

REPORT OF INDIA

TABLE OF CONTENTS

1	Introduction
2	Methodology
2.1	Sampling
2.2.1	Geographic Component of the Survey
2.2.2	The map
2.3	Survey Metrics
2.3.1	Sample deviation index
2.3.2	HH Sample deviation index
2.3.3	Response rate
2.3.4	Missing data
2.3.5	Reliability
3	Socio-Demographic Profile
3.1	Household composition by residence and age groups according to income quintile
3.2	Selected age distributions by income quintile
3.3	Characteristics of head of household by income quintile
3.4	Household population: percent distribution of the de jure population by age, residence, marital status and education according to sex
3.5	Background characteristics of respondents: percent distribution of men and women by age, residence, marital status and education
4	Risk Factors
4.1	Prevalence of smoking and average daily tobacco consumption
4.2	Prevalence of life time abstainers, non-heavy drinkers, infrequent heavy drinkers and frequent heavy drinkers
4.3	Prevalence of insufficient intake of fruit and vegetables and insufficient physical activity

- 4.4 Access to improved drinking-water: percent distribution of households by type of access to drinking water
- 4.5 Access to improved sanitation: percent distribution of households by type of sanitation facility
- 4.6 Solid Fuel use for cooking: percent distribution of households by type of cooking fuel used
- 5 Coverage
 - 5.01 Tuberculosis
 - 5.02 HIV Prevention and Screening
 - 5.03 Antenatal Care and Mother to Child Transmission of HIV
 - 5.04 Birth Delivery Care
 - 5.05 Child's Health - Common Illness
 - 5.06 Child's Health - Danger Signs
 - 5.07 Vaccinations Meeting WHO Timeline Recommendations for Children 12 to 23 months of Age with Vaccination Card
 - 5.08 Vaccination Status of Children 12-23 Months
 - 5.09 Women's Cancer Screening
 - 5.10 Oral Health and Injuries
 - 5.11 Self Reported Non-Communicable Conditions
 - 5.12 Mental Health Conditions
 - 5.13 Cataracts
- 6 Health State Descriptions
 - 6.01 In general, rate your health today - q2000
 - 6.02 Difficulty with 'work and household activities' in last 30 days - q2001
 - 6.03 Difficulty with 'moving around' in last 30 days - q2010
 - 6.04 Difficulty with 'vigorous activities' in last 30 days - q2011
 - 6.05 Difficulty with 'self-care' in last 30 days - q2020
 - 6.06 Difficulty with 'taking care of and maintaining general appearance' in last 30 days - q2021

- 6.07 Amount of 'bodily aches or pains' in last 30 days - q2030
- 6.08 Amount of 'bodily discomfort' in last 30 days - q2031
- 6.09 Difficulty with 'concentrating or remembering things' in last 30 days - q2050
- 6.10 Difficulty with 'learning a new task' in last 30 days - q2051
- 6.11 Difficulty with 'personal relationships or participation in the community' in last 30 days - q2060
- 6.12 Difficulty with 'dealing with conflicts and tensions' in last 30 days - q2061
- 6.13 Difficulty with 'seeing and recognizing a person you know across the road (20m)' in last 30 days - q2071
- 6.14 Difficulty with 'seeing an object at arm's length or in reading' in last 30 days - q2072
- 6.15 Problem with 'sleeping' in last 30 days - q2080
- 6.16 Problem with 'feeling rested and refreshed' in last 30 days - q2081
- 6.17 Problem with 'feeling sad, low, or depressed' in last 30 days - q2090
- 6.18 Problem with 'worry or anxiety' in last 30 days - q2091
- 6.19 Adjusted for vignette responses
- 7 Health System Responsiveness
 - 7.1 Self-reported utilization of health services and perceived unmet need
 - 7.2 Patient assessed characteristics of ambulatory health services
 - 7.3.1 Patient assessment of responsiveness domains for ambulatory services: percent reporting "Moderate", "Bad" or "Very bad" - 1
 - 7.3.2 Patient assessment of responsiveness domains for ambulatory services: percent reporting "Moderate", "Bad" or "Very bad" - 2
 - 7.4 Patient assessed characteristics of hospital inpatient health services
 - 7.5.1 Patient assessment of responsiveness domains for hospital inpatient services: percent reporting "Moderate", "Bad" or "Very bad" - 1
 - 7.5.2 Patient assessment of responsiveness domains for hospital inpatient services: percent reporting "Moderate", "Bad" or "Very bad" - 2
 - 7.6 Importance of different domains of responsiveness: percent reporting "Extremely Important"
- 8 Health Expenditure, Insurance and Human Resources for Health

- 8.0 Expenditure Background Indicators (2002)
- 8.1 Distribution of health payments across different population groups
- 8.2 Percent distribution of structure of out-of-pocket health payments
- 8.3 Financial sources used by households for paying for health services
- 8.4 Insurance Coverage
- 8.5 Human resources for health
- 9.1 Adult Mortality Chart 1
- 9.2 Adult Mortality Chart 2
- 9.3 Adult Mortality Chart 3
- 9.4 Adult Mortality Chart 4
- 10 Stress and Social Capital
- 10.1 Inability to control the important things in life - q8000
- 10.2 Inability to cope - q8001
- 10.3 Satisfaction with your health - q8002
- 10.4 Feeling safe when alone at home - q8011
- 10.5 Feeling safe when walking down the street alone after dark - q8012

1. Introduction

The World Health Organization initiated the World Health Survey (WHS) as a *data collection platform* to obtain information on the health of populations and on health systems. The WHS responds to the need of countries for a detailed and sustainable health information system and gathers data through surveys to measure essential population health parameters. The WHS uses standard survey procedures and instruments for general population surveys to gather comparable data across WHO Member States. These methods and instruments have been refined through scientific review of literature, extensive consultations with international experts and large-scale pilot tests. WHS is designed to evolve through its implementation by continuous input from collaborators, including policy makers, survey institutions, scientists and other interested parties. The data is jointly owned by the countries and the WHO, and there is a commitment for a long-term data collection, building local capacity and using this information for health policy.

The objectives of the World Health Survey were to:

- develop a **means** of providing:
 - **valid, relevant, reliable** and **comparable** information on **outcomes, functions** and **inputs** to health systems
 - to **supplement** the information provided by routine **HIS**
- build the **evidence base** necessary for policy-makers:
 - to **routinely monitor** if health systems are achieving the **desired goals**
 - and in some countries, to assess if the **increase in health resources** is having the desired effect

The introductory chapter of each country report will provide details on the current sources of data from routine health information systems and ad hoc surveys. It will describe the health situation in the country and identify gaps. It will also present a brief overview on the health system organization within the country.

2. Sampling

The WHO sampling guidelines emphasized scientific principles of survey sampling as explicit standards for quality, included examples of good sampling plans, and identified quality assurance standards for countries to adhere to. WHO and technical advisers provided technical support to countries when needed. The following principles were used for sampling in the WHS:

1. The sample should target the *de facto* population (i.e. all people living in that country including guest workers, immigrants and refugees) and not *de jure* population (i.e. the citizens of that country alone) with complete geographic coverage of the country, if possible, or a representative geographic segment of the country.
2. A *sample frame* with 90% coverage that included all key subgroups of interest. Enumeration or listing of households to update the frame was recommended.
3. The WHS sample identified all adult members of the general population aged 18 years or older as its sample. Households are selected using a random, stratified sampling procedure. One individual per household is then selected through a random selection procedure using the Kish table method.
4. The WHS used a sampling strategy which encompasses a known non-zero selection probability for any individual included in the study. This makes it possible to extrapolate the data to the whole population. Households and individuals are selected with a known probability in order to provide selection probabilities for each household and individual in the data set.
5. The WHS sampling strategy was without replacement and categories of non-respondents were clearly defined.
6. The WHS used GPS devices in certain countries and digitized maps to geocode the data within specified guidelines.

Each national report will present a detailed description of the sampling strategy and the allocation tables

2.2.1 Geographic Component of the Survey

Geographic Information refers to any information associated with a location on the Earth's surface. This location can be associated to a coordinate (latitude/longitude), a place's name, a postal address or any other geographic object.

Household Surveys represent an important source of information. If the geographic location of the surveyed clusters is collected at the same time that the interview is conducted users are then able to integrate the spatial dimension in their analysis

The geographic component of the WHO WHS is stored in two sections of the questionnaire:

- 0100 Sampling Information allowing the link between the location of each cluster and the sampling frame used for the survey. This section has also been used in order to collect the type of setting in which each household was located at the time of the survey. This section of the questionnaire has been used for all the countries part of the WHO WHS
- 0200 Geocoding Information for the collection of the latitude and longitude of each household. This section has only been used in 27 countries where GPS devices were available or have been provided. The choice of these countries has been done on the basis of the availability of digital maps delimiting the surveyed clusters, the field data collection planning and their distribution within the different WHO regions. Specific training and field material have been prepared and used by the interviewers or field supervisors in these countries in order to collect the latitude and longitude of each of the surveyed household.

As the sampling design may not always include the administrative structure of the country and as the codes entered in the data set for the sampling level needed to be labelled, a key correspondence table containing this information has been collected after the survey itself.

Once all the survey data and the key correspondence table available a specific protocol has been applied to the two sections mentioned earlier in order to clean eventual data collection or data entry mistakes as well as to fill the gaps in close collaboration with the survey institution.

The questionnaire as well as the training material and data cleaning protocols used can be downloaded from the WHO WHS web site (<http://www.who.int/healthinfo/survey/en/index.html>) in the "Survey Instrument and Related Documents" section.

India is part of the 27 countries where Global Positioning System (GPS) devices have been used during the survey in order to collect the location of each surveyed household.

In order to take advantage of the level of precision given by the use of these devices, but also take into account country respective data confidentiality policies regarding the distribution of such data to third parties, several additional geographical variables have been calculated:

- the weighted centre of gravity of each cluster part of the survey.
- different parameters and indexes giving an indication of the dispersion of the households interviewed in the cluster around its centre of gravity. These parameters and indexes can be used to explain possible heterogeneity in the answers obtained for a same cluster to questions presenting a geography dimension (accessibility for example).

The final geographic subset for India contains:

- the cleaned information stored in the section 0100 and 0200
- the labels attached to the codes used in the data set for identifying each level of the sampling when available
- the 1st and 2nd administrative level names and codes coming from the Second Administrative Level Boundaries data set project (SALB, http://www3.who.int/whosis/gis/salb/salb_home.htm) allowing the link with the administrative structure of the country (if not part of the sampling frame).
- the geographic variables described above

The use of the GPS devices offers a large range of application which goes from the production of thematic maps, through the performing of spatial analysis to modelling using the spatial dimension of some of the surveyed data.

The generation of the maps and/or application of the methods that are now briefly described may require specific Geographic Information System (GIS) software and technical expertise. In addition to that, in order to create thematic maps, extract figures from other layers or perform spatial analysis it is first necessary to make sure that all the digital layers used are homogeneous in terms of: projection, representativity and sometimes scale of representation. The first one insures the proper overlay of the different layers in the GIS; the second is necessary in order to make a correct analysis of the results; the last one becomes important when we try to attribute cluster to other geographical entities like administrative units for example. In any case this underlines the importance of giving preference to digital layers being well documented (meta information available).

The capacity that exist within a GIS to create thematic maps by overlaying different layers or by linking each feature to a specific data set is largely used nowadays. One example of such map is the sampling distribution map reported at the beginning of this report which has been generated overlaying the location of each surveyed cluster on top of the extension of the a population distribution grid with the indication of the delimitation of the administrative units.

As it can be seen it is not necessary to go down to the location of each household for generating a thematic map which already provides a lot of useful information. Depending on the variables it is in fact possible to generate thematic maps at any higher level part of the sampling frame or administrative structure of the country.

The other potential application is the possibility to extract new parameters from spatially distributed variables stored in other digital layers. The parameters generally used are either linked to:

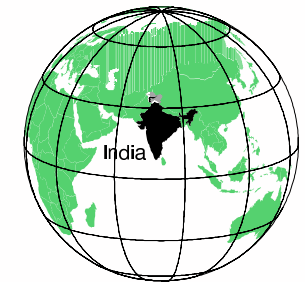
- the location of the cluster itself (e.g altitude)
- the geographic relation (distance or travelling time) which exist between the location of the cluster and the location of other geographic objects (roads, health facility, populated place, water point,.).

These parameters are then used to aggregate the clusters according to new units of analysis integrating therefore the geographic dimension as one of the parameters.

The final example of application that can be mentioned regards the possibility to link the data collected in the context of the WHO WHS to other data collected at the same level (cluster) or any above aggregated level (districts for example) in order to look for possible relationships that would allow the creation of models. If applicable these models may generate figures for units (administrative, statistical) that would not have been integrated in the original sampling frame.

This section only represent a short introduction to the possibilities that the geographic dimension of the surveyed information can offer. A more detailed description of the methods used in order to generate maps, perform specific analysis or apply models are presented in a publication that can be downloaded from the WHO WHS web site (Ebener et al., forthcoming).

INDIA WHS 2003 Sampling Distribution



Data Source:

- Cluster Location: collected with GPS devices during WHS 2003
- Administrative Boundaries: SALB Data set 2000
- Population distribution: extracted from the Landscan database 2001

Map Projection: un-projected (Geographic)
Reference System: WGS 84 datum

Map created 23 Mai 2005

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.
© WHO 2004. All rights reserved



10.5 Feeling safe when walking down the street alone after dark - q8012

	Completely safe	SE	Very safe	SE	Moderately safe	SE	Slightly safe	SE	Not safe at all	SE	Missing	SE	N
Gender													
Male	26.4	2.4	25.8	5.2	17.3	1.7	13.0	1.3	11.8	1.5	5.7	1.1	5,137
Female	17.0	1.4	23.6	4.3	17.9	1.6	18.9	1.1	16.8	1.4	5.8	1.0	4,586
M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Residence													
Urban	32.3	2.1	18.7	1.5	15.0	1.3	16.1	1.1	12.5	1.1	5.4	2.0	996
Rural	20.8	2.0	25.4	5.3	17.9	1.7	15.7	1.2	14.4	1.5	5.8	1.1	8,727
M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Income													
Q1(poorest)	17.9	2.0	23.6	4.2	22.2	2.3	18.3	1.1	11.9	1.5	6.1	1.6	1,746
Q2	18.4	1.8	27.4	4.7	17.5	1.9	14.9	1.6	15.8	2.1	6.0	1.5	2,109
Q3	20.8	2.3	26.4	5.9	16.8	1.8	15.0	1.7	15.8	2.0	5.1	1.1	2,141
Q4	23.3	2.4	26.5	6.3	16.3	2.0	16.3	1.8	13.7	1.7	3.8	0.8	1,977
Q5(richest)	32.2	2.7	18.6	3.1	15.6	1.6	15.8	1.4	12.7	1.4	5.1	1.1	1,547
M	15.7	4.4	19.0	4.3	14.1	4.0	5.6	2.0	14.3	5.2	31.3	6.2	204
Age													
18-29	21.2	2.7	26.8	7.1	17.5	2.2	14.4	1.7	15.1	2.0	4.9	1.1	3,622
30-44	21.0	1.4	21.9	2.4	18.3	1.3	18.4	1.3	14.5	1.3	5.9	1.1	2,686
45-59	23.5	2.5	25.3	5.0	16.4	1.8	16.2	1.1	11.6	1.4	6.9	1.2	2,021
60-69	24.5	2.7	27.6	5.1	17.4	2.3	14.1	1.7	11.7	2.0	4.8	1.2	895
70-79	22.0	3.4	15.1	2.5	22.7	3.9	11.8	2.1	20.7	4.8	7.7	2.9	391
80+	22.8	5.6	24.1	6.2	9.0	3.1	15.6	5.2	18.0	4.6	10.4	5.6	105
M	23.2	20.4	25.5	21.8	0.0	0.0	11.1	11.1	10.3	10.4	29.9	23.8	4
All	22.0	1.8	24.7	4.8	17.6	1.5	15.8	1.1	14.2	1.4	5.8	1.0	9,723