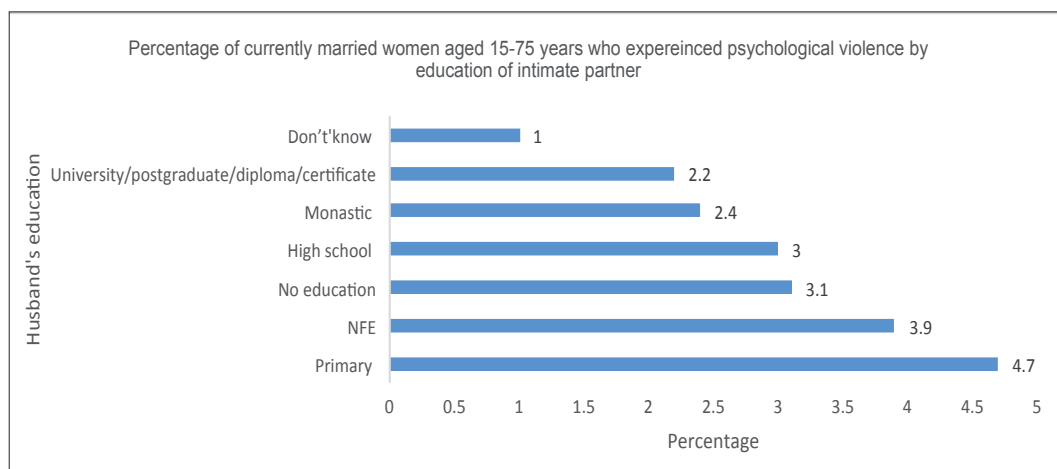
Percentage of currently married women aged 15-75 years who experienced psychological violence from their intimate partner during the past 12 months preceding the survey by age of woman, rural-urban, and by husband's drinking habits and by dzongkhags, Bhutan 2012

Age of woman/urban-rural, Husband's Alcohol drinking habit, and dzongkhag	Currently married women 15-75 years	Experienced psychological violence		Frequency of experience (%)			
		Number	Percent	Total	Once	A few times	Many times
Total	12213	396	3.2	100.0	18.9	47.1	34.0
15-19	283	11	3.9	100.0	27.8	67.6	4.6
20-24	1267	31	2.4	100.0	28.4	41.6	30.0
25-29	1923	63	3.3	100.0	27.2	53.1	19.7
30-34	1846	62	3.3	100.0	11.4	48.7	40.0
35-39	1541	57	3.7	100.0	21.9	45.1	33.0
40-44	1349	22	1.7	100.0	24.2	31.7	44.1
45-49	1088	40	3.6	100.0	18.6	44.2	37.2
50-54	1038	34	3.3	100.0	17.4	51.3	31.3
55-59	818	41	5.0	100.0	0.0	47.2	52.8
60-64	502	26	5.2	100.0	20.0	43.9	36.1
65-69	351	8	2.4	100.0	30.6	45.0	24.3
70-75	208	1	0.3	100.0	0.0	0.0	100.0
Urban	2947	81	2.7	100.0	11.2	57.7	31.1
Rural	9266	315	3.4	100.0	20.9	44.3	34.8
Everyday	1691	157	9.3	100.0	18.0	38.3	43.7
Once or twice a week	1554	55	3.5	100.0	9.4	58.2	32.4
1-3 times a month	500	14	2.8	100.0	44.5	40.2	15.3
Occasionally	2382	71	3.0	100.0	18.8	60.3	20.9
Never drink	6044	98	1.6	100.0	22.3	46.0	31.7
Not Reported	43	1	1.5	100.0	0.0	100.0	0.0
Bumthang	268	9	3.5	100.0	30.5	66.3	3.3
Chhukha	976	18	1.9	100.0	14.7	14.7	70.6
Dagana	516	22	4.3	100.0	10.8	32.1	57.2
Gasa	41	1	1.9	100.0	0.0	100.0	0.0
Haa	134	2	1.2	100.0	29.5	10.4	60.1
Lhuentse	294	5	1.7	100.0	29.8	55.3	14.9
Monggar	890	39	4.4	100.0	12.0	39.8	48.2
Paro	713	3	0.4	100.0	35.9	64.1	0.0
Pemagatshel	441	10	2.2	100.0	8.6	29.2	62.2
Punakha	393	34	8.6	100.0	4.2	37.4	58.4
Samdrup Jongkhar	654	15	2.3	100.0	43.3	43.5	13.3
Samtse	1360	20	1.5	100.0	41.9	44.6	13.5

Age of woman/urban-rural, Husband's Alcohol drinking habit, and dzongkhag	Currently married women 15-75 years	Experienced psychological violence		Frequency of experience (%)			
		Number	Percent	Total	Once	A few times	Many times
Sarpang	690	26	3.8	100.0	14.4	54.2	31.3
Thimphu	1763	57	3.2	100.0	5.9	71.6	22.5
Trashigang	1011	29	2.9	100.0	35.3	30.8	34.0
Trashiyangtse	344	4	1.0	100.0	0.0	61.9	38.1
Trongsa	246	5	2.0	100.0	31.3	53.9	14.8
Tsirang	443	54	12.2	100.0	17.0	61.1	21.9
Wangdue	573	25	4.4	100.0	36.1	36.0	28.0
Zhemgang	462	20	4.3	100.0	27.2	41.2	31.6

*calculation based on just 20-49 cases

The survey also found that husbands who drank every day were more likely to commit psychological violence. The proportion of women who experienced psychological violence was highest (9.3%) among those whose husbands drank every day and lowest among those (1.6%) whose husbands did not drink alcohol. By education level, husbands with university/diploma/certificate level education and those with monastic education were less likely to commit psychological violence against their female partners.



11.5 CONTROLLING BEHAVIORS

The survey collected information on a range of controlling behaviors by a woman's husband. Currently married women aged 15-75 years were asked if it is generally true that their husbands:

- Tries to keep her from seeing friends
- Tries to restrict her contact with her family
- Insists on knowing where she is all the time
- Ignores her and treats her indifferently
- Gets angry if she speaks with another man
- Is often suspicious that she is unfaithful
- Expects her to ask his permission before seeking health care

As shown in table DV.4, from among the various controlling behaviors measured, “expects her to ask permission before seeking health care” and “insists on knowing where she is all the time” were the most prevalent controlling behaviors with 55.4% and 22.8% of women having experienced these two types of controlling behaviors by their husbands. It is important to note that the vast majority of the respondents did not experience the other controlling behaviors listed – only less than 10% of women reported having experienced them. Moreover, 32.7% of the women did not experience any of the controlling behaviors measured in the survey. Experience with all the types of controlling behaviors measured in the survey were more prevalent among rural women than among urban women; and by dzongkhag, this proportion ranged from 8.3% in Dagana to 69.3% in Haa.

Table DV.4 Controlling behaviors by husbands										
Percentage of currently married women aged 15-75 years who report experiencing controlling behaviors by their husband										
Age group, urban-rural and dzongkhag	Currently married women 15-75 years	Percentage of women reporting that her husband:							Women who experienced none of the controlling behaviors mentioned	
		Keeps her from seeing friends	Restricts her contact with family	Insists on knowing where she is all the time	Ignores and treats her indifferently	Gets angry if she speaks with another man	Suspects her of unfaithfulness	Expects her to ask permission before seeking health care		
		Number	Percent							
Total	12213	7.6	4.7	22.8	7.1	13.0	9.3	55.4	3,993	32.7
Urban	2,947	4.8	3.4	20.5	4.0	8.6	6.7	54.5	1,055	35.8
Rural	9,266	8.5	5.1	23.5	8.1	14.4	10.1	55.7	2,937	31.7
Bumthang	268	23.1	21.7	19.1	3.1	8.2	7.6	42.8	112	41.9
Chhukha	976	3.4	2.3	22.9	2.0	10.7	5.7	68.4	221	22.7
Dagana	516	6.5	2.5	56.6	2.3	11.9	5.1	75.8	43	8.3
Gasa	41**	5.8**	1.1**	6.9**	0.4**	11.2**	2.2**	73.6**	8**	19.3**
Haa	134	6.9	3.4	10.3	5.3	7.3	6.0	21.5	93	69.3
Lhuentse	294	1.8	0.9	11.1	2.9	9.9	6.3	39.6	150	51.2
Monggar	890	8.9	3.2	18.7	8.5	11.1	10.1	22.4	525	59.0
Paro	713	2.8	1.5	27.6	9.7	10.5	6.0	49.2	297	41.7
Pemagatshel	441	5.8	2.8	12.9	4.8	9.2	7.2	67.3	116	26.2
Punakha	393	5.1	3.7	13.9	8.2	12.8	12.1	49.1	150	38.2
Samdrup Jongkhar	654	10.4	3.5	18.8	2.4	8.8	2.4	81.0	89	13.6
Samtse	1360	5.1	5.4	17.2	5.6	15.5	12.4	67.3	285	21.0
Sarpang	690	4.9	3.1	34.4	4.4	8.2	10.5	69.6	129	18.7
Thimphu	1763	4.2	1.8	22.1	3.4	14.4	7.8	51.7	668	37.9
Trashigang	1011	18.3	15.7	21.4	20.7	24.3	22.2	44.4	484	47.9
Trashiyangtse	344	5.5	2.8	9.5	5.4	9.7	5.5	40.0	183	53.3
Trongsa	246	13.1	3.3	20.5	4.4	10.9	10.5	53.2	83	33.8
Tsirang	443	12.8	6.4	42.9	17.5	13.8	9.4	37.5	119	26.8
Wangdue	573	10.3	4.1	23.1	16.9	10.5	9.3	61.2	166	28.9
Zhemgang	462	9.1	6.2	19.1	3.5	18.9	7.9	66.6	72	15.6
**calculation based on just 25-49 cases										

11.6 WOMEN'S ATTITUDE TOWARDS SEXUAL AND PHYSICAL VIOLENCE

The survey collected information from women who are currently married and/or divorced/widowed/separated for five years or less to assess their attitude towards violence against women by intimate partners.

11.6.1 Attitude towards physical violence

- Women's attitude towards physical violence was assessed by asking them if in their opinion it was acceptable for a husband to beat his wife when:
- She does not complete her household work to his satisfaction
- She disobeys him
- She refuses to have sexual relationship with him
- She asks him whether he has other girlfriends
- He suspects that she is unfaithful
- He finds out that she has been unfaithful

As shown in table DV.5, the survey found that 74% of the women interviewed agreed with one or more of the reasons listed as being justified for a man to beat his wife, while 21% did not agree with any of the reasons. The proportion who agreed with none of the reasons was higher among urban residents while the proportion who agreed with one or more reasons was higher among the rural residents. By educational background, women with university/diploma/certificate level education were most likely to agree with none of the reasons mentioned for wife-beating (52.7%) as compared to women with lower levels of education.

Although a high proportion of women agreed that infidelity "he finds out that she has been unfaithful"(67.7%)and disobedience (33%) by the wife constituted a good enough reason for wife-beating, it is important to note that a vast majority of the respondents did not agree with any of the other reasons mentioned for wife-beating. For example only 16% and 12.3% of the respondents agreed that wife-beating was justified when the husband *suspects* his wife of being unfaithful or refuses to have sexual relationship with him, respectively. The survey also found that While an almost equal proportion of rural and urban residents agreed with the wife's infidelity as being a justified for wife-beating, rural residents are more likely than their urban counterparts to agree with the other reasons mentioned for wife-beating.

Table DV.5 Women's attitude towards physical violence
Attitude towards intimate partner physical violence among women++ aged 15-75 years, Bhutan 2012

Age of woman, Urban-rural, and dzongkhag	Women++	Percentage of women who agree that men has reason to beat his wife if:						Women who agree with			
		She doesn't complete her household work to his satisfaction	She disobeys him	She refuses to have sexual relationship with him	She asks him whether he has other girlfriends	He suspects that she is unfaithful	He finds out that she has been unfaithful	One or more reasons		None of the reasons	
								Number	Percent	Number	Percent
Total	12,893	23.8	33.1	12.3	11.3	16.5	67.6	9,652	74.9	2,757	21.4
15-19	313	28.0	39.4	11.6	11.4	16.7	67.7	246	78.6	55	17.5
20-24	1,373	23.3	34.7	9.1	8.3	13.2	70.7	1,054	76.7	272	19.8
25-29	2,052	19.9	27.8	11.2	8.0	14.4	67.2	1,505	73.3	451	22.0
30-34	1,930	22.3	31.2	12.1	10.6	15.8	68.7	1,463	75.8	405	21.0
35-39	1,597	22.7	32.2	11.1	10.8	14.8	67.6	1,186	74.2	361	22.6
40-44	1,393	23.7	30.4	12.0	12.2	17.3	64.5	990	71.1	343	24.7
45-49	1,140	23.7	35.8	14.5	15.3	18.2	68.1	857	75.2	248	21.7
50-54	1,075	28.8	38.1	13.1	12.4	17.7	66.4	826	76.8	221	20.6
55-59	856	26.2	34.0	15.2	14.0	20.9	68.3	654	76.4	168	19.6
60-64	560	26.1	37.7	16.2	15.4	22.8	69.5	433	77.4	99	17.6
65-69	378	29.3	40.3	14.4	14.5	18.8	66.7	284	75.2	77	20.3
70-75	227	32.1	37.5	16.0	12.1	16.0	62.2	157	68.9	57	25.1
Urban	3,072	16.3	25.8	7.8	6.4	10.5	67.4	2,247	73.1	746	24.3
Rural	9,821	26.2	35.4	13.7	12.8	18.3	67.7	7,406	75.4	2,012	20.5
Bumthang	283	26.6	30.4	7.8	5.4	6.2	62.3	199	70.2	67	23.6
Chhukha	1,011	15.6	23.2	8.7	5.2	14.2	68.3	741	73.4	242	23.9
Dagana	547	23.5	32.5	16.4	9.9	12.2	65.8	402	73.5	111	20.3
Gasa	43	60.4	61.8	23.4	14.9	12.6	86.6	39	90.7	3	6.6
Haa	141	25.4	21.2	7.8	5.0	8.7	59.0	100	71.3	37	26.6
Lhuentse	324	30.5	32.9	12.2	11.3	29.5	56.5	198	60.9	118	36.3
Monggar	948	12.5	27.6	6.2	6.4	7.2	52.7	551	58.1	361	38.1
Paro	782	15.0	19.4	5.0	3.3	4.0	71.5	583	74.5	182	23.3
Pemagatshel	470	29.6	48.7	23.8	27.0	30.0	81.1	394	83.9	62	13.1
Punakha	439	24.3	29.9	17.6	20.9	24.0	74.0	345	78.7	72	16.4
S/Jongkhar	689	43.6	53.1	31.8	39.8	45.0	65.5	496	72.1	172	24.9
Samtse	1,402	17.1	21.6	14.6	13.9	23.0	63.3	1,078	76.9	268	19.1
Sarpang	721	9.5	21.8	5.3	7.8	16.6	58.5	489	67.7	191	26.5
Thimphu	1,837	12.3	19.8	6.5	5.2	8.6	70.0	1,355	73.8	416	22.7
Trashigang	1,055	60.8	70.1	23.0	15.8	25.2	89.7	1,012	95.9	28	2.6
Trashiyangtse	371	54.1	70.1	20.1	14.1	6.1	75.5	303	81.7	61	16.3
Trongsa	258	29.6	34.3	4.8	2.7	8.9	61.6	183	70.8	50	19.2
Tsirang	455	13.0	26.9	10.6	8.8	8.3	61.0	332	72.9	92	20.2
Wangdue	621	23.5	32.7	7.5	7.6	13.2	46.8	403	64.9	187	30.2
Zhemgang	494	22.7	46.1	6.6	8.7	19.1	86.3	449	90.9	39	7.9
++Currently married and divorced/separated/widowed for less than five years											

11.6.2 Attitude towards sexual violence

Another set of questions assessed women's attitude towards sexual violence by asking whether in their opinion women have the right to refuse sex with their husbands under the circumstances mentioned below:

- When she doesn't want to have sex
- When she is sick
- When husband is drunk
- When husband mistreats her

As shown in Table DV 6, the survey found that 93.5% of the respondents agreed with at least one or more of the reasons mentioned to refuse sex with their husband indicating strong sexual autonomy. By reasons for refusing sex, the proportion varied from a high of 88.4% for "when she is sick" to a low of 74.2% for "when she doesn't want to".

About 4% of the respondents did not agree with any of the reasons mentioned for refusing sex with their husbands and this proportion was higher among rural residents (4.5%) than among urban residents (2.1%). The proportion who did not agree with any of the reasons was relatively higher among women with non-formal education and among women with no education. Similarly, the lowest proportion of women agreeing with one or more reasons for refusing sex was also among those with no education and those with non-formal education.

Table DV.6 Women's attitude towards sexual violence
Attitude towards intimate partner sexual violence among women++ aged 15-75 years, Bhutan
2012

Age of woman, Urban- rural, and dzongkhag	Women++	Percentage of women who agree that a married woman can refuse to have sex with her husband if:				Women who agree with one or more of the reasons mentioned		Women who agree with none of the reasons mentioned	
		She doesn't want to	He is drunk	She is sick	He mistreats her	No.	Percent	No.	Percent
Total	12,893	74.1	76.1	88.4	78.9	12,052	93.5	525	4.1
15-19	313	72.7	80.6	88.8	77.1	293	93.7	10	3.2
20-24	1,373	76.3	76.3	89.2	79.5	1293	94.2	54	3.9
25-29	2,052	74.5	76.0	89.2	79.3	1921	93.6	88	4.3
30-34	1,930	78.0	77.5	89.1	79.5	1822	94.4	68	3.5
35-39	1,597	74.9	75.7	88.7	78.6	1498	93.8	71	4.4
40-44	1,393	73.5	75.5	87.7	76.6	1297	93.1	55	4.0
45-49	1,140	72.8	78.4	89.2	81.4	1068	93.7	51	4.5
50-54	1,075	73.5	73.3	88.6	78.8	1,003	93.3	37	3.4
55-59	856	69.9	74.0	85.8	77.5	785	91.7	42	4.9
60-64	560	67.9	74.6	85.4	79.9	516	92.2	24	4.2
65-69	378	70.1	77.9	87.2	80.2	347	91.8	14	3.7
70-75	227	70.3	72.7	86.5	75.6	211	92.9	12	5.1
Urban	3,072	81.8	79.4	92.1	81.6	2,953	96.1	80	2.6
Rural	9,821	71.7	75.0	87.3	78.1	9,099	92.7	445	4.5
Bumthang	283	69.8	67.6	78.1	73.8	237	83.7	39	13.6
Chhukha	1,011	55.8	65.8	89.6	74.2	941	93.2	53	5.3
Dagana	547	68.1	72.6	83.5	80.4	494	90.3	25	4.6
Gasa	43	82.4	86.6	92.0	74.7	40	94.7	2	4.4
Haa	141	87.6	88.1	96.7	88.9	139	98.5	1	1.0
Lhuentse	324	74.3	73.7	80.9	73.0	271	83.6	27	8.3
Monggar	948	76.5	77.2	87.7	82.2	871	91.9	54	5.7
Paro	782	88.1	81.5	96.5	86.2	762	97.4	12	1.5
Pemagatshel	470	67.7	68.6	82.3	78.7	423	90.0	38	8.0
Punakha	439	74.4	72.9	86.2	79.7	416	94.8	10	2.2
S/Jongkhar	689	86.4	84.9	94.8	93.7	660	95.8	17	2.4
Samtse	1,402	68.1	87.2	91.4	71.6	1352	96.4	15	1.1
Sarpang	721	70.8	78.7	91.5	80.0	676	93.7	26	3.6
Thimphu	1,837	86.8	80.3	92.7	80.6	1778	96.8	26	1.4
Trashigang	1,055	69.0	76.6	89.7	79.7	1010	95.7	21	2.0
Trashiyangtse	371	77.3	65.2	83.9	71.4	327	87.9	28	7.4
Trongsa	258	82.2	78.5	82.9	80.3	243	94.0	13	5.1
Tsirang	455	57.4	51.6	75.3	68.8	410	90.0	24	5.3
Wangdue	621	79.1	71.7	82.0	76.7	561	90.4	45	7.2
Zhemgang	494	65.1	72.4	81.5	81.6	441	89.3	50	10.2
++Currently married and divorced/separated/widowed for less than five years									

11.7 Non-partner violence against females aged 10-75 years

In addition to violence against women by intimate partners, the survey also collected data to investigate experience of lifetime physical, sexual and psychological violence against females aged 10-75 years by perpetrators other than their intimate partner, also referred to as non-partner violence. Respondents were asked if they had ever experienced non-partner violence (sexual, physical and psychological), and in positive cases, the survey also collected data on the frequency and type of perpetrators.

As shown in Table DV.7, the survey found a prevalence 6.3% non-partner physical violence, 3.4% non-partner psychological violence and 0.8% non-partner sexual violence among females aged 10-75 years. The proportion who ever experienced physical violence was highest among younger females aged 10-14 years (14.9%) and 15-19 years (10.4%). Similarly, non-partner sexual violence was more prevalent among women in the younger age-group of 20-24 years (1.7%) and 15-19 years (1.2%). Non-partner psychological violence was highest among the 15-19 year olds at 7%.

DV.7 Non-partner violence							
Percentage of female aged 10-75 years who ever experienced non-partner violence, Bhutan 2012							
Age Group	All female age 10-75	Type of Violence					
		Physical		Sexual		Psychological	
		Number	Percent	Number	Percent	Number	Percent
Total	21387	1340	6.3	173	0.8	728	3.4
10-14	2817	419	14.9	10	0.4	147	5.2
15-19	2887	300	10.4	35	1.2	203	7.0
20-24	2367	138	5.8	37	1.6	88	3.7
25-29	2359	85	3.6	15	0.6	54	2.3
30-34	2126	69	3.3	19	0.9	37	1.7
35-39	1806	63	3.5	14	0.8	35	2.0
40-44	1557	49	3.2	8	0.5	21	1.3
45-49	1330	42	3.2	6	0.4	31	2.3
50-54	1322	60	4.5	5	0.4	35	2.6
55-59	1062	45	4.2	19	1.7	26	2.5
60-64	773	40	5.1	3	0.4	31	4.0
65-69	561	22	4.0	3	0.5	18	3.2
70-75	422	8*	1.8	0	0	2	0.4

11.7.1 Perpetrators of non-partner violence against females aged 10-75 years

The survey collected data on perpetrators (both at home and in the community) of non-partner violence against females aged 10-75 years. Father (26.3%) followed by other males (20.3%) and teachers (18.5%) were the most common perpetrators of physical violence; other males (69.6%) and male relatives (25.7%) of sexual violence; and other males (26.5%), female relatives (11.8%), male relatives (11.3%) and teachers (11.2%) were the most common perpetrators of non-partner psychological violence (Table DV.8).

Table DV.8 Perpetrators of non-partner violence

Perpetrators of Violence	Non-partner physical violence		Non-partner sexual violence		Non-partner psychological violence	
	Number	Percent	Number	Percent	Number	Percent
Total	1340	100.0	173	100.0	728	100.0
Father	352	26.3	0	0	59	8.2
Step father	16	1.2	0	0	14	2.0
Male relatives	183	13.7	44	25.7	82	11.3
Female relatives	115	8.6	2	1.4	86	11.8
Teacher	248	18.5	1	0.6	82	11.2
Police/Soldier	0	0.2	0	0.3	0	0.0
Other males	271	20.3	120	69.65	193	26.5

Appendices

APPENDIX – I

Key Definitions and Concepts

KEY DEFINITIONS AND CONCEPTS	
Chiwog	A basic electoral precinct confirmed and defined by the Local Government Act 2009. There are 1,044 <i>chiwogs</i> in Bhutan.
Gewog	A geographic administrative unit subordinate to the <i>dzongkhag</i> . There are 205 <i>gewogs</i> in Bhutan.
Dzongkhag	An administrative and judicial district. There are 20 districts in Bhutan. Each district is further sub-divided into gewogs or groups of villages.
Household	A group of persons living together, sharing the living space, having common arrangement for food and sharing the family resources. People who live alone and make their own meal arrangements are considered as single member households.
Head of the household	A person who is identified as the head of the household is considered as someone who usually lives in that household. This person may be acknowledged as the head on the basis of age (elder), sex (generally, but not necessarily male), economic status (main provider), who is most knowledgeable about other members, or some other reason.
Usual household member	A person who lived in the household for at least 6 of the past 12 months. The following categories are also counted as usual household members even though they have lived less than 6 months in the past 12 months with the household: (a) in-country school or college students who are staying with the household as boarders; (b) all students living outside Bhutan; (c) armed forces personnel who live in barracks (dekhas); (d) monks (gelongs) who live in shedras, gomdeys, or dratshangs in Bhutan or outside Bhutan; (e) infants; (f) newly married couples; (g) servants and other paid domestic employees who are living with the household; and (h) persons who have recently joined the household and are expected to stay permanently.
Non-usual household member	The following categories are not counted as usual household members and were excluded from the survey: (a) person who has lived in the household but who are no longer members of the household because of death or separation or other reasons; (b) collective living arrangements (also referred to as institutional populations) such as hostels, dekhas, boarding schools, or prisons; (c) expatriate households.
Household size	The total number of persons living in the household.
Population coverage	The de jure population of households consisting of their usual members were followed for the NHS 2012.
Usual activity	Defined as what a person (age 15 years and above) usually does at the time of the survey or what s/he did most of the time during the 6 month period prior to the survey and expects to continue doing in the near future as well. For the purpose of the survey, usual activity was categorized as: (a) working; and (b) not-working.

KEY DEFINITIONS AND CONCEPTS

Working	For this survey working group comprise of the following: <ol style="list-style-type: none"> 0) Armed forces 1) Manager 2) Professional 3) Technician or Associate Professional 4) Clerical 5) Service and Sales Worker 6) Farmer/ Elementary worker 7) Craft and related trade worker 8) Plant and machine operator 9) Monastic/ Gomchen/ Tsip
Not working	For this survey not working group comprise of the following: <ol style="list-style-type: none"> 1) Doing household chores 2) Student 3) Retired 4) Doing nothing
Age in completed years	Age at his/her last birthday or the number of completed years since birth.
Age dependency ratio	The ratio of non-working age population (0-14 years and 65 plus years) to the working-age population (15-64 years).
Health facility	Health facility generally includes: <ol style="list-style-type: none"> (a) Referral Hospital (b) Military Hospitals (c) District Hospitals (d) Basic Health Units (BHU) I (e) Basic Health Unit II which includes sub-posts
Replacement fertility	A term commonly used by demographers when referring to levels of childbearing and it is normally presented as being around 2.1 children per woman.
Age-specific fertility rate (ASFR)	Expressed as the number of births per 1000 women in a certain age group. It is calculated as <i>the number of live births during a specific period to women in a particular age group, divided by the number of woman-years lived in that age group during the specified period.</i>
Total fertility rate (TFR)	Defined as the average number of births a woman would have by the end of her childbearing period if she experienced the current ASFRs. TFR is determined by <i>summing the ASFRs and multiplying by 5 to account for the five-year age groups.</i>
General fertility rate (GFR)	Expressed as the number of live births per 1000 women aged 15-49 years in a given time period. GFR in NHS 2012 was calculated by <i>total number of births for women aged 15-49 in the two-year period preceding the survey divided by the total number of women in the same age group during the same period.</i>

Crude birth rate (CBR)	Expressed as births per 1000 population. CBR is calculated <i>by total number of live births in a year divided by total population during the same period times 1000.</i>
Crude rate of natural increase (CRNI)	Also defined as natural growth rate of population and calculated as <i>[CBR- CDR / 10]</i> .
Sex ratio at birth (SBR)	Ratio of males born per 100 females at birth.
Age at menarche	Age at which a woman experiences her first menstrual period and it determines the risk of becoming pregnant.
Fecund	Capable of producing offspring.
Adolescent/ teenage fertility rate	Also referred to as adolescent birth rate, it is the number of live births to adolescent women (15-19 years) per 1000 adolescent women.
Age-specific death rate (ASDR)	The ASDR measures the incidence of death at each age. It is calculated by <i>deaths at calendar year at age-x divided by population aged-x times 1000.</i>
Crude death rate (CDR)	General measures of mortality in a population. It is calculated by <i>the number of deaths in a year divided by population times 1000.</i>
Infant mortality rate (IMR)	Expressed as a rate per thousand live births, it refers to the probability that a newly born child will die before reaching the age of 1 year. It is calculated by <i>the number of infant deaths divided by the number of live births in a year times 1000.</i>
Under-five mortality rate (U5MR)	Refers to the probability of dying between birth and age 5. It is calculated by <i>the number of under 5 deaths divided by the number of live births in a year times 1000.</i>
Maternal mortality ratio (MMR)	Expressed as maternal deaths per 100,000 live births. MMR is estimated as <i>the number of maternal deaths divided by the live births in a year times 100,000.</i>
One standard drink	A “standard drink” is the amount of ethanol contained in standard glasses of beer, wine, fortified wine such as sherry, and spirits and it is usually between 8-13 grams. By type of alcohol, a standard drink is measured in the following quantities: (a) 1/2 a bottle of beer or equivalent to local drink ‘bangchang; (b) 1 peg measure of spirits (whisky) or 1 cup of Ara; and (c) 1 medium sized glass of wine.
One fruit serving	The following standard of one fruit serving was used as a reference: (a) ½ cup of chopped, cooked or canned fruit; (b) 1 medium-sized piece of fruit such as banana, apple, orange; (c) ½ cup of fruit juice (not artificially flavored).
One vegetable serving	The following standard of one vegetable serving was used as a reference: (a) 1 cup of raw green leafy vegetable such as spinach, salad greens, etc. (b) ½ cup of other vegetables, cooked or chopped, such as carrots, pumpkin, corn, beans, onion, etc., but excluding tubers such as potatoes.

APPENDIX – II

Table SS.1 Sample Size Estimation									
Dzongkhag	%HH with access to any health facility within 1 hour	No. sample hh	Total Number of HH	% urban HH	No. of Sample HH		No. PSU (10 hh/PSU in urban and 20 hh/PSU in Rural)		Adjusted Total Number of Sample Households by Dzongkhag
					Urban	Rural	Urban	Rural	
Total		13438	126115		3280	10320	328	516	13600
Bumthang	0.71	692	2870	0.26	180	520	18	26	700
Chhukha	0.8	538	14538	0.47	340	360	34	18	700
Dagana	0.53	837	4294	0.11	100	600	10	30	700
Gasa	0.57	824	727	0.12	60	240	6	12	300
Haa	0.86	405	2497	0.17	140	560	14	28	700
Lhuentse	0.66	754	3001	0.08	60	640	6	32	700
Monggar	0.6	806	7348	0.17	140	560	14	28	700
Paro	0.81	517	6861	0.08	80	620	8	31	700
Pemagatshel	0.46	835	4881	0.11	80	620	8	31	700
Punakha	0.81	517	4564	0.07	140	560	14	28	700
S/Jongkhar	0.57	824	6951	0.29	190	500	20	25	690
Samtse	0.64	774	11427	0.19	140	560	14	28	700
Sarpang	0.8	538	7356	0.32	260	440	26	22	700
Thimphu	0.95	160	18769	0.84	600	100	60	5	700
Trashigang	0.7	706	10281	0.1	80	620	8	31	700
Trashiyangtse	0.67	743	3764	0.14	100	600	10	30	700
Trongsa	0.66	754	2733	0.19	140	560	14	28	700
Tsirang	0.75	630	3651	0.1	80	620	8	31	700
Wangdue	0.59	813	6223	0.23	220	480	22	24	700
Zhemgang	0.64	774	3379	0.16	150	560	14	28	710

Sample Design

SAMPLING FRAME AND SELECTION OF CLUSTERS

The 2005 census frame was used for the selection of clusters in the rural areas with adjustments made to changes that occurred during the redrawing of boundaries for election purposes in 2008. The urban frame used was the one which was updated during the urban listing exercise carried out in 2012 in preparation for the Bhutan Living Standard Survey 2012. The Chiwogs in rural areas and blocks in urban areas were defined as primary sampling units (PSUs), and were selected from each of the sampling strata by using systematic PPS (probability proportional to size) sampling procedures, based on the estimated sizes (number of resident households) of the enumeration areas from the above mentioned frames for rural and urban areas respectively. Some PSU's were selected more than once on account of their size.

The first stage of sampling was thus completed by selecting the required number of enumeration areas from each of the 20 Dzongkhags, separately by urban and rural strata. For the determination of the number of sample PSUs to be selected from the urban and rural areas within each Dzongkhag, the required number of sample households in each Dzongkhag was allocated proportionately between urban and rural areas with a little adjustment to make the total number of sample households allocated to the urban area a multiple of 10 in order to make the number of sample PSU's an integer. The number of sample households to be allocated to the rural area was calculated by subtracting the number of urban samples from 700 which is the desired sample size per Dzongkhag (300 in Gasa).

In both urban and rural areas by Dzongkhag, the number of sample PSU's was then determined by dividing the number of sample households estimated above by 10 and 20 in urban and rural areas, respectively. The results indicated that a total of 328 urban PSU's and 516 rural PSU's (or a total of 844) will have to be selected. Since the number of households to be selected from each PSU are fixed at 10 (urban) and 20 (rural), the total number of households at the national level actually comes up to 13,600.

LISTING ACTIVITIES

For the selected PSUs a new listing of households was conducted prior to the selection of households by the teams in each of the Dzongkhags. Right after the

listing was completed; households were selected and interviewed from November 20, 2012 to February 15, 2013.

SELECTION OF HOUSEHOLDS

Lists of households were prepared by the enumerating teams in the field for selected PSUs. The households were then sequentially numbered from 1 to n (the total number of households in each enumeration area) and the selection of 20 households in each enumeration area in rural areas and 10 households in each enumeration area in the urban areas was carried out using circular systematic selection procedures.

CALCULATION OF SMAPLE WEIGHTS

The National Health Survey sample is not self-weighting. Essentially, by allocating equal numbers of households to each of the dzongkhags, different sampling fractions were used in each dzongkhag since the size of the dzongkhags varied. For this reason, sample weights were calculated and these were used in the subsequent analyses of the survey data.

Since sample selection is carried out in two stages, weights are accordingly calculated in two stages with adjustments. The first stage weight is the reciprocal of the sampling fraction employed in selecting the PSU (i) in that particular sampling stratum (h)

$$W_h = \frac{1}{f_h}$$

The term f_{hi} , the sampling fraction is the probability of selection of the i -th sample PSU in the h -th stratum. The second stage weight is the reciprocal of the sampling fraction employed in selecting the household (s) in PSU (i) in that particular sampling stratum (h)

$$W_{shi} = \frac{1}{f_{shi}}$$

The term f_{shi} , the sampling fraction is the probability of selection of the s -th sample household in the i -th sample PSU in the h -th stratum. It is to be noted that all the households selected in the i -th sample PSU in the h -th stratum will have the same selection probabilities and hence same weights. Since the estimated number of households in each enumeration area (PSU) in the sampling frame used for the first stage selection and the updated number of households in the enumeration area from the listing were different, individual sampling fractions for households in each sample enumeration area (cluster) were calculated. The sampling fractions for households in each enumeration area (cluster) therefore included the first stage probability of selection of the enumeration area in that particular sampling stratum and the second stage probability of selection of a household in the sample enumeration area (cluster).

A second component in the calculation of sample weights takes into account the level of non-response for the household and individual interviews. The adjustment for household non-response is equal to the inverse value of:

$$RR_h = \text{Number of interviewed households in stratum } h / \text{Number of occupied households listed in stratum } h$$

After the completion of fieldwork, response rates were calculated for each sampling stratum. These were used to adjust the sample weights calculated for each cluster. Similarly, the adjustment for non-response at the individual level (women 10-75 years, women 10-49 years, individuals 10-75 years, children 12-23 months, and 13 year old girls) for each stratum is equal to the inverse value of:

$$RR_h = \text{Completed questionnaires in stratum } h \text{ (for Women 10-75 years, women 10-49 years, individuals 10-75 years, children 12-23 months and 13 year old girls) } / \text{Eligible individuals in stratum } h \text{ (Women 10-75 years, women 10-49 years, individuals 10-75 years, children 12-23 months and 13 year old girls)}$$

The non-response adjustment factors for women 10-75 years, women 10-49 years, individuals 10-75 years, children 12-23 months and 13 year old girls' questionnaires are applied to the adjusted household weights. Numbers of eligible women 10-75 years, women 10-49 years, individuals 10-75 years, children 12-23 months and 13 year old girls were obtained from the roster of household members in the Household Questionnaire for households where interviews were completed.

The design weights for the households were calculated by multiplying the above factors for each enumeration area. These weights were then standardized (or normalized), one purpose of which is to make the weighted sum of the interviewed sample units equal the total sample size at the national level. Normalization is performed by dividing the aforementioned design weights by the average design weight at the national level.

The average design weight is calculated as the sum of the design weights divided by the unweighted total. A similar standardization procedure was followed in obtaining standardized weights for the following: women 10-75 years, women 10-49 years, individuals 10-75 years, children 12-23 months and 13 year old girls.

Sample weights were appended to all data sets and analyses were performed by using respective weights.

APPENDIX – III

ESTIMATING SAMPLE ERROR

The estimates (r) from a sample survey are affected by sampling errors, which are errors caused by employing a sample instead of the total population. Sampling error is calculated in terms of the standard error (se) of a statistics (average, proportion, etc.), also known as the square root of the variance. These standard errors can be then employed to calculate the confidence intervals (CI), which is the probability that (set by the confidence level) CI encompasses the true value of population parameter (95% CI : $r \pm 2 * se$).

Since, the 2012 NHS sample was collected using a two-stage stratified design, it became important to use the complex sampling plan formula to calculate the standard errors. For this purpose, STATA 12-software was employed, which utilized Taylor series linearization method for variance estimation.

The *svyset* command was utilized to declare the complex sampling plan to STATA. Following keywords for the command *svyset* were typed into STATA – stratification variable name (*strata*), the Primary Sampling Unit variable name (*psu*), the finite population corrections (*fpc*) for each sampling stage, the sampling units (*sampling units*), and the sampling weight variable name (*pweight*).

After declaring the complex sampling plan, the standard error, confidence interval, design effect (*deff*) and the square root of *deff* (*deft*) were calculated for selected indicators at the national level (refer Table SE1 for the list of selected indicators). The *deff* indicates the efficiency of the sample design in relation to the precision, and a *deft* value of 1.0 indicates that the sample design is as efficient as a simple random sample, while a *deft* value >1.0 indicates that increase in the standard error due to the use of more complex sample design.

Table SE.1 Sampling errors						
Stantard errors, design effects (deff), square root of design effects (deff) and confidence intervals for selected indicators, Bhutan 2012						
Indicators	Estimate (r)	Standard Error (se)	De- sign Effect (deff)	Square root of deff (deff)	95% Confi- dence Interval	
					Lower	Upper
Morbidity						
Percentage of population aged 10-75 years who fell ill in the past 30-days prior to the survey	4.9	0.155	3.1	1.7	4.6	5.2
Average days of illness	11.0	0.524	4.0	2.0	10.0	12.1
Percentage of population who fell ill in the past 30 days before the survey and who first sought assistance from health care professionals	81.5	1.086	2.4	1.5	79.3	83.6
Injury						
Prevalence of injury	1.2	0.070	2.5	1.6	1.0	1.3
Cause of Injury						
Percentage of injured population due to vehicular accident	14.6	2.076	2.6	1.6	10.5	18.8
Percentage of injured population due to non-vehicular accidents	85.4	2.076	2.6	1.6	81.2	89.5
Disability						
Prevalence of Disability by type						
Prevalence of self-reported visual impair- ment	2.5	0.105	2.7	1.6	2.3	2.7
Prevalence of self-reported hearing im- pairment	2.9	0.114	2.8	1.7	2.6	3.1
Prevalence of self-reported speech im- pairment	1.2	0.082	3.4	1.8	1.0	1.4
Prevalence of self-reported morbidity im- pairment	1.3	0.071	2.3	1.5	1.2	1.5
Prevalence of self-reported remembering/ concentrating impairment	0.7	0.053	2.3	1.5	0.6	0.8
Prevalence of self-reported self-care ac- tivity impairment	0.9	0.058	2.3	1.5	0.8	1.0
Access and Utilization of health services						
Percentage of population living within 3 hrs. distance from a nearest health facility	94.8	0.6	46.5	6.8	93.6	96.0
Percentage of Population living within 2 hrs. distance from a nearest health facility	87.7	1.0	55.7	7.5	85.7	89.7
Percentage of households that availed Medical Services abroad	2.3	0.209	2.6	1.6	1.9	2.7
Percentage of persons aged 10-75 years satisfied with health services received.	92.	0.285	2.8	1.7	91.5	92.6
Knowledge of HIV/AIDS						
Percentage of 15-24 year olds with com- prehensive correct knowledge of HIV/ AIDS	23.2	0.769	3.1	1.8	21.6	24.7
Percentage of 10-75 years with compre- hensive correct knowledge of HIV/AIDS	16.8	0.430	5.3	2.3	16.0	17.7
Percentage of women aged 15-49 years who knew all three means of mother to child transmission of HIV	46.9	0.663	2.5	1.6	45.6	48.3

Table SE.1 Sampling errors						
Stantard errors, design effects (deff), square root of design effects (deff) and confidence intervals for selected indicators, Bhutan 2012						
Indicators	Estimate	Standard Error (se)	Design Effect (deff)	Square root of deff (deft)	95% Confidence Interval	
					Lower	Upper
Tobacco Use						
Percentage of 15-75 years who currently smoke tobacco	4.0	0.183	3.0	1.7	3.7	4.4
Percentage of 15-75 years who currently use smokeless tobacco	47.9	0.647	5.8	2.4	46.6	49.2
Percentage of 15-75 years who currently eat domakhamtog/betel quid	43.9	0.696	6.7	2.6	42.6	45.28
Alcohol Consumption						
Percentage of 15-75 years who currently use alcohol	28.1	0.510	4.4	2.1	27.1	29.1
Diet						
Mean no. of days of fruit consumption among 10-75 year olds who normally consume fruits	3.4	0.031	5.0	2.2	3.4	3.5
Percentage of population aged 10-75 years who normally eat fruits and who eat 4 or less servings per day	90.5	0.515	5.2	2.3	89.5	91.6
Mean no. of days of fruit consumption among 10-75 year olds who normally consume vegetables	4.8	0.028	8.9	3.0	4.8	4.9
Percentage of population aged 10-75 years who normally eat fruits and who eat 4 or less servings per day	96.0	0.312	9.4	3.1	95.4	96.6
Percentage of 10-75 year olds who eat 4 or less servings per day of both fruits and/or vegetables	92.5	0.357	7.3	2.7	91.7	93.2
Physical Activity						
Percentage of population aged 10-75 years who do sports/ fitness/ recreational activities that cause an increase of breathing or heart rate for at least 10 minutes continuously	25.5	0.382	3.0	1.7	24.7	26.3
Average number of days spent doing recreational/sport/fitness activities in a normal week among those who do sports/recreational/fitness activities	3.0	0.037	3.6	1.9	2.9	3.1
Average of hours spent doing recreational/sport/fitness activities on a typical day among those who do sports/recreational/fitness activities	1.6	0.030	4.4	2.1	1.5	1.7

Table SE.1 Sampling errors Stantard errors, design effects (deff), square root of design effects (deff) and confidence intervals for selected indicators, Bhutan 2012						
Indicators	Estimate	Standard Error (se)	Design Effect (deff)	Square root of deff (deft)	95% Confidence Interval	
					Lower	Upper
Average number of hours spent walking/biking to get to and from place in a typical day among those who walk/bicycle to get to and from places	1.3	0.019	5.5	2.3	1.3	1.3
Diabetes						
Prevalence of self-reported diabetes cases among population aged 15-75 years	1.4	0.090	1.9	1.4	1.3	1.6
Hypertension						
Prevalence of self-reported hypertension among population aged 15-75 years	16.0	0.320	2.6	1.6	15.4	16.6
Drug or substance use						
Percentage of population aged 10-75 years who ever used drugs/ substance to get high	1.8	0.110	2.7	1.6	1.6	2.0
Percentage of population aged 15-75 years who ever used drugs/ substance to get high	2.1	0.125	2.7	1.6	1.8	2.3
Family planning						
Percentage of women aged 15-49 years who knew at least one contraceptive method that can delay or prevent pregnancy	96.3	0.463	8.6	2.9	95.4	97.2
Maternal health						
Antenatal care 1+	97.9	0.374	1.4	1.2	97.2	98.7
Antenatal care 4+	81.7	1.145	1.8	1.3	79.4	84.0
Institutional delivery	73.7	1.372	2.0	1.4	71.1	76.6
Skilled-birth attended	74.6	1.380	2.1	1.5	71.9	77.4
Domestic Violence						
Percentage of currently married women aged 15-75 years who experienced physical violence by their intimate partner in the past one year	6.1	0.334	2.4	1.5	5.4	6.8

Table SE.1 Sampling errors Stantard errors, design effects (deff), square root of design effects (deff) and confidence intervals for selected indicators, Bhutan 2012						
Indicators	Estimate	Standard Error (se)	Design Effect (deff)	Square root of deff (deff)	95% Confidence Interval	
					Lower	Upper
Percentage of currently married women aged 15-75 years who experienced psychological violence by their intimate partner in the past one year	3.2	0.251	2.5	1.6	2.7	3.7
Percentage of females aged 10-75 who ever experienced non-partner physical violence	6.3	0.333	4.0	2.0	5.7	7.0
Percentage of females aged 10-75 who ever experienced non-partner psychological violence	3.5	0.209	2.8	1.7	3.0	3.9
Percentage of females aged 10-75 who experienced non-partner sexual violence	0.8	0.001	2.08	1.44	0.67	1.03
Immunization						
Crude immunization coverage	95.1	1.102	2.4	1.5	92.9	97.3
Crude Immunization coverage by antigen type						
BCG	100.0	-	-	-	-	-
DTP-HepB1	99.6	0.320	2.5	1.6	99.0	100.3
DTP-HepB2	99.1	0.594	3.6	1.9	97.9	100.3
DTP-HepB3	98.7	0.669	3.2	1.8	97.3	100.0
OPV0	96.3	0.810	1.7	1.3	94.7	97.9
OPV1	99.2	0.585	3.8	2.0	98.0	100.3
OPV2	99.0	0.622	3.5	1.9	97.7	100.2
OPV3	97.4	0.916	3.0	1.7	95.6	99.2
MR1	97.2	0.841	2.4	1.5	95.5	98.9
Crude HPV coverage (card or history)	73.3	2.192	1.1	1.1	68.9	77.7
Crude HPV coverage (by card only)	90.5	2.760	1.6	1.3	85.0	96.0
Crude maternal TT1 coverage (card)	97.9	0.431	1.0	1.0	97.0	98.7
Crude maternal TT2 coverage(card)	93.1	0.797	1.1	1.0	91.5	94.7

APPENDIX – IV: Survey Organization

MEMBERS OF THE NATIONAL STEERING COMMITTEE (NSC)

Mr. Nima Wangdi, Secretary, Ministry of Health	Chairman
Mr. Karma Tshiteem, Secretary, GNHC	Member
Mr. Yeshey Dorji, ARR, UNFPA CO, Bhutan	Member
Dr. Nani Nair, WHO Representative, WHO CO, Bhutan	Member
Dr. Gepke Hingst, Resident Representative, UNICEF CO, Bhutan	Member
Dr. DORJI wangchuk, Director General, DoPH, MoH	Member
Dr. Ugen Dophu, Director General, DMS, MoH	Member
Mr. Kuenga Tshering, Director General, NSB	Member
Mr. Dorji Norbu, Director, DLG, MoHCA	Member
Ms. Dechen Wangmo, CAO, AFD, MoH	Member

MEMBERS OF THE NATIONAL TECHNICAL COMMITTEE (NTC)

Dr. DORJI wangchuk, Director General, DoPH, MoH	Chairman
Mr. Yeshey Dorji, ARR, UNFPA CO, Bhutan	Member
Mr. Phub Sangay, CPO, NSB	Member
Mr. Tandin Dorji, CPO, NCDD, MoH	Member
Dr. Nyezang Wangmo, Dean, Research, RIHS	Member
Dr. Sonam Phuntsho, Director, JDWNRH	Member
Dr. Tashi Tobgay, Director, UMSB	Member
Mr. Kado Zangpo, Dy. CPO, PPD, MoH	Member
Mr. Tshering Dhendup, Head, Research & Epidemiology Unit, MoH	Member
Mr. Tshering Jamtsho, Head, HMIS Unit, PPD, MoH	Member

NHS-2012 COORDINATORS

Mr. Tshering Dhendup	Chief Technical Coordinator
Mr. Tshering Jamtsho and Mr. Kado Zangpo	Chief Logistic Coordinators

NHS-2012 TRAINERS

Mr. Tshering Dhendup, Head, Research & Epidemiology Unit, PPD, MoH
Mr. Phub Sangay, Chief Statistical Officer, NSB
Dr. Pandup Tshering, Registrar, BMHC, MoH
Dr. Sonam Phuentsho, Director, JDWNRH
Dr. Nima Wangchuk, Lecturer, RIHS
Mr. Tshering Jamtsho, Head, HMIS Unit, PPD, MoH

NHS-2012 NATIONAL SUPERVISORS FOR QUALITY CONTROL

Mr. Tshering Dhendup, Head, Research & Epidemiology Unit, MoH [Overall National Supervisor]

Dr. DORJI wangchuk, Director General, DoPH, MoH

Dr. Ugen Dophu, Director General, DMS, MoH

Mr. Phub Sangay, Chief Statistical Officer, NSB

Dr. Pandup Tshering, Registrar, BMHC, MoH

Dr. Sonam Phuentsho, Director, JDWNRH

Dr. Tashi Tobgay, Director, UMSB

Dr. Nima Wangchuk, Lecturer, RIHS

NHS-2012 SECRETARIAT & DATA KEYERS COORDINATORS

Mr. Tshering Jamtsho, Head, HMIS Unit, PPD, MoH

Head

Mr. Dopo, Sr. Statistical Officer, HMIS Unit, PPD, MoH

Member

Mr. Rahar Singh Das, Sr. Information Officer

Member

Mr. Phub Dorji, Sr. ICT Technical Associate III

Member/ Data Keyer

Supervisor

Mr. Kinley Rabgey, ICT Technical Associate II

Member

APPENDIX – V

List of Field Supervisors and Enumerators

FIELD OPERATIONS STAFF			
Dzongkhag	Supervisor	Enumerator	
		Male	Female
Bumthang	Pem Zam	Ugyen Rinzin	Kezang Dema
		Tashi Tobgay	Ugyen Wangmo
	Ngowo Chenpo	Jigme Phuntsho	Dechen Wangmo
		Ngawang Lotey	Lhaden
Chhukha	Tshewang Sithar	Karma Wangchuk	Beda Wangmo
		Rinchen Phuntsho	Ambika Devi
	Wangchuk Dukpa	Karma Jamtsho	Thinley Wangmo
		Tashi Jamtsho	Tshering Choden
Dagana	Tshering Doya	Lobzang Nima	Tshering Lhamo
		Sangay Dorji	Choki Wangmo
	Som Bdr Darjee	Budhiman Mongar	Sangay Lhamo Tamang
		Dorji Nidup	Sangay Zangmo Subba
Gasa	Khina Maya	Sonam Thinley	Sabita Gurung
		Namgay Tenzin	Roshni Gurung
Haa	Karma Wangdi	Sangay Rinchen	Chunku Lham
		Tshagay	Kinley Wangmo
	Thinley Penjor	Sherab Jamtsho	Tshering Zangmo
		Tshering Penjor	Tshering Choden
Lhuentse	Rinchen Tshering	Karma Wangdi	Phuntsho Deki
		Tshering Dorji	Dechen Zangmo
	Jit Bdr Darnel	Wangchuk Dorji	Dechen Wangmo
		Jigme Thinley	Mamta Ghalley
Monggar	Gopal Hingmang	Kencho Choiphel	Phuntsho Choden
		Tandin Jamtsho	Tandin Zangmo
	Tshering Choeda	Karma Dorji	Tshering Choden
		Phub Tshering	Pema Yangki
Paro	Tenzin Dorji	Tshering Penjor	Yeshey Denkar
		Namgay Tenzin	Roshni Gurung
	Kinga Gyeltshen	Subash Subba	Rinzin Lhamo
		Devi Bhakta Ghalley	Sonam Dema
Pemagatshel	Tashi Tshering	Thinley Namgay	Kinley Seldon
		Yeshi Dorji	Yanhchen Dolkar
	Tashi Norbu	Chhimi Dorji	Deki Choezom
		Sonam Tobgay	Kinzangmo

FIELD OPERATIONS STAFF			
Dzongkhag	Supervisor	Enumerator	
		Male	Female
Punakha	Tashi Dawa Mon Maya Tamang	Phub Dorji	Kinley Wangmo
		Dawa Penjor	Leki Wangmo
		Ugyen Wangchuk	Ugyen Yangzom
		Bishal Bhujel	Yeshey Wangmo
Samdrup Jongkhar	Tashi Phuntsho Kencho Dorji	Singye Dorji	Sangay Wangmo
		Thinley Rinzin	Kezang Peldon
		Tenzin Wangchuk	Yeshey Saydee
		Sonam Rinchen	Kalpana Sunar
Samtse	Karma Doma Dechenmo	Madan Ghalley	Mary Tamang
		Mahadav Dahal	Phurba Zangmo
		Ngawang Tashi	Ugyen Dema
		Manoj Rai	Tshering Dema
Sarpang	Kinzang Namgyel Dopo	Migma Tempa Sherpa	Sangeeta Ghalley
		Dorji Tshering	Sashi Gurung
		Zhungchuk	Tashi Zom
		Sonam Wangchuk	Chali Maya Shingdan
Thimphu	Pema Chewang Karma Gyeltshen	Ratu	Sonam Choden
		Karma Chedup	Kuenga Zangmo
		Rinzin Wangchuk	Pema Chokey
		Kuenzang Dorji	Dechen Choden
		Tenzin Jamtsho	Yeshi Dema
		Tenzin Norbu	
		Tilak Sharma	
Trashigang	Sonam Wangchuk Tsheddar	Pema Wangda	Sonam Zangmo
		Dorji Tshering	Jamyang Choden
		Sonam Tshering	Dorji Wangmo
		Sonam Jamtsho	Chador Zangmo
Trashiyangtse	Sanjeev Subba Pema Tshewang	Karsang Dawa	Kezang Choden
		Rinzin Dorji	Ugyen Pelzom
		Jigme Wangchuk	Kencho Tshomo
		Dechen Wangda	Kencho Wangmo
Trongsa	Nima Gyeltshen Phub Dorji	Damcho Tshering	Sonam Peldon
		Chimmi Rinzin	Kinzang Peldon
		Yeshi Namgay	Yadav Kumari Mongar
		Sonam Dorji	
		Kinley Drukpa	

FIELD OPERATIONS STAFF			
Dzongkhag	Supervisor	Enumerator	
		Male	Female
Tsirang	Karma Wangchuk Rinzin Wangdi	Dillip Ram Ghalley	Dil Maya Rai
		Tshering Dorji	Ganga Maya Ghimari
		Sonam Penjor	Bibi Maya Sanyasi
		Pema Tshering	Dechen Wangmo
Wangdue	Rinchen Namgyal Kaka	Sangay Wangdi	Sonam Choden
		Phub Tshering	Leki Wangmo
		Sonam Phuntsho	Pema Choden
		Yeshe Jamtsho	Yeshey Lham
Zhemgang	Gang Dorji Rahar Singh Das	Jigme	Deki Dolkar
		Chey Chey	Sonam Yangchen
		Tshering Tashi	Deki
		Tshering Namgay	Dechen Wangmo

APPENDIX – VI: SURVEY QUESTIONNAIRES

2012 Bhutan National Health Survey

Household Questionnaire

Household Identification				
Dzongkhag _____				<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
Town/Gewog _____				<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
Chiwog/Block _____				<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
Serial Number of Sample Household				<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
Name of Household Head _____				<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>

Record of Interview				
	1	2	3	Final Visit
Date				Day <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
Interviewer's Name				Month <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
Result*				<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
*RESULT CODES: 1 COMPLETED 2 NO HOUSEHOLD MEMBER AT HOME OR NO COMPETENT RESPONDENT AT HOME AT TIME OF VISIT 3 ENTIRE HOUSEHOLD ABSENT FOR EXTENDED PERIOD OF TIME 4 POSTPONED 5 REFUSED 6 DWELLING VACANT OR ADDRESS NOT A DWELLING 7 DWELLING DESTROYED 8 DWELLING NOT FOUND 9 OTHER <div style="border-bottom: 1px solid black; width: 100%;"></div> (Specify)	Total Persons in the household No. of Persons 10-75 Years No. of Women 10-49 Years No. of Children 12-24 Months..... Line Number of Household Respondent to Household Questionnaire			<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>

	Name	Date of Completion
Team Supervisor	_____	_____
Office Editor	_____	_____
Data Entry Operator	_____	_____

Section A.

Household Roster

Line No.	Name of Usual Member	Relationship to Head of Household	Sex	Date of Birth	Age	Marital Status	
	Please give me the names of the persons who usually live in your household, starting with the head of the household.	What is the relationship of (NAME) to the head of the household? SEE CODES BELOW ON PAGE 4	Is (NAME) male or female? 1=MALE 2=FEMALE	When is (NAME)'s birthday? ENTER MONTH CODE AND YEAR 01=JAN 07=JUL 02=FEB 08=AUG 03=MAR 09=SEP 04=APR 10=OCT 05=MAY 11=NOV 06=JUN 12=DEC Month DK=99 Year DK=9999	How old is (NAME)? IF 95 OR MORE, ENTER 95	What is (NAME)'s current marital status? 1=NEVER MARRIED 2=MARRIED WITH MC 3= MARRIED WITHOUT MC 4=DIVORCED 5=SEPARATED 6=WIDOW/ WIDOWER	
1	2	3	4	5	6	7	
01		—	1 2	Mo. — — Yr. — — —	— — —	—	
02		—	1 2	Mo. — — Yr. — — —	— — —	—	
03		—	1 2	Mo. — — Yr. — — —	— — —	—	
04		—	1 2	Mo. — — Yr. — — —	— — —	—	
05		—	1 2	Mo. — — Yr. — — —	— — —	—	
06		—	1 2	Mo. — — Yr. — — —	— — —	—	
07		—	1 2	Mo. — — Yr. — — —	— — —	—	

IF AGE 15 OR OLDER				UNDER EACH OF THESE COLUMNS, CIRCLE THE LINE NUMBER OF THE MEMBER THAT QUALIFIES			
	Highest Education	Usual Activity	Occupation				
	What is the highest educational level that (NAME) has attended? 1=NO EDUCATION 2= PRIMARY (pre-primary to grade 6) 3=HIGH SCHOOL (Grade 7-12) 4=UNIVERSITY 5=DIPLOMA/CERTIFICATE 6= MONASTIC SCHOOL 7= NON-FORMAL EDUC 8=DON'T KNOW	What is (NAME) usual activity during the last 6 months? 1=WORKING 2=DOING HOUSEHOLD CHORES 3=STUDENT 4=RETIRED 5=DOING NOTHING	<u>IF COL.9=1, WORKING</u> What is (NAME's) usual occupation? SEE CODES BELOW ON PAGE 4	CHILD-REN 12-24 months.	GIRL 13 YRS OLD Born Between: 1 JAN 1999 TO 31 DEC 1999	PER-SONS 10-75	WOMEN 10-49
	8	9	10	11	12	13	14
	—	—	—	01	01	01	01
	—	—	—	02	02	02	02
	—	—	—	03	03	03	03
	—	—	—	04	04	04	04
	—	—	—	05	05	05	05
	—	—	—	06	06	06	06
	—	—	—	07	07	07	07

Line No.	Name of Usual Member	Relationship to Head of Household	Sex	Date of Birth	Age	Marital Status	
	Please give me the names of the persons who usually live in your household, starting with the head of the household.	What is the relationship of (NAME) to the head of the household? SEE CODES BELOW ON PAGE 4	Is (NAME) male or female? 1=MALE 2=FEMALE	When is (NAME)'s birthday? ENTER MONTH CODE AND YEAR 01=JAN 07=JUL 02=FEB 08=AUG 03=MAR 09=SEP 04=APR 10=OCT 05=MAY 11=NOV 06=JUN 12=DEC Month DK=99 Year DK=9999	How old is (NAME)? IF 95 OR MORE, ENTER 95	What is (NAME)'s current marital status? 1=NEVER MARRIED 2=MARRIED WITH MC 3= MARRIED WITHOUT MC 4=DIVORCED 5=SEPARATED 6=WIDOW/ WIDOWER	
1	2	3	4	5	6	7	
08		—	1 2	Mo. — Yr. — — —	— — —	—	
09		—	1 2	Mo. — Yr. — — —	— — —	—	
10		—	1 2	Mo. — Yr. — — —	— — —	—	
11		—	1 2	Mo. — Yr. — — —	— — —	—	
12		—	1 2	Mo. — Yr. — — —	— — —	—	

IF AGE 15 OR OLDER				UNDER EACH OF THESE COLUMNS, CIRCLE THE LINE NUMBER OF THE MEMBER THAT QUALIFIES			
	Highest Education	Usual Activity	Occupation				
	What is the highest educational level that (NAME) has attended? 1=NO EDUCATION 2= PRIMARY (pre-primary to grade 6) 3=HIGH SCHOOL (Grade 7-12) 4=UNIVERSITY 5=DIPLOMA/CERTIFICATE 6= MONASTIC SCHOOL 7= NON-FORMAL EDUC 8=DON'T KNOW	What is (NAME) usual activity during the last 6 months? 1=WORKING 2=DOING HOUSEHOLD CHORES 3=STUDENT 4=RETIRED 5=DOING NOTHING	IF COL.9=1, WORKING What is (NAME's) usual occupation? SEE CODES BELOW ON PAGE 4	CHILD-REN 12-24 months.	GIRL 13 YRS OLD Born Between: 1 JAN 1999 TO 31 DEC 1999	PER-SONS 10-75	WOMEN 10-49
	8	9	10	11	12	13	14
	—	—	—	08	08	08	08
	—	—	—	09	09	09	09
	—	—	—	10	10	10	10
	—	—	—	11	11	11	11
	—	—	—	12	12	12	12

CODES FOR COLUMN 3

1=HEAD
 2=WIFE OR HUSBAND
 3=SON/ DAUGHTER
 4=SON-IN-LAW/ DAUGHTER- IN-LAW
 5=GRANDCHILD
 6=PARENT
 7=PARENT-IN-LAW
 8=OTHER RELATIVES
 9=NOT RELATED

CODES FOR COLUMN 10

1=Manager
 2=Professional
 3=Technician or associate professional
 4=Clerical
 5=Service and sales worker
 6=Skilled agricultural, forestry or fishery worker
 7=Craft and other related trade worker
 8=Plant and machine operator
 9=Unskilled worker
 0=Member of Armed forces

Section B.

MORBIDITY: Did any usual member of the household suffer from any illness during the past 1 month?

Circle: 1 YES ↓ 2 NO → Section C

Please give me the names of the members who suffered from an illness during the past 1 month.	ENTER LINE NO. OF THIS MEMBER AS IT APPEARS ON THE 1 ST PAGE	During the past 1 month, how many times did (NAME) suffer from illness? NO. OF TIMES	For how many days during the past 1 month was (NAME) ill? NO. OF DAYS	
1	2	3	4	
	— —	— —	— —	
	— —	— —	— —	
	— —	— —	— —	
	— —	— —	— —	

Section C.

INJURY: Did any usual member of the household suffer from an injury as a result of traffic crash or other non-vehicular accidents during the past 12 months?

Circle: 1 YES ↓ 2 NO → Section D

Please give me the names of the members who suffered from an injury during the past 12 months.	ENTER LINE NO. OF THIS MEMBER AS IT APPEARS ON THE 1 ST PAGE	What was the cause of this injury? 1=VEHICLE ACCIDENT 2=FALL 3=BURN 4=POISONING 5=CUT 6=NEAR-DROWNING COL 5 7=ANIMAL BITE 8=OTHERS 9=DON'T KNOW	
1	2	3	
	— —	—	
	— —	—	
	— —	—	
	— —	—	

	Whose treatment was first sought for (NAME's) illness? 1=NOBODY/SELF TREATMENT 2=HEALTH PROFESSIONAL 3=DRUNGTSHO/ sMENPA 4=LAM/ LOPEN 5=POW/TSIP 6=OTHERS	Did (NAME) require a stay of at least one day in a health facility? 1=YES 2=NO (skip to next person)	Which health facility did (NAME) stay? 1=REFERRAL HOSPITAL 2=DISTRICT HOSPITAL 3=MILITARY HOSPITAL 4=BHU I 5=BHU II 6=SUBPOST
	5	6	7
	—	1 2	—
	—	1 2	—
	—	1 2	—
	—	1 2	—

	Was (NAME) involved in a road traffic crash as a driver, passenger, pedestrian or cyclist? 1=DRIVER 2=PASSENGER 3=PEDESTRIAN 4=CYCLIST	Where was (NAME) when he /she had this injury? 1=HOME 2=SCHOOL 3=WORKPLACE 4=ROAD/STREET/HIGHWAY 5=SPORTS/ATHLETIC AREA 6=OTHERS 9=DON'T KNOW	Did (NAME) require medical attention as a result of the injury? 1=YES 2=NO 9=DON'T KNOW
	4	5	6
	—	—	—
	—	—	—
	—	—	—
	—	—	—

Section D.

DISABILITY: Is there any member of your household who suffers some impairment in seeing, hearing, speaking, walking, or in remembering/concentrating?

Circle: 1 YES 2 NO → Section E

Please give me the names of the members who suffer from some form of impairment	ENTER LINE NO. OF THIS MEMBER AS IT APPEARS ON THE 1 ST PAGE	Does (NAME) have difficulty seeing, even if using glasses? 1= NO DIFFICULTY 2=YES- SOME DIFFICULTY 3=YES- A LOT OF DIFFICULTY 4=CANNOT SEE AT ALL	Does (NAME) have difficulty hearing even if using a hearing aid? 1= NO DIFFICULTY 2=YES- SOME DIFFICULTY 3=YES- A LOT OF DIFFICULTY 4=CANNOT HEAR AT ALL	Does (NAME) have difficulty speaking, communicating, for example, understanding or being understood even if using his/her usual language? 1= NO DIFFICULTY 2=YES- SOME DIFFICULTY 3=YES- A LOT OF DIFFICULTY 4=CANNOT SPEAK OR COMMUNICATE AT ALL	Does (NAME) have difficulty walking? 1=NO DIFFICULTY 2=YES-SOME DIFFICULTY 3=YES- A LOT OF DIFFICULTY 4=CANNOT WALK AT ALL	
1	2	3	4	5	6	
	— —	—	—	—	—	
	— —	—	—	—	—	
	— —	—	—	—	—	
	— —	—	—	—	—	
	— —	—	—	—	—	
	— —	—	—	—	—	

	Does (NAME) have difficulty remembering or concentrating? 1=NO DIFFICULTY 2=YES- SOME DIFFICULTY 3=YES- A LOT OF DIFFICULTY 4=CANNOT REMEMBER/ CONCENTRATE AT ALL	Does (NAME) have difficulty with self-care such as washing all over or dressing? 1= NO DIFFICULTY 2=YES- SOME DIFFICULTY 3=YES- A LOT OF DIFFICULTY 4=CANNOT DO AT ALL	IF AT LEAST ONE TYPE OF DISABILITY HAS CODE 2 OR HIGHER		
			Which type of disability is considered most serious? 1= SIGHT 2=HEARING 3=SPEECH 4=MOBILITY 5=MENTAL 6=SELF-CARE CIRCLE ONLY ONE CODE. IF PERSON HAS ONLY ONE TYPE OF DISABILITY, CIRCLE THAT TYPE.	Is (NAME)'s disability congenital (since birth) or acquired? 1=SINCE BIRTH 2=ACQUIRED	Has (NAME) sought health services for his/her impairment? 1=YES 2=NO
	7	8	9	10	11
	—	—	—	1 2	1 2
	—	—	—	1 2	1 2
	—	—	—	1 2	1 2
	—	—	—	1 2	1 2
	—	—	—	1 2	1 2
	—	—	—	1 2	1 2

Section E.

MORTALITY: Did any usual member of this household die during the past two years, that is, between 20 November 2010 to 19 November 2012 including new born babies that died soon after their birth?

Circle: 1 YES ↓ 2 NO → Section F

Serial No.	What was the name of that member who died during the last 2 years?	Was (NAME) male or female? 1=MALE 2=FEMALE	What was (NAME) date of birth? ENTER MONTH CODE AND YEAR	What was (NAME) date of death? ENTER MONTH CODE AND YEAR	How old was (NAME) when he/she died? ENTER ONLY IN TERMS OF DAYS OR MONTHS OR YEARS	DWhere did (NAME) die? 1=Health facility 2=Home 3=Others	What was the cause of death of (NAME) ENTER CODE SHOWN ON THE RIGHT	IF FEMALE AND AGED 15-49 Was (NAME) pregnant, giving birth or within 2 months of giving birth? 1=YES 2=NO
1	2	3	4	5	6	7	8	9
1		1 2	Mo. ____ DK=99 Yr. ____ DK=9999	Mo. ____ DK=99 Yr. ____ DK=9999	DAYS 1 ____ MOS 2 ____ YRS 3 ____	1 2 3		1 2
2		1 2	Mo. ____ DK=99 Yr. ____ DK=9999	Mo. ____ DK=99 Yr. ____ DK=9999	DAYS 1 ____ MOS 2 ____ YRS 3 ____	1 2 3		1 2
3		1 2	Mo. ____ DK=99 Yr. ____ DK=9999	Mo. ____ DK=99 Yr. ____ DK=9999	DAYS 1 ____ MOS 2 ____ YRS 3 ____	1 2 3		1 2
4		1 2	Mo. ____ DK=99 Yr. ____ DK=9999	Mo. ____ DK=99 Yr. ____ DK=9999	DAYS 1 ____ MOS 2 ____ YRS 3 ____	1 2 3		1 2

Codes for col. 8
 1=ILLNESS
 2=ACCIDENT
 3=NATURAL CALAMITIES/
 DISASTER
 4=VIOLENCE
 5=PREGNANCY-
 RELATED
 CAUSE
 6=ALCOHOL-
 RELATED
 CAUSE
 7=SUICIDE
 8=POISONING
 9=DON'T KNOW

Section F.

Now let me ask you some questions that pertain to this household in general

	Question	Response Category	Code
F101	What is the main source of drinking water for members of your household?	Piped water Piped into dwelling Piped into compound Piped to neighbor Public tap Dug well Protected well Unprotected well Water from spring Protected spring Unprotected spring Rainwater collection Tanker-truck Cart with small tank / drum Surface water (river, stream, dam, lake, Pond, canal, irrigation channel). Bottled water Other	 11 12 13 14 31 32 41 42 51 61 71 81 91 96
F102	What kind of toilet facility do members of your household usually use?	Flush / Pour flush Flush to piped sewer system Flush to septic tank (without soak pit) Flush to septic tank (with soak pit) Flush to pit (latrine) Flush to somewhere else..... Flush to unknown place / Not sure /DK where..... Pit latrine Ventilated Improved Pit latrine (VIP) Pit latrine with slab..... Pit latrine without slab / Open pit..... Long drop latrine..... Composting toilet..... Bucket..... No facility, Bush, Field Other	 11 12 13 14 15 16 21 22 23 24 31 41 95 96
F103	How does your household usually dispose off its household waste? CIRCLE ALL MANNERS OF WASTE DISPOSAL USED BY THE HOUSEHOLD.	Public garbage collection..... Burning..... Composting..... Open pit..... Other.....	A B C D E

	Question	Response Category	Code
F104	What type of dwelling unit does your household occupy?	Single detached house Part of a house Separate apartment Shared apartment Others (Specify)	1 2 3 4 5
F105	Does your household own the dwelling unit that you live in?	YES NO	1 → F108 2
F106	From whom did you rent the dwelling unit?	Public Corporations Government Private person Others (Specify)	1 2 3 4
F107	How much do you pay as your monthly rent?	Nu	— — —
F108	How many rooms are there in this dwelling unit? (Exclude toilet and kitchen)	No. of rooms in dwelling unit	— —
F109	How many rooms are used for sleeping?	No. of rooms used for sleeping	—
F110	OBSERVE AND RECORD MAIN MATERIAL OF THE FLOORING	Earthen / clay floor..... Planks / shingles..... Bamboo..... Polished wood..... Tiles / marble..... Cement / concrete / terrazzo..... Other	1 2 3 4 5 6 7
F111	OBSERVE AND RECORD MAIN MATERIAL OF THE ROOF.	No Roof..... Thatch..... Bamboo..... Planks / shingles..... Cardboard..... Tarpaulin..... Metal sheets..... Tiles / slates..... Concrete / cement..... Other.....	1 2 3 4 5 6 7 8 9 0

	Question	Response Category	Code
F112	OBSERVE AND RECORD MAIN MATERIAL OF THE EXTERIOR WALLS	No walls..... 01 Cane / Palm / Trunks/ Bamboo..... 02 Bamboo with mud..... 03 Stone with mud..... 04 Plywood..... 05 Cardboard..... 06 Cement / RCC wall..... 07 Stone with lime / cement..... 08 Bricks..... 09 Cement blocks..... 10 Wood planks..... 11 Rammed earth..... 12 Mud blocks..... 13 Other..... 14	
F113	What type of fuel does your household mainly use for cooking?	Electricity..... 1 Liquefied Petroleum Gas (LPG)..... 2 Kerosene..... 3 Coal..... 4 Wood..... 5 Straw / Shrubs /grass..... 6 Dung cake..... 7 No food cooked in household..... 8 Other 9	
F114	Does your household have: a) Electricity? b) A radio? c) A television? d) A fixed telephone? e) A refrigerator? f) A sofa set? g) A washing machine? h) A sewing machine? i) A power-tiller? j) A vacuum cleaner? k) A rice cooker? 1=YES 2=NO	a) b) c) d) e) f) g) h) i) j) k)	1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2

	Question	Response Category	Code
F115	Does any member of your household own: A Wrist watch? a) A Mobile phone? b) A bicycle? c) A motorcycle or scooter? d) A car or truck? e) A Computer? f) A foreign bow? g) A camera? h) A VCR/VCD/DVD player? i) A Sersho gho/kira? 1=YES 2=NO	a) 1 b) 1 c) 1 d) 1 e) 1 f) 1 g) 1 h) 1 i) 1 j) 1	2 2 2 2 2 2 2 2 2 2
F116	Does any member of this household have a bank account?	YES NO	1 2
ACCESS TO HEALTH SERVICES			
F201	What is the nearest health facility in your area?	Referral Hospital District Hospital..... Military Hospital..... Basic Health Unit I..... Basic Health Unit II..... Subpost.....	1 2 3 4 5 6
F202	How do household members usually go to that facility?	Never visited that facility..... Foot Bicycle/Motorcycle..... Private Motor Vehicle..... Public Motor Vehicle..... Foot + Motor vehicle..... Others (Specify)	1 → F204 2 3 4 5 6 7
F203	Using the above means, how long does it take to get to that facility?	No. of hours No. of minutes	___ ___ ___ ___
F204	Where does your household usually go for health care services?	Referral Hospital District Hospital..... Military Hospital..... Basic Health Unit I..... Basic Health Unit II..... Subpost.....	1 2 3 4 5 6

	Question	Response Category	Code
F205	What are your reasons for choosing that health facility?	Most accessible Provides better services Better equipped Has more qualified staff Others (Specify).....	1 2 3 4 5
F206	In the past one year, did you or any of your household members avail of health care services outside Bhutan?	YES NO →F209	1 2
F207	Which country was the service availed from?	India Thailand Others (Specify)	1 2 3
F208	How was it financed?	Personal Savings Insurance scheme Loan Sponsors..... Government Others (Specify)	1 2 3 4 5 6
F209	In the past six months, approximately how much did your household spend on health care?	Prescription Medicines.....Nu Non-prescription Medicines.....Nu Cost of Cabin.....Nu Transportation cost to and from hospitals.....Nu Dental CareNu Others (Specify)Nu	___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___
F210	In the past one year, how many times did you or any member of your household meet with a village health worker (VHW) to discuss/consult on health related matters?	Did not meet at all 1-2 times 3-5 times 6-10 times More than 10 times Not applicable.....	1 2 3 4 5 6

2012 Bhutan National Health Survey
Individual Questionnaire
(All persons 10-75 years)

Person Identification	
Dzongkhag _____	<input type="text"/> <input type="text"/>
Town/Gewog _____	<input type="text"/> <input type="text"/>
Chiwog/Block _____	<input type="text"/> <input type="text"/>
Serial Number of Sample Household	<input type="text"/> <input type="text"/>
Name of Respondent _____	
Line Number of Respondent.....	<input type="text"/> <input type="text"/>

Record of Interview				
	1	2	3	Final Visit
Date	_____ _____	_____	_____	Day <input type="text"/> <input type="text"/> Month <input type="text"/> <input type="text"/>
Interviewer's Name	_____ _____	_____ _____	_____ _____	<input type="text"/>
Result*				
*RESULT CODES: 1 COMPLETED 2 NOT AT HOME 3 REFUSED				

Name

Date of Completion

Team Supervisor _____

Office Editor _____

Data Entry Operator _____

KNOWLEDGE OF HIV/AIDS			
M101	Have you ever heard of HIV/AIDS?	YES	1
		NO.....	2 → M104
M102	<p>Please tell me if you agree or disagree with the following statements regarding HIV/AIDS:</p> <p>a) People reduce their chance of getting HIV/AIDS by having just one uninfected partner who has no other sex partners</p> <p>b) People get HIV/AIDS because of witchcraft or other supernatural means</p> <p>c) People reduce their chance of getting the HIV/AIDS by using condom every time they have sex</p> <p>d) People can get the HIV/AIDS from mosquito bites</p> <p>e) People can get the HIV/AIDS by sharing food with a person who has AIDS</p> <p>f) It is possible for a healthy-looking person to have the HIV/AIDS</p> <p>ENTER CODE FOR THE RESPONSE TO EACH STATEMENT AS FOLLOWS: 1=AGREE 2=DISAGREE 3=NOT SURE</p>	<p>a)</p> <p>b)</p> <p>c)</p> <p>d)</p> <p>e)</p> <p>f)</p>	<p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p>

M103	<p>As far as you know, can the virus that causes HIV/AIDS be transmitted from a mother to her baby</p> <p>a) During pregnancy</p> <p>b) During delivery</p> <p>c) By breastfeeding</p> <p>ENTER CODE FOR THE RESPONSE AS FOLLOWS:</p> <p>1=YES</p> <p>2=NO</p> <p>3=DON'T KNOW</p>	<p>a) 1 2 3</p> <p>b) 1 2 3</p> <p>c) 1 2 3</p>
M104	<p>Please recall the last time you had sexual intercourse with another person. Was a condom used at that time?</p>	<p>YES 1</p> <p>NO 2 → M201</p> <p>NEVER HAD SEX BEFORE 3 → M201</p>
M105	<p>What was your relationship to this person with whom you last had sexual intercourse?</p>	<p>HUSBAND/ WIFE 1</p> <p>LIVE-IN PARTNER 2</p> <p>OTHER INTIMATE PARTNER 3</p> <p>GIRLFRIEND/BOYFRIEND 4</p> <p>CASUAL ACQUAINTANCE 5</p>
SOURCES OF HEALTH-RELATED INFORMATION AND UTILIZATION OF HEALTH SERVICES		
M201	<p>Where do you usually get information on health-related topics such as healthy life-style, prevention of illnesses, etc? Please tell me all your usual sources of information.</p> <p>PROBE: What or where else?</p> <p>CIRCLE ALL SOURCES MENTIONED.</p>	<p>HEALTH PROFESSIONAL..... A</p> <p>RADIO (BBS, KUZOO FM, ETC)... B</p> <p>TELEVISION..... C</p> <p>INTERNET..... D</p> <p>NEWSPAPERS IN DZONGKAG... E</p> <p>NEWSPAPERS IN ENGLISH.... F</p> <p>POSTERS/LEAFLETS..... G</p> <p>COMMUNITY MEETINGS..... H</p> <p>ADVOCACY PROGRAMMES... I</p> <p>PEERS. J</p> <p>VILLAGE HEALTH WORKER K</p> <p>SCHOOLS/COLLEGES/NFE ... L</p> <p>MSTF M</p> <p>ORC N</p> <p>OTHERS O</p>
M202	<p>Have you visited a health facility for any health concern during the last 12 months?</p>	<p>YES, VISITED A HOSPITAL 1</p> <p>YES, VISITED A BHU I 2</p> <p>YES, VISITED A BHU II 3</p> <p>NO..... 4 → M205</p>

M203	In general, how satisfied are you with the quality of the services provided in (FACILITY MENTIONED IN M202)	SATISFIED..... 1 → M205 NOT SATISFIED..... 2 NO OPINION..... 3 → M205
M204	What is the main reason why you are not satisfied with the quality of services in (FACILITY MENTIONED IN M202)	Difficult to meet health staff..... 1 Health staff mostly out of station..... 2 Waiting time too long..... 3 Unfriendly staff..... 4 Incompetent/No faith in health staff.. 5 Frequent stock-out on drugs..... 6 Others..... 7
M205	Have you ever heard about the Health Help Center (HHC) of the Ministry of Health?	YES..... 1 NO..... 2 → M209
M206	During the past 12 months, have you called HHC for some assistance?	YES..... 1 NO 2 → M209
M207	During your last call, for which type of service did you call HHC?	Emergency ambulance service..... 1 Medical Advice..... 2 Others..... 3
M208	Did you find the service useful?	YES..... 1 NO..... 2
M209	Have you heard of traditional medicine (<i>Sowa Rigpa</i>) services being provided at the nearest health facility?	YES..... 1 NO..... 2 → M211
M210	In the past 12 months, have you consulted a <i>Drungtsho/ sMenpa</i> for your health problem in the health facility?	YES..... 1 NO..... 2
M211	Other than the <i>Drungtsho/ sMenpa</i> , do you consult other traditional practitioners for your health problem?	YES..... 1 NO..... 2 → M301
M212	For which type of health concern do you usually consult him/her? CIRCLE ALL HEALTH CONCERNS MENTIONED.	HIGH FEVER A STOMACH PAIN/DIARRHEA..... B CHRONIC COUGH..... C CONVULSION..... D CHEST & OTHER BODY PAINS.... E BONE FRACTURE..... F PILES/BOILS..... G INFERTILITY/IMPOTENCE/ SEXUAL DYSFUNCTION..... H SNAKE BITES, CUTS AND OTHER INJURIES..... I OTHERS..... J

TOBACCO USE			
M301	Do you smoke now?	YES.....	1 → M303
		NO.....	2
M302	Have you ever smoked tobacco products such as cigarettes, bidi, cigar?	YES.....	1
		NO.....	2 → M309
M303	(Do/Did) you smoke on a daily basis or just occasionally?	DAILY BASIS.....	1
		OCCASIONALLY.....	2
M304	On average, how many sticks of cigarettes (do/did) you smoke per day?	Less than 5.....	1
		5 – 10.....	2
		11 – 20.....	3
		21 or more.....	4
M305	What (is/was) your main reason for smoking?		
	a) TO FEEL RELAXED/RELIEF FROM STRESS/HELP COPE WITH MY PROBLEMS/HELP ME CONCENTRATE	a).....	1
	b) ADDICTED TO SMOKING/ OUT OF HABIT	b).....	2
	c) TO FEEL CONFIDENT/ GROWN UP/IMPORTANT	c).....	3
	d) TO BE LIKE MY FAMILY MEMBERS/ RELATIVES	d).....	4
	e) TO BE LIKE MOVIE/TV STARS	e).....	5
	f) TO BE LIKED/TO IMPRESS/ TO BOND WITH MY FRIENDS	f).....	6
	g) TO ENTERTAIN CLIENTS/ FRIENDS	g).....	7
	h) TO LOSE WEIGHT	h).....	8
	i) OTHERS	i).....	9
M306	How old were you when you first tried (or experimented) smoking?	_____ YEARS OLD	— —

M307	<p>IF YES TO M301: Which of the following best describes you: READ OUT THE FOLLOWING:</p> <p>a) I PLAN TO QUIT SMOKING WITHIN THE NEXT MONTH</p> <p>b) I PLAN TO QUIT SMOKING SOMETIME IN THE FUTURE</p> <p>c) I DO NOT PLAN TO QUIT SMOKING BUT PLAN TO CUT DOWN ON THE NUMBER OF CIGARETTES SMOKED</p> <p>d) I DO NOT PLAN TO QUIT SMOKING AND DO NOT PLAN TO CUT DOWN ON THE NUMBER OF CIGARETTES SMOKED</p>	<p>a)..... 1</p> <p>b)..... 2</p> <p>c)..... 3</p> <p>d)..... 4 → M309</p>
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M308	<p>What is the reason why you plan to quit smoking or plan to cut down on the number of cigarettes you smoke?</p> <p>a) ADVISED BY MY HEALTH PROFESSIONAL TO STOP</p> <p>b) ADVISED BY RELIGIOUS PERSONNEL OR RELIGION PROHIBITS TOBACCO USE</p> <p>c) PRESSURE/ADVICE TO STOP FROM FAMILY/ FRIENDS</p> <p>d) LEARNT ABOUT THE HARMFUL EFFECTS OF SMOKING</p> <p>e) HEALTH REASONS/ EXPERIENCED ILL EFFECTS OF SMOKING</p> <p>f) CONCERNED ABOUT THE HEALTH OF THOSE AROUND ME</p> <p>g) CIGARETTES HAVE BECOME TOO EXPENSIVE/ TOO DIFFICULT TO FIND</p> <p>h) SOCIAL STIGMA ASSOCIATED WITH SMOKING</p> <p>i) PRESSURE DUE TO SMOKING BANS</p> <p>j) OTHER</p>	<p>a)..... 1</p> <p>b)..... 2</p> <p>c)..... 3</p> <p>d)..... 4</p> <p>e)..... 5</p> <p>f)..... 6</p> <p>g)..... 7</p> <p>h)..... 8</p> <p>i)..... 9</p> <p>j)..... 10</p>
M309	<p>Do you currently use any smokeless tobacco such as snuff, chewing tobacco, betel, doma khamtog daily?</p>	<p>YES..... 1</p> <p>NO..... 2 →M401</p>
M310	<p>On average, how many times a day do you use</p> <p>a) snuff (by nose)</p> <p>b) chewing tobacco</p> <p>c) domakhmatog and tobacco</p> <p>d) Doma khamtog</p>	<p>NUMBER OF TIMES:</p> <p>SNUFF (BY NOSE)..... — —</p> <p>CHEWING TOBACCO..... — —</p> <p>DOMAKHAMTOG AND TOBACCO..... — —</p> <p>DOMA KHAMTOG..... — —</p>
ALCOHOL CONSUMPTION		
M401	<p>Have you ever consumed an alcoholic drink such as ara, beer, wine, whiskey, etc.?</p>	<p>YES..... 1</p> <p>NO..... 2 →M501</p>

M402	Have you consumed alcohol within the past 12 months?	YES..... 1 NO..... 2 → M409
M403	In the past 12 months, how frequently have you had at least one drink?	DAILY..... 1 5-6 DAYS A WEEK..... 2 1-4 DAYS A WEEK..... 3 1-3 DAYS A MONTH..... 4 LESS THAN ONCE A MONTH... 5
M404	Have you consumed an alcoholic drink within the past 30 days?	YES..... 1 NO..... 2 → M411
M405	What was your main alcoholic drink within the past 30 days?	ARA..... 1 BANGCHANG/SINGCHANG/ TONGPA 2 WINE..... 3 BEER..... 4 LIQUOR (RUM, WHISKEY, BRANDY) 5
M406	During the past 30 days, how many occasions did you have at least one standard alcoholic drink?	NUMBER..... — — DON'T KNOW..... 99
M407	During the past 30 days, when you drank alcohol, on average, how many standard alcoholic drinks did you have during one drinking occasion?	NUMBER OF DRINKS..... — — DON'T KNOW..... 99
M408	During the past 30 days, how did you usually get the alcohol you drank?	BREWED IT AT HOME 1 STORE, SHOP, STREET VENDOR... 2 GIVEN BY FRIENDS/RELATIVES... 3 OTHERS..... 4
M409	<u>FOR MALE RESPONDENTS ONLY:</u> During the past 30 days, how many times did you have 5 or more standard alcoholic drink in a single drinking session? <u>FOR FEMALE RESPONDENTS ONLY:</u> During the past 30 days, how many times did you have 4 or more standard alcoholic drink in a single drinking session?	NUMBER OF TIMES..... — — DON'T KNOW..... 99
M410	In the past one month, on average how much did you spend on alcohol?	Nu — — —

M411	During your life, how many times did you drink so much that you were really drunk, that is, you staggered while walking or could not get up at all, could not speak right or threw up?	NEVER..... 1 1 OR 2 TIMES..... 2 3 TO 9 TIMES..... 3 10 TIMES OR MORE..... 4
DIET		
M501	In a normal week, on how many days do you eat fruits?	Number of days..... — — Don't eat fruits normally..... 00 } → M503 Don't know..... 99 }
M502	How many servings of fruit do you eat on one of those days?	Number of servings..... — — Don't know..... 99
M503	In a normal week, on how many days do you eat vegetables (excluding chilies and tubers such as potatoes)?	Number of days..... — — Don't eat vegetables normally..... 00 } → M Don't know..... 601 } 99
M504	How many servings of vegetables do you eat on one of those days?	Number of servings..... — — Don't know..... 99
PHYSICAL ACTIVITY		
M601	Does your work involve vigorous activities that cause an increase in breathing or heart rate for at least 10 minutes continuously?	YES..... 1 NO..... 2 → M604
M602	In a typical week, how many days do you do those type of activities as part of your work?	NUMBER OF DAYS —
M603	How much time do you spend doing those activities at work on a typical day?	NUMBER OF HOURS — — NUMBER OF MINUTES — —
M604	Do you walk or use a bicycle for at least 10 minutes continuously to get to and from places?	YES..... 1 NO..... 2 → M607
M605	In a typical week, on how many days do you walk or bicycle for at least 10 minutes continuously to get to and from places?	NUMBER OF DAYS —
M606	How much time do you spend walking or bicycling for travel on a typical day?	NUMBER OF HOURS — — NUMBER OF MINUTES — —
M607	Do you do any sports, fitness or recreational activities that cause an increase in breathing or heart rate for at least 10 minutes continuously?	YES..... 1 NO..... 2 → M701

M608	In a typical week, how many days do you do those type of activities?	NUMBER OF DAYS	___
M609	How much time do you spend doing those activities on a typical day?	NUMBER OF HOURS NUMBER OF MINUTES	___ ___ ___ ___
DIABETES			
M701	Have you ever heard of Diabetes?	YES..... NO.....	1 2 → M801
M702	Have you ever been told by a health professional that you have diabetes?	YES..... NO.....	1 2 → M801
M703	What type of medication are you on?	NONE INSULIN INJECTIONS ORAL ANTI-DIABETICS AGENT.. TRADITIONAL MEDICINE(SWOARIGPA) OTHERS.....	1 2 3 4 5
M704	How many years have you had diabetes?	NUMBER OF YEARS	___ ___
HYPERTENSION			
M801	Have you ever been told by a health professional that you have hypertension?	YES NO.....	1 2 → M901
M802	Are you currently taking any medication for your hypertension?	YES, MEDICALLY PRESCRIBED TABLETS ... YES, TRADITIONAL MEDICINE (SWORIGPA) YES, OTHERS NO	1 2 3 4
M803	How many years have you had hypertension?	NUMBER OF YEARS	___ ___
ORAL HEALTH			
M901	Do you brush your teeth regularly?	YES NO.....	1 2 → M903
M902	How often do you brush your teeth?	At least once a day..... Few times a week..... Few times a month..... Never.....	1 2 3 4
M903	How long has it been since your last visit to a health facility for oral checkup or treatment?	LESS THAN 6 MONTHS..... 6-12 MONTHS..... 1-2 YEARS..... 2 OR MORE YEARS..... NEVER RECEIVED DENTAL CARE...	1 2 3 4 5 → MA01

M904	What was the main reason for your last visit to the dentist	CONSULTATION/ADVICE 1 PAIN OR TROUBLE WITH TEETH, GUMS OR MOUTH 2 TREATMENT/FOLLOWUP TREATMENT. 3 OTHERS..... 4
BREAST CANCER [Ask only females aged 20 - 59]		
MA01	Have you heard about breast cancer?	YES..... 1 NO..... 2
MA02	Have you heard about self-breast examination?	YES..... 1 NO..... 2
MA03	If you have breast lump, who will you go to?	HEALTH PROFESSIONAL..... 1 LAMA 2 INDIGENOUS HOSPITAL..... 3 TRADITIONAL HEALER..... 4 NOWHERE..... 5
MA04	Has anyone in your family died of breast cancer?	YES..... 1 NO..... 2 DON'T KNOW..... 3
MA05	Do you know that breast cancer can be diagnosed early?	YES..... 1 NO..... 2
CERVICAL CANCER [Ask only females aged 20 - 59]		
MB01	Have you heard about PAP smear?	YES..... 1 NO..... 2
MB02	PAP smear test is a simple test involving the scrapping of cells from the mouth of the womb to detect cervical cancer. Have you ever had this test done to you?	YES..... 1 NO..... 2→ MB04 DON'T KNOW..... 9→ MC01
MB03	How long ago did you have your last smear done?	LESS THAN 6 MONTHS..... 1 6 MONTHS TO 1 YEAR AGO... 2 MORE THAN 1 YEAR AGO..... 3 }→ MB05
MB04	What is the main reason for not doing a PAP smear test?	NEVER HEARD ABOUT IT..... 1 NOT AT RISK/ I AM HEALTHY..... 2 TOO OLD/TOO YOUNG..... 3 NOT SUGGESTED BY DOCTOR .. 4 AFRAID OF KNOWING THE RESULT. 5 INCONVENIENT (clinic/hospital too far away or wait at clinic/hospital too long) 7 PAINFUL TEST/EMBARRASING.... 8 NOT SEXUALLY ACTIVE..... 9 OTHERS.....

MB05	Can you tell me how often women of your age should go for PAP smear test?	ONCE EVERY ____ MONTHS... DON'T KNOW..... 99
MENTAL HEALTH		
MC01	During the past 12 months, how often have you felt lonely?	Never..... 1 Rarely..... 2 Sometimes..... 3 Always..... 4
MC02	During the past 12 months, how often have you been so worried about something that you could not sleep at night?	Never..... 1 Rarely..... 2 Sometimes..... 3 Always..... 4
MC03	During the past 12 months, were you in a situation which made you to seriously consider ending your life?	YES..... 1 NO..... 2 →MD01
MC04	How many times were you in such a situation that you considered ending your life?	Once..... 1 Twice..... 2 3 or more times..... 3
DRUG OR SUBSTANCE ABUSE		
MD01	In your life time have you ever, even once, used one or more drugs or substance to get high?	YES 1 NO..... 2 → FILTER BOX 1
MD02	How old were you when you first tried (or experimented) to use drugs or substances to get high?	YEARS OLD ____
MD03	During the past 30 days, what type of drug or substance have you used, even at least once, to get high? INCLUDE UNDER 'OTHERS' PRESCRIPTION MEDICINE WHICH WAS USED FOR NON-MEDICAL PURPOSE (e.g. cough syrup, N10, diazepam,etc.)	MARIJUANA..... A INHALANTS OR SOLVENTS..... B OTHERS..... C NOT USED ANY IN PAST 30 days... D →MD06
MD04	Where do you usually get the drug or substance that you use?	ACROSS BORDER TOWNS..... 1 PHARMACIES IN BHUTAN..... 2 FRIENDS..... 3 DEALERS..... 4 OTHERS..... 5

MD05	<p>How many times have you used (DRUG OR SUBSTANCE MENTIONED IN MD03) in the past 30 days?</p> <p>ENCIRCLE THE NUMBER OF TIMES EACH TYPE OF DRUG/ SUBSTANCE HAS BEEN USED. ENCIRCLE '5', IF NOT USED.</p>	<p>MD05a: <u>MARIJUANA:</u></p> <p>1-2 TIMES..... 1</p> <p>3-5 TIMES..... 2</p> <p>6-10 TIMES..... 3</p> <p>MORE THAN 10 TIMES..... 4</p> <p>NOT USED..... 5</p> <p>MD05b: <u>INHALANTS OR SOLVENTS</u></p> <p>1-2 TIMES..... 1</p> <p>3-5 TIMES..... 2</p> <p>6-10 TIMES..... 3</p> <p>MORE THAN 10 TIMES..... 4</p> <p>NOT USED..... 5</p> <p>MD05c: <u>OTHERS</u></p> <p>1-2 TIMES..... 1</p> <p>3-5 TIMES..... 2</p> <p>6-10 TIMES..... 3</p> <p>MORE THAN 10 TIMES..... 4</p> <p>NOT USED..... 5</p>
MD06	During your lifetime, have you ever injected any illegal drugs into your body to get high?	<p>YES..... 1</p> <p>NO..... 2 → FILTER BOX 1</p>
MD07	During the past 12 months, how many times have you injected any illegal drugs in to your body to get high?	<p>1-2 TIMES..... 1</p> <p>3-5 TIMES..... 2</p> <p>6-10 TIMES..... 3</p> <p>MORE THAN 10 TIMES..... 4</p>
<p>FILTER BOX 1: TICK BOX AS APPROPRIATE:</p> <p><input type="checkbox"/> MALE → END INTERVIEW</p> <p><input type="checkbox"/> FEMALE → WOMEN'S QUESTIONNAIRE</p>		

2012 Bhutan National Health Survey

WOMEN'S Questionnaire

(Women 10-49 years)

Woman's Identification	
Dzongkhag _____	<input type="text"/> <input type="text"/>
Town/Gewog _____	<input type="text"/> <input type="text"/>
Chiwog/Block _____	<input type="text"/> <input type="text"/>
Serial Number of Sample Household	<input type="text"/> <input type="text"/>
Name of Woman _____	
Line Number of this Woman.....	<input type="text"/> <input type="text"/>

Record of Interview				
	1	2	3	Final Visit
Date	<input type="text"/>	<input type="text"/>	<input type="text"/>	Day <input type="text"/> <input type="text"/> Month <input type="text"/> <input type="text"/>
Interviewer's Name	<input type="text"/>	<input type="text"/>	<input type="text"/>	
Result*	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
*RESULT CODES: 4 COMPLETED 5 NOT AT HOME 6 REFUSED				

	Name	Date of Completion
Team Supervisor	_____	_____
Office Editor	_____	_____
Data Entry Operator	_____	_____

FERTILITY SECTION		
W101	At what age did you have your first menstrual period? __ years old 88= Not yet menstruated	AGE..... __ __ NOT YET MENSTRUATED... 88 → W401
W102	Now I would like to ask about all the LIVE births you have had during your life. Have you ever given birth?	YES..... 1 NO..... 2 → W401
W103	What was your age when you became pregnant for the first time?	__ __
W104	Do you have any sons or daughters to whom you have given birth who are now living with you?	YES..... 1 NO..... 2 → W106
W105	How many sons live with you? And how many daughters live with you? _____ Number of Sons _____ Number of Daughters	SONS AT HOME..... __ __ DAUGHTERS AT HOME ... __ __
W106	Do you have any sons or daughters to whom you have given birth who are alive but do not live with you?	YES..... 1 NO..... 2 → W108
W107	How many sons are alive but do not live with you? And how many daughters are alive but do not live with you?	SONS ELSEWHERE..... __ __ DAUGHTERS ELSEWHERE... __ __
W108	Have you ever given birth to a boy or girl who was born alive but later died? IF NO, PROBE: Any baby who cried or showed signs of life but did not survive?	YES..... 1 NO..... 2 → W110
W109	How many boys have died? How many girls have died? IF NONE, RECORD '00'	BOYS DEAD..... __ __ GIRLS DEAD..... __ __
W110	SUM ANSWERS TO W105, W107 and W109 AND ENTER TOTAL So altogether, you have given birth to (READ OUT TOTAL BIRTHS) children? Is that right? PROBE IF NOT RIGHT AND CORRECT THE NUMBERS.	TOTAL BIRTHS..... __ __

W201 Now I would like to record the names of all your **LIVE** births, whether still alive or not, starting with the first one you had. **RECORD NAMES OF ALL THE BIRTHS IN W202. RECORD TWINS AND TRIPLETS ON SEPARATE ROWS.**

(If there are more than 12 births, use an additional questionnaire, starting with the second row).

W202	W203	W204	W205	W206	W207	W208	W209	W210
What name was given to your (first/next) baby? RECORD NAME BIRTH HISTORY NO.	Is (NAME) a boy or a girl?	Were any of these births twins?	In what month and year was (NAME) born?	Is (NAME) still alive?	How old was (NAME) at his/her last birthday?	Is (NAME) living with you?	RECORD HOUSEHOLD LINE NUMBER OF CHILD (RECORD '00' IF CHILD NOT LISTED IN HOUSEHOLD)	How old was (NAME) when he/she died? IF '1 YR' PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS.
01	Boy 1 Girl 2	Single 1 Multiple 2	Mo. ____ Yr. ____	Yes 1 No 2 →W210	____ years	Yes 1 No 2	Go to Next Birth	Days 1 ____ Months 2 ____ Years 3 ____
02	Boy 1 Girl 2	Single 1 Multiple 2	Mo. ____ Yr. ____	Yes 1 No 2 →W210	____ years	Yes 1 No 2	Go to Next Birth	Days 1 ____ Months 2 ____ Years 3 ____
03	Boy 1 Girl 2	Single 1 Multiple 2	Mo. ____ Yr. ____	Yes 1 No 2 →W210	____ years	Yes 1 No 2	Go to Next Birth	Days 1 ____ Months 2 ____ Years 3 ____
04	Boy 1 Girl 2	Single 1 Multiple 2	Mo. ____ Yr. ____	Yes 1 No 2 →W210	____ years	Yes 1 No 2	Go to Next Birth	Days 1 ____ Months 2 ____ Years 3 ____
05	Boy 1 Girl 2	Single 1 Multiple 2	Mo. ____ Yr. ____	Yes 1 No 2 →W210	____ years	Yes 1 No 2	Go to Next Birth	Days 1 ____ Months 2 ____ Years 3 ____
06	Boy 1 Girl 2	Single 1 Multiple 2	Mo. ____ Yr. ____	Yes 1 No 2 →W210	____ years	Yes 1 No 2	Go to Next Birth	Days 1 ____ Months 2 ____ Years 3 ____

W202	W203	W204	W205	W206	W207	W208	W209	W210
What name was given to your (first/next) baby? RECORD NAME BIRTH HISTORY NO.	Is (NAME) a boy or a girl?	Were any of these births twins?	In what month and year was (NAME) born?	Is (NAME) still alive?	How old was (NAME) at his/her last birthday?	Is (NAME) living with you?	RECORD HOUSEHOLD LINE NUMBER OF CHILD (RECORD '00' IF CHILD NOT LISTED IN HOUSEHOLD)	How old was (NAME) when he/she died? IF '1 YR' PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS.
07	Boy 1 Girl 2	Single 1 Multiple 2	Mo. ____ Yr. ____	Yes 1 No 2 →W210	____ years	Yes 1 No 2	____ Go to Next Birth	Days 1 ____ Months 2 ____ Years 3 ____
08	Boy 1 Girl 2	Single 1 Multiple 2	Mo. ____ Yr. ____	Yes 1 No 2 →W210	____ years	Yes 1 No 2	____ Go to Next Birth	Days 1 ____ Months 2 ____ Years 3 ____
09	Boy 1 Girl 2	Single 1 Multiple 2	Mo. ____ Yr. ____	Yes 1 No 2 →W210	____ years	Yes 1 No 2	____ Go to Next Birth	Days 1 ____ Months 2 ____ Years 3 ____
10	Boy 1 Girl 2	Single 1 Multiple 2	Mo. ____ Yr. ____	Yes 1 No 2 →W210	____ years	Yes 1 No 2	____ Go to Next Birth	Days 1 ____ Months 2 ____ Years 3 ____
11	Boy 1 Girl 2	Single 1 Multiple 2	Mo. ____ Yr. ____	Yes 1 No 2 →W210	____ years	Yes 1 No 2	____ Go to Next Birth	Days 1 ____ Months 2 ____ Years 3 ____
12	Boy 1 Girl 2	Single 1 Multiple 2	Mo. ____ Yr. ____	Yes 1 No 2 →W210	____ years	Yes 1 No 2	____ Go to Next Birth	Days 1 ____ Months 2 ____ Years 3 ____

FAMILY PLANNING			
W401	Now I would like to talk about family planning - the various ways or methods that a couple can use to delay or avoid a pregnancy.		
	Have you ever heard of (METHOD)?		
	Female Sterilization. PROBE: Women can have an operation to avoid having any more children.	FEMALE STERILIZATION....	YES NO 1 2
	Male Sterilization. PROBE: Men can have an operation to avoid having any more children.	MALE STERILIZATION.....	1 2
	IUD. PROBE: Women can have a loop or coil placed inside them by a doctor or a nurse.	IUD.....	1 2
	Injectables. PROBE: Women can have an injection by a health provider that stops them from becoming pregnant for one or more months.	INJECTABLES.....	1 2
	Implants. PROBE: Women can have one or more small rods placed in their upper arm by a doctor or nurse which can prevent pregnancy for one or more years.	IMPLANTS.....	1 2
	Oral Contraceptive Pill. PROBE: Women can take a pill every day to avoid becoming pregnant.	ORAL CONTRACEPTIVE PILL	1 2
	Male Condom. PROBE: Men can put a rubber sheath on their penis before sexual intercourse	MALE CONDOM.....	1 2
	Female Condom. PROBE: Women can place a sheath in their vagina before sexual intercourse.	FEMALE CONDOM.....	1 2
	Periodic Abstinence or Rhythm Method. PROBE: To avoid pregnancy, women do not have sexual intercourse on the days of the month they think they can get pregnant.	PERIODIC ABSTINENCE/ RYTHMN	1 2
	Withdrawal. PROBE: Men can be careful and pull out before climax.	WITHDRAWAL.....	1 2
	Emergency Contraception. PROBE: As an emergency measure within three days after they have unprotected sexual intercourse, women can take special pills to prevent pregnancy.	EMERGENCY CONTRACEPTION..	1 2

FILTER BOX1: TICK AS APPROPRIATE:			
AGE LESS THAN 13 <input type="checkbox"/> → W801			
AGE 13 OR OVER <input type="checkbox"/> → W402			
W402	Are you currently pregnant?	YES.....	1
		NO.....	2→ FILTER BOX2
		NOT SURE.....	3→ FILTER BOX2
W403	When you got pregnant, did you want to get pregnant at that time?	YES.....	1→ FILTER BOX2
		NO.....	2
W404	Did you want to have a baby later on or did you not want any (more) children?	LATER.....	1
		NO MORE.....	2

FILTER BOX 2: CHECK BIRTH HISTORY OF RESPONDENT AND TICK AS APPROPRIATE:			
NO LIVE BIRTH <input type="checkbox"/> → W801			
WITH AT LEAST ONE LIVE BIRTH <input type="checkbox"/> → NAME OF LAST LIVE BIRTH _____			
W405	From birth history, enter birth order of (NAME)	BIRTH ORDER.....	__ __
W406	When you got pregnant with (NAME), did you want to get pregnant at that time?	YES.....	1→ W409
		NO.....	2
W407	Did you want to have a baby later on, or did you not want any (more) children?	LATER.....	1
		NO MORE.....	2→ W409
W408	How much longer did you want to wait? (Enter number of months or number of years)	MONTHS.....	1 __ __
		YEARS.....	2 __ __
W409	Are you currently doing something or using any method to delay or avoid getting pregnant?	YES.....	1
		NO.....	2→ W413

W410	Which method are you using? CIRCLE ALL MENTIONED, IF MORE THAN ONE MENTIONED.	FEMALE STERILIZATION MALE STERILIZATION IUD INJECTABLES IMPLANTS ORAL CONTRACEPTIVE PILL MALE CONDOM FEMALE CONDOM DIAPHRAGM FOAM/JELLY PERIODIC ABSTINENCE/ RHYTHM WITHDRAWAL OTHER (SPECIFY)	A → W412 B C D E F G H I J K L M
W411	Since what month and year have you been using (CURRENTMETHOD) without stopping? PROBE: For how long have you been using (CURRENT METHOD) now without stopping? ENTER 99 IF MONTH IS NOT KNOWN; 9999 IF YEAR IS NOT KNOWN.	MONTH..... YEAR..... SKIP TO FILTER BOX 3	____ ____ ____
W412	In what month and year was the sterilization performed? ENTER 99 IF MONTH IS NOT KNOWN; 9999 IF YEAR IS NOT KNOWN.	MONTH..... YEAR..... SKIP TO FILTER BOX 3	____ ____ ____
W413	Have you ever used anything or tried in any way to delay or avoid getting pregnant during the last few years?	YES..... NO.....	1 2 → FILTER BOX 4

W414	Which method did you use?	FEMALE STERILIZATION	A
		MALE STERILIZATION	B
		IUD	C
		INJECTABLES	D
		IMPLANTS	E
		ORAL CONTRACEPTIVE PILL	F
		MALE CONDOM	G
		FEMALE CONDOM	H
		DIAPHRAGM	I
		FOAM/JELLY	J
		PERIODIC ABSTINENCE/	K
		RYTHMN	L
		WITHDRAWAL	M
		OTHERS(SPECIFY)_____	
W415	Why did you stop using the (METHOD)? Did you become pregnant while using (METHOD), or did you stop to get pregnant, or did you stop for some other reason?	GOT PREGNANT WHILE USING.	1
		WANTED TO GET PREGNANT...	2
		OTHERS(Specify) _____	3

FILTER BOX 3 : CHECK ENTRIES IN W410 OR W414 FOR METHOD USED AND TICK AS APPROPRIATE:

METHODS C TO J MENTIONED ☐ → **W416**

OTHER METHODS ☐ → **Filter Box 4**

W416	Where do/did you obtain (METHOD)?	HEALTH FACILITIES IN BHUTAN..	1
		PRIVATE PHARMACY/SHOPS IN BHUTAN.....	2
		PHARMACY/SHOPS OUTSIDE BHUTAN.....	3
		OTHERS (SPECIFY)_____	4

ANTENATAL CARE

FILTER BOX 4 : CHECK BIRTH HISTORY RECORD AND TICK AS APPROPRIATE:

NO LIVE BIRTH DURING LAST 2 YEARS ☐ → **W801**

WITH A LIVE BIRTH DURING LAST 2 YEARS ☐ → **NAME OF LAST CHILD** _____

W501	Did you see anyone for antenatal care when you got pregnant with (NAME)?	YES.....	1
		NO.....	2 → W506

W502	Whom did you see?	DOCTOR..... 1 NURSE/MIDWIFE..... 2 HA/BHW..... 3 VILLAGE HEALTH WORKER..... 4 OTHERS (SPECIFY)_____ 5
W503	How many times did you go for antenatal visits during this pregnancy?	NUMBER OF TIMES..... — — DON'T KNOW..... 99
W504	When did you go for antenatal visit for the first time during this pregnancy?	FIRST TRIMESTER..... 1 SECOND TRIMESTER..... 2 THIRD TRIMESTER..... 3
W505	During any of your antenatal visits, were you told of the danger signs of pregnancy?	YES..... 1 NO..... 2 I KNEW IT BEFORE..... 3
W506	As far as you know now, what are the danger signs of pregnancy? ASK RESPONDENT TO NAME DANGER SIGNS. ENCIRCLE ALL THAT SHE MENTIONS.	BLEEDING..... A HIGH FEVER..... B PROLONGED LABOR..... C CONVULSIONS..... D SEVER HEADACHE..... E DON'T KNOW..... F OTHERS (SPECIFY)_____ G
CHILD DELIVERY		
W601	Where did you give birth to (NAME)?	HOSPITAL..... 1 BHU..... 2 SUBPOST..... 3 PRIVATE HOSPITAL..... 4 AT HOME..... 5 OTHERS (SPECIFY)_____ 6
W602	Who assisted with the delivery of (NAME)? Anyone else? PROBE FOR TYPE(S) OF PERSON(S) AND RECORD ALL MENTIONED. IF RESPONDENT SAYS NO ONE ASSISTED, PROBE TO DETERMINE WHETHER ANY ADULTS WERE PRESENT AT THE DELIVERY.	DOCTORS..... A NURSE/MIDWIFE..... B HA/BHW..... C VILLAGE HEALTH WORKER..... D RELATIVE/FRIEND..... E OTHERS (SPECIFY)_____ F
W603	Did you feed (NAME) with colostrum after birth?	YES..... 1 NO..... 2

POST-NATAL CARE			
W701	Now I would like to talk to you about checks on your health after delivery, for example, someone asking you questions about your health or examining you. Did anyone check on your health after you gave birth to (NAME)?	YES..... 1 NO..... 2 → W704	
W702	Who checked on your health at that time?	DOCTORS..... 1 NURSE/MIDWIFE..... 2 HA/BHW..... 3 VILLAGE HEALTH WORKER..... 4 OTHERS (SPECIFY)_____ 5	
W703	How long after delivery did the first PNC check take place? IF LESS THAN ONE DAY, RECORD HOURS. IF LESS THAN ONE WEEK, RECORD DAYS.	HOURS..... 1 ____ DAYS..... 2 ____ WEEKS..... 3 ____ DON'T KNOW..... 999	
W704	During the days after delivery, did you observe any dietary restrictions?	YES..... 1 NO..... 2 → W801	
W705	What kind of food did you avoid during those days? ENCIRCLE ALL THAT RESPONDENT MENTIONS.	GREEN VEGETABLES..... A CHILIES..... B MEAT..... C FRUITS..... D OTHERS (SPECIFY)_____ E	

MATERNAL MORTALITY				
W801	How many children did your mother give birth to including you?	NUMBER OF BIRTHS TO NATURAL MOTHER..... ____ ____ IF EQUAL TO 1 END INTERVIEW		
W802	How many of these births did your mother have before you were born?	NUMBER OF PRECEDING BIRTHS..... ____ ____		
		(1) Oldest	(2) Next Oldest	(3) Next Oldest
W803	What name was given to your oldest (next oldest) brother or sister?	_____	_____	_____

W804	Is (NAME) male or female? 1=MALE 2=FEMALE	1	2	1	2	1	2	1	2
W805	Is (Name) still alive? 1=YES 2=NO	1 ↓ W807	2	1 ↓ W807	2	1 ↓ W807	2	1 ↓ W807	2
W806	How old is (NAME)?	— — GO TO NEXT COL.		— — GO TO NEXT COL.		— — GO TO NEXT COL.		— — GO TO NEXT COL.	
W807	How many years ago did (NAME) die?	— —		— —		— —		— —	
W808	How old was (NAME) when he/ she died?	If male or died before age 12, go to nxt col.		If male or died before age 12, go to nxt col.		If male or died before age 12, go to nxt col.		If male or died before age 12, go to nxt col.	
W809	WAS (NAME) pregnant when she died? 1=YES 2=NO	1 ↓ Next column	2	1 ↓ Next column	2	1 ↓ Next column	2	1 ↓ Next column	2
W810	Did (NAME) die during childbirth? 1=YES 2=NO	1 ↓ W812	2	1 ↓ W812	2	1 ↓ W812	2	1 ↓ W812	2
W811	Did (NAME) die within 2 months after the end of a pregnancy or childbirth? 1=YES 2=NO	1	2	1	2	1	2	1	2
W812	How many live born children did (NAME) give birth to during her lifetime (before this pregnancy?)	— —		— —		— —		— —	

2012 Bhutan National Health Survey

Immunization Record

Person Identification	
Dzongkhag _____	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>
Town/Gewog _____	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>
Chiwog/Block _____	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>
Serial Number of Sample Household	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>

Record of Interview				
	1	2	3	Final Visit
Date	_____	_____	_____	Day <div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>
				Month <div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>
Interviewer's Name	_____	_____	_____	
Result*	_____	_____	_____	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>
*RESULT CODES: 1 COMPLETED 2 NOT AT HOME 3 REFUSED				

	Name	Date of Completion
Team Supervisor	_____	_____
Office Editor	_____	_____
Data Entry Operator	_____	_____

Enter the name(s) of children aged between 12 months and 24 months, that is, children whose date of birth is between 20 November 2010 to 20 November 2011. Then for each child, enter all information required in questions I101 to I103.

	NAME OF A CHILD			
I101	LINE NUMBER OF (NAME) AS IT APPEARS IN THE HOUSEHOLD ROSTER	___	___	___
I102	DATE OF BIRTH OF (NAME) IN MONTH AND YEAR	DAY ___ MO. ___ YR. ____	DAY ___ MO. ___ YR. ____	DAY ___ MO. ___ YR. ____
I103	SEX OF (NAME) 1=MALE 2=FEMALE	1 2	1 2	1 2
I104	May I please have a look at the immunization card of (NAME)? 1=IMMUNIZATION CARD SHOWN 2=IMMUNIZATION CARD AVAILABLE BUT NOT SHOWN 3=IMMUNIZATION CARD NOT AVAILABLE	1 2 →I106 3 →I106	1 2 →I106 3 →I106	1 2 →I106 3 →I106
I105	INDICATE WHETHER THE IMMUNIZATION CARD CONTAINS AT LEAST 1 ENTRY FROM THE HEALTH CENTER 1=YES, WITH ENTRY 2=NO, WITHOUT ANY ENTRY	1 →I107 2	1 →I107 2	1 →I107 2
I106	Did (NAME) receive any immunization, even if only partial? 1=YES 2= NO	1 2 →I120	1 2 →I120	1 2 →I120
I107	FILL OUT INFORMATION FOR ALL THE IMMUNIZATION RECEIVED BY (NAME). IF INFORMATION IS INDICATED IN THE (NAME)'S HEALTH CARD, SIMPLY COPY THE INFORMATION. OTHERWISE, ASK THE RESPONDENT TO GIVE YOU THE NECESSARY INFORMATION.			

	NAME OF A CHILD			
I108a	BCG BCG DATE DAY _____ MONTH _____ YEAR _____ IF DATE NOT GIVEN ENTER 88, 88, 8888 FOR DAY, MONTH AND YEAR, RESPECTIVELY.	DAY _____ MO: _____ YR: _____	DAY _____ MO: _____ YR: _____	DAY _____ MO: _____ YR: _____
I108b		1 2	1 2	1 2
I108c		1 2 3 4	1 2 3 4	1 2 3 4
I109a	ORAL POLIO VACCINATION OPV 0: DATE _____ OPV 0: SOURCE 1=HOSPITAL 2=BHU 3=ORC 4=PRIVATE HOSPITAL/ABROAD	DAY _____ MO: _____ YR: _____	DAY _____ MO: _____ YR: _____	DAY _____ MO: _____ YR: _____
I109b		1 2 3 4	1 2 3 4	1 2 3 4
I110a		DAY _____ MO: _____ YR: _____	DAY _____ MO: _____ YR: _____	DAY _____ MO: _____ YR: _____
I110b		1 2 3 4	1 2 3 4	1 2 3 4
I111a	OPV 1: DATE _____ OPV 1: SOURCE 1=HOSPITAL 2=BHU 3=ORC 4=PRIVATE HOSPITAL/ABROAD	DAY _____ MO: _____ YR: _____	DAY _____ MO: _____ YR: _____	DAY _____ MO: _____ YR: _____
I111b		1 2 3 4	1 2 3 4	1 2 3 4
I112a		DAY _____ MO: _____ YR: _____	DAY _____ MO: _____ YR: _____	DAY _____ MO: _____ YR: _____
I112b	OPV 2: DATE _____ OPV 2: SOURCE 1=HOSPITAL 2=BHU 3=ORC 4=PRIVATE HOSPITAL/ABROAD	1 2 3 4	1 2 3 4	1 2 3 4

	NAME OF A CHILD			
I113a	DTP – Hepatitis B1: DATE	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____
I113b	DTP – HEPATITIS B1: SOURCE 1=HOSPITAL 2=BHU 3=ORC 4=PRIVATE HOSPITAL/ABROAD	1 2 3 4	1 2 3 4	1 2 3 4
I114a	DTP – Hepatitis B2: DATE	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____
I114b	DTP – HEPATITIS B2: SOURCE 1=HOSPITAL 2=BHU 3=ORC 4=PRIVATE HOSPITAL/ABROAD	1 2 3 4	1 2 3 4	1 2 3 4
I115a	DTP – Hepatitis B3: DATE	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____
I115b	DTP – HEPATITIS B3: SOURCE 1=HOSPITAL 2=BHU 3=ORC 4=PRIVATE HOSPITAL/ABROAD	1 2 3 4	1 2 3 4	1 2 3 4
I116a	MEASLES & RUBELLA 1ST. DOSE: DATE	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____
I116b	MEASLES & RUBELLA 1ST. DOSE: SOURCE 1=HOSPITAL 2=BHU 3=ORC 4=PRIVATE HOSPITAL/ABROAD	1 2 3 4	1 2 3 4	1 2 3 4
I117a	MEASLES & RUBELLA 2ND. DOSE: DATE	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____
I117b	MEASLES & RUBELLA 2ND. DOSE: SOURCE 1=HOSPITAL 2=BHU 3=ORC 4=PRIVATE HOSPITAL/ABROAD	1 2 3 4	1 2 3 4	1 2 3 4
I118	IMMUNIZATION STATUS 1=NOT IMMUNIZED 2=PARTIALLY IMMUNIZED 3=FULLY IMMUNIZED	1 2 3 →NEXT CHILD	1 2 3 →NEXT CHILD	1 2 3 →NEXT CHILD

	NAME OF A CHILD			
I119	Why was (NAME OF CHILD) not or not fully immunized?			
	1=Unaware of need for immunization	1	1	1
	2=Unaware of need to return for 2 nd and 3 rd dose	2	2	2
	3=Place and time of immunization unknown	3	3	3
	4=Fear of side effects	4	4	4
	5=Wrong ideas about immunization	5	5	5
	6=Postponed until another time	6	6	6
	7=Rumors	7	7	7
	8=Long waiting time	8	8	8
I120	What was the main obstacle in NOT having (NAME OF CHILD) immunized?			
	1=Place of immunization too far	1	1	1
	2=Time of immunization inconvenient	2	2	2
	3=Vaccinator absent	3	3	3
	4=Vaccine not available	4	4	4
	5=Mother too busy	5	5	5
	6=Family problem	6	6	6
	7=Child ill, not brought	7	7	7
	8=Child ill, brought but immunization not given	8	8	8
	9=Long waiting time	9	9	9
		→NEXT CHILD	→NEXT CHILD	→NEXT CHILD

TETANUS TOXOID IMMUNIZATION OF MOTHERS

ENTER THE NAME(S) OF MOTHERS WHO WERE OR WHO BECAME PREGNANT DURING THE PAST 1 YEAR, THAT IS, BETWEEN 20 NOVEMBER 2011 to 20 NOVEMBER 2012.

		NAME OF MOTHER			
I201	TETANUS TOXOID	LINE NUMBER OF (NAME) AS IT APPEARS IN THE HOUSEHOLD ROSTER	__ __	__ __	__ __
I201a		PREGNANCY STATUS OF MOTHER: 1=CURRENTLY PREGNANT 2=HAD A LIVE BIRTH IN PAST 1 YEAR 3=HAD ABORTION/ MISCARRIAGE/ STILL BIRTH IN PAST 1 YEAR	1 →I203 2 3	1 →I203 2 3	1 →I203 2 3
I202		In which month during the past 1 year that you had your live birth or abortion/miscarriage/still birth?	Mo. __	Mo. __	Mo. __
I203		In total throughout her lifetime, how many times has (NAME OF MOTHER) become pregnant?	__ __	__ __	__ __
I204		Prior to her last pregnancy, how many doses of Tetanus Toxoid has received? NUMBER OF DOSES _____ ENTER '00' IF NONE	__ __	__ __	__ __
I205		May I please have a look at the immunization card of (NAME) for her last pregnancy? 1=IMMUNIZATION CARD SHOWN 2=IMMUNIZATION CARD AVAILABLE BUT NOT SHOWN 3=IMMUNIZATION CARD NOT AVAILABLE/NOT RECEIVED	1 →I207 2 3	1 →I207 2 3	1 →I207 2 3
I206		Did (NAME) receive Tetanus Toxoid vaccination, during her last pregnancy even if only partial dose has been provided? 1=YES 2= NO	1 2 →I301	1 2 →I301	1 2 →I301
I207		FILL OUT INFORMATION FOR ALL THE IMMUNIZATION RECEIVED BY (NAME). IF INFORMATION IS INDICATED IN THE (NAME)'S HEALTH CARD, SIMPLY COPY THE INFORMATION. OTHERWISE, ASK THE RESPONDENT TO GIVE YOU THE NECESSARY INFORMATION			

		NAME OF MOTHER	_____	_____	_____
I208a	TETANUS TOXOID	TT1: DATE	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____
I208b		TT1: SOURCE 1=HOSPITAL 2=BHU 3=ORC 4=PRIVATE HOSPITAL/ABROAD	1 2 3 4	1 2 3 4	1 2 3 4
I209a		TT2 DATE	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____
I209b		TT2: SOURCE 1=HOSPITAL 2=BHU 3=ORC 4=PRIVATE HOSPITAL/ABROAD	1 2 3 4	1 2 3 4	1 2 3 4
I210a		TT3 DATE	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____
I210b		TT3: SOURCE 1=HOSPITAL 2=BHU 3=ORC 4=PRIVATE HOSPITAL/ABROAD	1 2 3 4	1 2 3 4	1 2 3 4
I211a		TT4 DATE	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____
I211b		TT4: SOURCE 1=HOSPITAL 2=BHU 3=ORC 4=PRIVATE HOSPITAL/ABROAD	1 2 3 4	1 2 3 4	1 2 3 4
I212a		TT5 DATE	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____
I212b		TT5: SOURCE 1=HOSPITAL 2=BHU 3=ORC 4=PRIVATE HOSPITAL/ABROAD	1 2 3 4	1 2 3 4	1 2 3 4

HPV VACCINE

ENTER THE NAME(S) OF GIRLS WHO TURNED 13 AS OF 1 JANUARY 2012, THAT IS, GIRLS WHO WERE BORN DURING THE PERIOD 1 JAN 1999 TO 31 DEC 1999.

	NAME	_____	_____	_____
I301	LINE NUMBER OF (NAME) AS IT APPEARS IN THE HOUSEHOLD ROSTER	___	___	___
I302	ENTER THE DATE OF BIRTH OF (NAME) IN MONTH AND YEAR	Mo. ___ Yr. ____	Mo. ___ Yr. ____	Mo. ___ Yr. ____
I304	May I please have a look at the immunization card of (NAME)? 1=IMMUNIZATION CARD SHOWN 2=IMMUNIZATION CARD AVAILABLE BUT NOT SHOWN 3=IMMUNIZATION CARD NOT AVAILABLE	1→I306 2 3	1→I306 2 3	1→I306 2 3
I305	Did (NAME) receive HPV vaccination, even if only partial dose has been provided? 1=YES 2= NO	1 2 →I310	1 2→I310	1 2→I310
I306	FILL OUT INFORMATION FOR ALL THE IMMUNIZATION RECEIVED BY (NAME). IF INFORMATION IS INDICATED IN THE (NAME)'S HEALTH CARD, SIMPLY COPY THE INFORMATION. OTHERWISE, ASK THE RESPONDENT TO GIVE YOU THE NECESSARY INFORMATION			
I307a	HPV 1: DATE	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____
I307b	HPV 1: SOURCE 1=HOSPITAL 2=BHU 3=ORC 4=PRIVATE HOSPITAL/ABROAD	1 2 3 4	1 2 3 4	1 2 3 4
I308a	HPV 2: DATE	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____
I308b	HPV 2: SOURCE 1=HOSPITAL 2=BHU 3=ORC 4=PRIVATE HOSPITAL/ABROAD	1 2 3 4	1 2 3 4	1 2 3 4
I309a	HPV 3: DATE	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____	DAY ____ MO: ____ YR: ____

	NAME			
I310	IMMUNIZATION STATUS 1=NOT IMMUNIZED 2=PARTIALLY IMMUNIZED 3=FULLY IMMUNIZED	1 2 3→NEXT GIRL	1 2 3→NEXT GIRL	1 2 3→NEXT GIRL
I311	Why was (NAME OF CHILD) not fully immunized? 1=Unaware of need for immunization 2=Unaware of need to return for 2 nd and 3 rd dose 3=Place and time of immunization unknown 4=Fear of side effects 5=Wrong ideas about immunization 6=Postponed until another time 7=Rumors 8=Others (Specify)_____	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
I312	What was the main obstacle in NOT having (NAME OF CHILD) immunized? 1=Place of immunization too far 2=Time of immunization inconvenient 3=Vaccinator absent 4=Vaccine not available 5=Mother too busy 6=Family problem 7=Child ill, not brought 8=Child ill, brought but immunization not given 9=Long waiting time 0=Others(Specify)_____	1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0

2012 Bhutan National Health Survey
DOMESTIC VIOLENCE
(Women 10-75 years)

Person Identification	
Dzongkhag _____	<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
Town/Gewog _____	<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
Chiwog/Block _____	<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
Serial Number of Sample Household	<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
Name of Respondent _____	
Line Number of Respondent.....	<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>

Record of Interview				
	1	2	3	Final Visit
Date	_____	_____	_____	Day <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> Month <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
Interviewer's Name	_____	_____	_____	
Result*	_____	_____	_____	<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
*RESULT CODES: 7 COMPLETED 8 NOT AT HOME 9 REFUSED				

	Name	Date of Completion
Team Supervisor		
Office Editor		
Data Entry Operator		

FILTER BOX: CHECK MARITAL STATUS OF RESPONDENT IN HOUSEHOLD ROSTER AND TICK APPROPRIATE BOX:

NEVER MARRIED

☐ →V123

CURRENTLY MARRIED/ LIVING TOGETHER

☐ →V103

WIDOWED

☐

SEPARATED

☐

DIVORCED

☐

} V101

V101	How long has it been since you became widowed/separated/divorced and living without a partner? 1=FIVE YEARS OR LESS 2=MORE THAN 5 YEARS	1 2 →V123
V102	IF DIVORCED: When you got divorced, who initiated the divorce proceedings? 1=HUSBAND/PARTNER 2=ME (RESPONDENT) 3=BOTH OF US 4=OTHERS	1 2 3 4
V103	How old were you when you first got married? _____ YEARS OLD	— —
V104	How many times have you been married or lived with a man (include current partner, if living together)? _____ NUMBER OF TIMES	— —

IF HUSBAND OR PARTNER IS A MEMBER OF THE HOUSEHOLD, CHECK AND COPY THAT PERSON'S AGE, EDUCATION AND OCCUPATION IN V105, V106 AND V107 FROM THE HOUSEHOLD ROSTER. OTHERWISE, ASK QUESTIONS V105, V106 AND V107.

V105	How old is your current/most recent husband or partner? _____ YEARS OLD 99 DON'T KNOW	— — 99
V106	What is the highest level of education that he attended? 1=NO EDUCATION 2= PRIMARY (pre-primary to grade 6) 3=HIGH SCHOOL (Grade 7-12) 4=UNIVERSITY 5=POST-GRADUATE 6=NON-FORMAL EDUC 7=MONASTIC SCHOOL 8=DIPLOMA/CERTIFICATE 9=DON'T KNOW	1 2 3 4 5 6 7 8 9

V107	What is his occupation? 1=Manager 2=Professional 3=Technician or associate professional 4=Clerical 5=Service and sales worker 6=Skilled agricultural, forestry or fishery worker 7=Craft and other related trade worker 8=Plant and machine operator 9=Unskilled worker 10=Unemployed 11=Member of Armed forces If NOT sure in which category the occupation falls, please write the reported occupation _____	1 2 3 4 5 6 7 8 9 10 11
V108	How often does/did your current/most recent husband or partner drink alcohol? 1=EVERYDAY 2=ONCE OR TWICE A WEEK 3=1-3 TIMES A MONTH 4=OCCASIONALLY 5=NEVER DRINK	1 2 3 4 5 →V110
V109	In the past 12 months, how often have you seen your current/most recent husband or partner drunk? 1=MOST DAYS 2=WEEKLY 3=ONCE A MONTH 4=LESS THAN ONCE A MONTH 5=NEVER 6=DON'T KNOW 7=NOT APPLICABLE	1 2 3 4 5 6 7
V110	Did your current/most recent husband or partner have an intimate relationship with another woman while being with you? 1=YES 2=NO 3=DON'T KNOW	1 2 →V112 3 →V112
V111	How many partners does/did he have? NUMBER OF PARTNERS _____ 99=DON'T KNOW	____ 99
V112	Please tell me if you agree or disagree with the following statements: a) A good wife obeys her husband even if she disagrees b) .Family problems should be discussed with people in the family c) It is important for a man to show his wife/partner who is boss. d) A woman should be able to choose her own friends even if her husband/partner disapproves e) It's a wife's obligation to have sex with her husband even if she doesn't feel like it f) If a man mistreats his wife, others in the family should intervene RESPONSE CODES: 1=AGREE 2=DISAGREE 3=NO OPINION	a) 1 2 3 b) 1 2 3 c) 1 2 3 d) 1 2 3 e) 1 2 3 f) 1 2 3

V113	<p>In your opinion, does a man have a good reason to beat his wife if:</p> <ul style="list-style-type: none"> a) She does not complete her household work to his satisfaction b) She disobeys him c) She refuses to have sexual relationship with him d) She asks him whether he has other girlfriends e) He suspects that she is unfaithful f) He finds out that she has been unfaithful <p>RESPONSE CODES: 1=AGREE 2=DISAGREE 3=NO OPINION</p>	<ul style="list-style-type: none"> a) 1 2 3 b) 1 2 3 c) 1 2 3 d) 1 2 3 e) 1 2 3 f) 1 2 3
V114	<p>In your opinion, can a married woman refuse to have sex with her husband if:</p> <ul style="list-style-type: none"> a) She doesn't want to b) He is drunk c) She is sick d) He mistreats her <p>RESPONSE CODES: 1=AGREE 2=DISAGREE 3=NO OPINION</p>	<ul style="list-style-type: none"> a) 1 2 3 b) 1 2 3 c) 1 2 3 d) 1 2 3
V115	<p>Thinking about your current/most recent husband/partner, would you say it is generally true that he:</p> <ul style="list-style-type: none"> a) Tries to keep you from seeing friends b) Tries to restrict contact with your family c) Insists on knowing where you are all times d) Ignores you and treats you indifferently e) Gets angry if you speak with another man f) Is often suspicious that you are unfaithful g) Expects you to ask his permission before seeking health care for yourself <p>RESPONSE CODES: 1=YES 2=NO 3=DON'T KNOW</p>	<ul style="list-style-type: none"> a) 1 2 3 b) 1 2 3 c) 1 2 3 d) 1 2 3 e) 1 2 3 f) 1 2 3 g) 1 2 3
V116	<p>In your relationship with your husband/partner, how often would you say that you quarreled?</p> <p>RESPONSE CODES: 1=NEVER 2=RARELY 3=SOMETIMES 4=OFTEN</p>	<ul style="list-style-type: none"> 1 2 3 4

V117	<p>What kind of situation or circumstance usually leads to your quarrels and/or violence?</p> <p>a) No particular reason b) When drunk c) Money problems d) Difficulties at his work place e) When he is unemployed f) No food at home g) Problem with his or her family h) She is pregnant i) Jealousy j) She refuses sex k) She is disobedient l) Extra marital affairs m) Gambling n) Children o) Other: (specify) _____</p> <p>ENCIRCLE ALL THAT RESPONDENT MENTIONS.</p>	<p>A B C D E F G H I J K L M N O</p>
V118	<p>In the past 12 months, did your current/most recent partner, or any other partner ever done any of the following acts against you:</p> <p><u>Physical</u> a) Hurt you physically such as throwing something at you that could hurt you, slapped you, hit you with his fist, kicked you, beat you up, choked or burnt you on purpose b) Threatened to use or actually used a gun, knife or other weapon against you</p> <p><u>Sexual</u> c) Physically forced you to have sexual intercourse when you did not want to or forced you to do something sexual that you found degrading or humiliating</p> <p><u>Mental/Psychological</u> d) Insulted you or humiliated you in front of other people or did things to scare or intimidate you on purpose by yelling and smashing things</p> <p>RESPONSE CODES: 1=HAPPENED ONCE 2=HAPPENED FEW TIMES 3=HAPPENED MANY TIMES 4=NEVER HAPPENED</p>	<p>a) 1 2 3 4 b) 1 2 3 4 c) 1 2 3 4 d) 1 2 3 4</p>
V119	<p>Was there ever a time when you were beaten or physically assaulted by any of your partner while you were pregnant?</p> <p>1=YES 2=NO</p>	<p>1 2→V123</p>
V120	<p>In how many pregnancies were you beaten/assaulted? _____ NUMBER OF TIMES</p>	<p>— —</p>

V121	<p>Were you ever punched or kicked in the abdomen while you were pregnant?</p> <p>1=YES</p> <p>2=NO</p>	<p>1</p> <p>2 → V123</p>
V122	<p>What kind of object were you hit with?</p> <p>1=Bare hands</p> <p>2=Wooden stick</p> <p>3=Hard metallic objects</p> <p>4=Others (Specify) _____</p>	<p>1</p> <p>2</p> <p>3</p> <p>4</p>
V123	<p>Has anyone <u>other than your husband or partner</u> ever done the following to you? How many times did it happen? Who did it to you?</p> <p><u>Physical</u></p> <p>a) Hurt you physically such as throwing something at you that could hurt you, slapped you, hit you with his fist, kicked you, beat you up, choked or burnt you on purpose</p> <p>b) Threatened to use or actually used a gun, knife or other weapon against you</p> <p><u>Sexual</u></p> <p>c) Physically forced you to have sexual intercourse when you did not want to or forced you to do something sexual that you found degrading or humiliating</p> <p><u>Mental/Psychological</u></p> <p>d) Insulted you or humiliated you in front of other people or did things to scare or intimidate you on purpose by yelling and smashing things</p> <p>ENTER CODE OF FREQUENCY OF OCCURRENCE IN THE FIRST COLUMN AND THE CODE FOR PERPETRATOR IN THE SECOND COLUMN</p> <p><u>CODES FOR FREQUENCY OF OCCURRENCE:</u></p> <p>1=HAPPENED ONCE</p> <p>2=HAPPENED FEW TIMES</p> <p>3=HAPPENED MANY TIMES</p> <p>4=NEVER HAPPENED</p> <p><u>CODES FOR PERPETRATORS:</u></p> <p>1=FATHER</p> <p>2=STEPFATHER</p> <p>3=BROTHER</p> <p>4=OTHER MALE RELATIVES</p> <p>5=FEMALE RELATIVES</p> <p>6=TEACHER</p> <p>7=POLICE/SOLDIER</p> <p>8=OTHER MALES</p> <p>9=OTHER FEMALES</p>	<p>a) _____</p> <p>b) _____</p> <p>c) _____</p> <p>d) _____</p> <p>LEAVE 2ND COLUMN BLANK IF 1ST COLUMN IS 4.</p> <p>IF 1ST COLUMN IS ALL '4', → END INTERVIEW.</p>
V124	<p>Have you reported or sought assistance when you were abused?</p> <p>1=YES</p> <p>2=NO</p>	<p>1</p> <p>2 → END INTERVIEW</p>
V125	<p>To whom did you report?</p> <p>1=POLICE</p> <p>2=HOSPITAL</p> <p>3=NATIONAL COMMISSION FOR WOMEN AND CHILDREN</p> <p>4=RENEW</p> <p>5=OTHERS (Specify) _____</p>	<p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p>



Ministry of Health
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Gasa

Punakha

Paro

Thimphu

Wangdue

Haa

Dagana

Tsirang

Samtse

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