Writing About Health: A Handbook for Journalists in Bangladesh

Journalists play a crucial role in the health system of a nation. As one of society’s most effective institutions for disseminating information, the media keep the public informed about where to seek care, how to live healthy lives, avoid disease and, when that fails, how to cope with illness. But just as important, when the media cover health issues widely and effectively, the exchange of information may influence government officials, healthcare providers, health product suppliers, academicians, researchers, and the general public to adopt common strategies that improve everyone’s health. This electronic handbook provides some tools that will help journalists in Bangladesh perform this vital function.
Chapter One: Health Journalism

Health journalists relay information to the public that helps us prevent or manage myriad health
conditions, both in times of crisis and every day. They show us how to live healthier lives as individuals, and help us decide how to establish systems and services that address these concerns collectively. They address issues as varied as best practices for routine care, disease prevention, chronic illness and health crisis management, emergency response and access to services.

Health journalism often focuses on behavior changes at the individual level, pushing people to make healthier life choices, such as vaccinating children against preventable disease or eating more nutritious food. It also addresses system and policy concerns, prodding government and private health providers to ensure that services reach all citizens, including the poor, and pushing for adequate sanitation, ample supplies of food and safe water, and effective action to contain and prevent epidemics.

Effective health journalism should be accurate, easy to understand, balanced in terms of sources of information, consistent, culturally relevant, and evidence-based. It also should recognize the particular needs of its target audience. To have the greatest impact, health journalism must examine existing intervention and policies, explain the rationale behind them, and explore risks, benefits and options.

Resources:

- **The Future of Health Journalism**

  Will journalists help citizens learn about the costs, and about the concerns that proliferation is outpacing evidence for this approach (Goozner, 2010)? Or will they simply be stenographers, writing down and passing along the claims made by proponents who have invested in ? and stand to benefit from - these facilities?

- **European Health Journalism**

  European Health Journalism is a dedicated website which deals with various issues of practicing health journalism. One has to log in for free access to the features and information on this website

- **Guild of Health Writers**

  The Guild of Health Writers is a national, independent membership organisation representing
Britain’s leading health journalists and writers. It was founded in 1994 to encourage the provision of readable and accurate health information to the public. Members write on every aspect of health and wellbeing, from innovative medical science to complementary therapies and lifestyle issues. They value the training and networking opportunities that the Guild provides. In the words of television doctor Chris Steele “We all gain by being members”.

Learning to be a Health Journalist

Health journalists need all the skills that any journalist must have: curiosity, skepticism, a willingness to work hard, a sense of fairness, an eagerness to learn, and a commitment to high ethical standards. A health journalist also must know how to use words and numbers: words are the clay with which you work, so choose them carefully. Factual information should be presented at all times, supported by data and detail; numbers are a key to understanding many health issues and their real effect at individual- and population-based levels.

Besides needing basic journalism skills, health journalists also must acquire a simple working knowledge of key health issues and be able to explain them in everyday language. At their best, journalists hover between worlds of experts and the general public. To connect the two, journalists must be able to communicate at both levels. This does not mean you are expected to be a public health worker or a medical professional, but you do need some basic knowledge and an understanding of the concerns of medical professionals and public health experts in order to talk about the issues in a way that the general public can understand and relate to.

There are some good tools to help you come up to speed, but most are available only in English or other Western languages. Yet, in a brief visit to a high-quality web site, a journalist can gather enough background information to conduct intelligent interviews with experts on almost any health topic. Among the best websites for getting started are Medline Plus, which includes an easy-to-use collection of background information on more than 700 health conditions, all written
in everyday language by experts who have no health-industry ties; Web MD, an online health journal that maintains a policy of editorial independence; and the World Health Organization, which leads United Nations? health efforts all around the world.

These sites also can be useful when it comes to writing or producing health stories, as they have glossaries, links to the latest research and developments, citations and other background information you can use to give stories depth and ensure their technical accuracy. They can link you to peer-reviewed journals that provide the most reliable, up-to-date information on health research. But you need to consult them before going into the field to interview experts. Health professionals, researchers, and government planners are busy people, and while they do not expect a journalist to know everything, they often are reluctant to work with reporters who lack even rudimentary understanding of issues. A little bit of effort to get grounded, combined with a sincere and thoughtful attitude that demonstrates your sincerity, will go a long way toward getting reliable and newsworthy information.

Resources:

- **New South Wales Mandatory Reporter Guide**

  This Guide is intended to assist mandatory reporters who have become concerned about possible abuse or neglect of a child/young person and must make a decision whether or not to report their concerns to the Child Protection Helpline.

- **Journalists? Guide to the Demographic and Health Surveys**

  The Demographic and Health Surveys (DHS) are the most comprehensive source of data on real-life health issues found anywhere in the world. They provide detailed reporting on cutting-edge issues affecting your country. MEASURE DHS population-based surveys provide reliable and accurate information on HIV, malaria, gender, family planning, maternal and child health, and nutrition in more than 90 countries. They offer statistics on the most common indicators, as well as trends and cross-country comparisons.

  Using data from a reputable source like the DHS adds credibility and context to your story. And these stories about population and health can affect millions of people. These stories have the potential to influence policymakers and program managers, educate the public, and ultimately help people live longer, healthier, more fulfilling lives.

- **A REPORTER?S GUIDE TO MATERNAL HEALTH**
When most journalists confront the landscape of maternal health, the tendency is to see what’s wrong. And surely, there is no shortage of grim news: Every day, 800 women around the world die for reasons related to pregnancy or childbirth. And some 5.7 million women annually suffer severe disabilities following childbirth. But there’s another side to this story. Maternal mortality has decreased by half since 1990? including in places that are extremely poor. New technologies and health care approaches, better infrastructure, and creative government policies are changing the odds for pregnant women and their families. The Solutions Journalism Network was created to help journalists examine the stories behind changes like these. We are working to support and legitimize the practice of solutions journalism: rigorous and compelling reporting about responses to social problems. We help reporters examine not just what’s wrong, but also examples of innovators working toward solutions? focusing not just on what may be working (based on available evidence), but how and why it appears to be working, and alternatively, in what ways it may be falling short.

**Journalism Safety Guide**

This guide is part of the approach in the Journalism Division to news location risk assessment. It identifies common hazards encountered by journalists and programme makers in the field and specifies measures (controls) to reduce the risk.

The controls are based on risk assessments undertaken by Journalism Management and BBC Safety.

**A Journalist’s Guide to SEXUAL and REPRODUCTIVE HEALTH in EAST AFRICA**

Sexual and reproductive health encompasses health and well-being in matters related to sexual relations, pregnancies, and births. It deals with the most intimate and private aspects of people’s lives, which can be difficult to write about and discuss publicly. As a result, the public misunderstands many sexual and reproductive health matters. In addition, cultural sensitivities and taboos surrounding sexuality often prevent people from seeking information and care and preclude governments from addressing the issues.

Yet, sexual and reproductive health profoundly affects the social and economic development of countries. When women die in childbirth, children are orphaned. When girls must take over care of their siblings, they drop out of school. Without an education, girls often marry and begin having children early, which can jeopardize their health and limit their opportunities to add productively to their community and their country’s development. The media play a critical role in bringing sexual and reproductive health matters to the attention of people who can influence public health policies. These people include government officials and staff;
leaders of nongovernmental organizations, including women’s groups and religious groups; academics and health experts; and health advocates and other opinion leaders.

Many of these influential people read news reports and listen to broadcasts daily, and their opinions are shaped by them. Occasionally, one news report can spur a decision maker to act. More often, however, a continuous flow of information is needed to educate diverse audiences about issues and inform public policy debates.

**Health Writers Handbook, Second Edition**

Many people in many settings now write about health and medicine for general readership. Yet few studied medical journalism, and little guidance is readily available in this field. The current book, which evolved from a course in medical reporting, was written to help address this gap. The book is intended primarily for the beginning or aspiring health writer: the reporter newly assigned to the health beat, the writer newly hired by a medical institution, the clinician hoping to prepare some articles for the public, student considering a career in the field. More experienced health writers may also encounter new information in this book as I did while gathering material for it. The book also can assist the occasional health writer: for example, the business write covering the release of a new drug, the feature writer profiling a clinician or research or patient, or the sportswriter reporting on an athlete’s illness or injury.

**A Journalist’s Guide to Writing Health Stories**

The print and electronic media have an enormous influence on how the public views health issues. Both health policymakers and scientists recognize journalists’ effect on public understanding. Reporting health stories requires judgment about how to interpret evidence and about the implications of evidence for the public. But most journalists have little formal training in assessing the validity of evidence that bears on health issues, so inaccurate or deceptive reporting seems common. To begin to address this problem, we have built on others’ work and developed a set of guidelines to help journalists understand and interpret health stories.

Many obstacles confront the health journalist, including limitations of time and space, editorial priorities, and the need to create stories that are compelling enough to warrant space in a publication. Our journalist’s guidelines will not help with those issues. However, even given other constraints, understanding principles of scientific inquiry into human health problems will help journalists to produce more informed articles.

**How to Write Easy-to-Read Health Materials**
Medical concepts and language are very complex. People need easily understandable health information regardless of age, background or reading level. Here are guidelines to help you create easy-to-read health materials.

Chapter Two: Understanding Public Health

"Health care is vital to all of us some of the time, but public health is vital to all of us all of the time.

- C. Everett Koop, thirteenth Surgeon General of the United States

Public health is "the science and art of preventing disease, prolonging life and promoting health through the organized efforts and informed choices of society, organizations, public and private, communities and individuals".- C.E.A. Winslow, seminal public health expert and bacteriologist

The mission of public health is to "fulfill society’s interest in assuring conditions in which people can be healthy".- Institute of Medicine, Committee for the Study of the Future of Public Health, Division of Health

Journalists have a particular interest in public health, which is the field of health that addresses the concerns and risks facing the entire population. Unlike medical care, which involves treating individuals who have specific diseases, public health officials focus on prevention and attack the factors that pose a risk to health in general. A health system that addresses medical care alone has little chance of getting ahead of the many health challenges that arise. Reducing risk factors in the community-at-large, thereby preventing disease from occurring, has been proven to have the greatest impact and to be the most cost-effective approach to health. Besides being essential to preventing recurring illness, risk-reduction efforts also have proven to be invaluable in diagnosing illness and providing treatment.

In general, officials follow a fairly standard path in addressing a public health problem:

- Defining the health problem;
- Identifying risk factors associated with the problem;
- Developing and testing community-level interventions to control or prevent the cause(s) or
the problem;
· Implementing interventions to improve the health of the population;
· Monitoring those interventions to assess their effectiveness.

After a program or service has been put into effect, public health professionals must look at its results with a critical eye, asking the following questions:
· Did the strategy and interventions work as intended?
· Were the results achieved as expected?
· If yes, can the program be expanded or replicated?
· If not, should the program be abandoned or revised?

Journalists covering health services should keep the above points in mind and use these to help formulate stories on public health initiatives. They should, of course, report on public health officials’ own conclusions. But they also should seek the views of others so they can provide a balanced and independent assessment.

Resources:

· **Social Determinants Approach to Public Health: from content to practices**

Achieving greater equity in health is a goal in itself, and achieving the various specific global health and development targets without ensuring equitable distribution across and within populations is of limited value (Blas and Sivasankara Kurup, 2010). Although many public health programmes have achieved considerable success in reducing mortality and morbidity, they often fail to capitalize on interventions that address the social context and conditions in which people live, i.e. interventions that have a potential to contribute to greater health equity. Moreover, national-level statistics often mask unfair disparities within and between population groups in terms of health outcomes resulting from unequal access, extreme vulnerabilities and exposure to various risk factors. It has also been acknowledged that many key public health targets, including the health related Millennium Development Goals (MDGs), are not easily attainable even if there is a massive scale-up of available technologies (Maher et al., 2007; Lönnroth et al., 2010). Often, even simple and effective tools, such as vaccines against childhood diseases, are unable to reach those most in need due to several social and structural factors (United Nations, 2010). This calls for a broader approach that addresses the social determinants to reduce inequities in programme
performance and health outcomes through intersectoral action, community participation and empowerment of populations that are most vulnerable to health threats (Hasan et al., 2005).

Public Health Principles
Health journalists need to understand the wide variety of interconnected tasks that public officials perform. These include:

- Monitoring the health status of the population to identify community health problems;
- Diagnosing and investigating health problems and health hazards in the community;
- Informing, educating, and empowering people about health issues;
- Mobilizing community partnerships to identify and solve health problems;
- Developing policies that support individual and community health efforts;
- Enforcing laws and regulations that protect health and ensure safety;
- Linking people to needed personal health services and assuring the provision of health care when otherwise unavailable;
- Assuring a competent public health and personal health care workforce;
- Evaluating effectiveness, accessibility, and quality of personal and population-based health services;
- Researching new insights and innovative solutions to health problems.

Determinants of Public Health
Many factors combine to affect the health of individuals and communities. To a large extent, factors such as where we live, the state of our environment, genetics, income, education level, and our relationships with friends and family all have considerable impact on our health. More commonly considered factors, such as access to and use of health care services, often have less of an impact.

The determinants of public health include:

- The social and economic environment;
- The physical environment;
- Individual characteristics and behaviors;
- Education;
- Social support networks;
- Ethnicity;
- Availability of and access to health services;
- Gender.
The determinants of health

Many factors combine together to affect the health of individuals and communities. Whether people are healthy or not, is determined by their circumstances and environment. To a large extent, factors such as where we live, the state of our environment, genetics, our income and education level, and our relationships with friends and family all have considerable impacts on health, whereas the more commonly considered factors such as access and use of health care services often have less of an impact.

The determinants of health include:

- the social and economic environment,
- the physical environment, and
- the person’s individual characteristics and behaviours.

Determinants of Health

The range of personal, social, economic, and environmental factors that influence health status are known as determinants of health. Determinants of health fall under several broad categories:

- Policymaking
- Social factors
- Health services
- Individual behavior
- Biology and genetics

Inequalities in Health: A Key Issue
You may find the term "health inequalities" used in research and policy literature. This refers to the unfair or unjust nature of health differences between social groups, generated by social conditions.

Substantial bodies of research have shown that people who are poorest or most disadvantaged are more likely to face illness during their lifetime and die younger than those who are better off. In fact, health generally improves with each step up the income ladder, as people come to have more disposable income to purchase better quality food, medicine, education, housing and other elements that contribute to higher standards of living. For example, childhood mortality rates are considerably higher among the poorest families than among wealthiest families.

Underlying socioeconomic differences and lack of access to health care combined with cultural prejudices also explain inequity based on ethnicity, gender or geography. Inequality between groups — the "haves" versus the "have nots" — is an important topic for journalists to cover largely because of the health implications that stem from these inequities. You may think that such inequalities are only in countries like ours. But that is simply not true. Here are some examples of inequalities around the world:
• Bangladesh: Over half of women from the poorest 20% of the population have received no education compared to only 11% of women from the wealthiest 20% of the population.

• India: Urban households are three times more likely to have private improved toilet facilities than rural households;

• USA: African-American infant mortality is twice as high as the national average;

• Indonesia: Less than two-thirds of children from the poorest 20% of the population received all recommended childhood vaccinations compared with almost 80% of children from the wealthiest 20% of the population;

Source: MEASUREDHS

Since inequality is a sensitive subject, writing on this issue is often challenging. As a journalist, you must consult standard data sources for health and socioeconomic disparities. The Demographic and Health Survey is the gold standard for reporting on health data in developing countries. Other sources, such as the UNICEF ?State of the World?s Children? Annual Report, and various references from the World Health Organization (WHO) can be used when citing or comparing national data on issues such as maternal health, newborn and child health, education rates, vaccination coverage and nutrition.

Resources:

• Handbook on 'Health inequality monitoring special focus in Low & Middle Income Countries

The World Health Organization developed the Handbook on health inequality monitoring: with a special focus on low- and middle-income countries to provide an overview for health inequality monitoring within low- and middle-income countries, and act as a resource for those involved in spearheading, improving or sustaining monitoring systems. The handbook was principally designed to be used by technical staff of ministries of health to build capacity
for health inequality monitoring in World Health Organization Member States; however, it may also be of interest to public health professionals, researchers, students and others. We assume that the users of this handbook have basic statistical knowledge and some familiarity with monitoring related issues. The aim of this handbook is to serve as a comprehensive resource to clarify the concepts associated with health inequality monitoring, illustrate the process through examples and promote the integration of health inequality monitoring within health information systems of low- and middle-income countries.

• **Health Inequities: The Relationship Between Poverty and Health**

This is PDF file of a Power Point Presentation by Thibaut Williams and Dr. Sukumar Sarker USAID/Bangladesh on "Health Inequalities: The relationship Between Poverty and Health"

• **Towards Achieving the Right to Health: The Case of Bangladesh**

Bangladesh has made great strides in improving the health of its population, much more than a country at its level of development can be expected to do. Serious problems still remain in reducing child malnutrition and maternal mortality in particular; nonetheless, the aggregative results achieved in the last three decades are quite impressive. These achievements have certainly have gone a long way towards fulfilling the right to health in Bangladesh. This paper argues, however, that despite overall progress the health sector of Bangladesh suffers from a number of inadequacies that militate against the rights-based approach to health. These include persistent inequities in access to healthcare (including gender inequity, and inequity along the poor versus non-poor divide), lack of meaningful participation of citizens in the running of the health system, and the absence of effective accountability mechanisms through which the providers of healthcare can be held responsible for their actions.

• **Mapping global health inequalities: challenges and opportunities**

Health inequalities both between and within countries persist, for almost all diseases and health problems. Between countries, both average life expectancy and child mortality have improved more in the richest countries than the poorest (Marmot 2007). Within countries, progress on redressing health inequalities is uneven, and data are not always available over time. Analysis of 22 countries with available data found that only five of 22 countries reduced
health inequalities in childhood mortality across income from 1995 to 2000 (Moser 2005).

Health inequalities: concepts, frameworks and policy

At the heart of public health in contemporary Britain is a paradox. Britain is now collectively healthier than it has ever been in its history. Life expectancy improves and some of the great killer diseases are in retreat as the benefits of both a preventive approach to public health and advances in treatment bear fruit. Yet at the same time, the problem of health inequalities remains stubbornly ubiquitous. While the health of the population as a whole may be improving, the health of the least and less well off either improves more slowly than the rest of the population or in some cases gets worse in absolute terms. This is a challenge to policy makers and practitioners. It suggests that while some of our policy and interventions undoubtedly work they also manifestly fail some sections of the population. To sharpen the tools for policy making in this arena, this paper reviews some of the important conceptual problems associated with discussions of health inequalities.

Health, Inequality, and Economic Development

Suppose that income causes good health. People live longer and are healthier in rich countries than in poor countries, people live longer and are healthier than their grandparents and great-grandparents who lived in poorer times and, within a country at a moment in time, rich people live longer and are healthier than poor people. Suppose too that this relationship is concave, so that income has a larger effect on health and longevity among the poor than among the rich. Then income redistribution from rich to poor, within countries, or between countries, will improve population health (Samuel Preston 1975). Yet there may be more to it than that. Income inequality, or other related social inequalities with which it is correlated, may be directly hazardous to individual health.

Chapter Three: Major Public Health Issues in Bangladesh
Public health has improved markedly in Bangladesh over the past three decades. Life expectancy at birth is approximately 70 years, just above the World Health Organization’s world average of 69 years. Maternal mortality, infant and child mortality, and malnutrition rates have all declined substantially, and Bangladesh is on track to achieve its Millennium Development Goals for maternal and child health. Nevertheless, Bangladesh faces major health challenges. The national population is projected to grow to between 200 to 225 million over the next four decades. While fertility has declined, women have on average 2.3 children, and only about half use modern and effective contraceptive methods.

Photo credit

Nevertheless, Bangladesh faces major health challenges. The national population is projected to grow to between 200 to 225 million over the next four decades. While fertility has declined, women have on average 2.3 children, and only about half use modern and effective contraceptive methods. Despite improvements in maternal health, Bangladesh still ranks in the bottom fourth of countries worldwide with approximately 240 deaths per 100,000 live births. Only one-in-four births takes place in a health care facility, putting both mothers and babies at risk. Although infant and child mortality is decreasing, poor nutrition is a critical health problem in Bangladesh. About half of children age 6-59 months suffers from anemia; four-in-ten are stunted; and one in three is underweight. Bangladesh has one of the worst burdens of childhood malnutrition in the world.

Communicable diseases are a major cause of death and disability in Bangladesh. While the prevalence of tuberculosis (TB) has declined substantially, Bangladesh still ranks among the top ten countries in the world with the highest TB burden. The disease is found primarily among the poor and least educated populations. Pneumonia and water-borne diseases also are widely prevalent. Pneumonia and other infections are major causes of death among young children.

The toll of non-communicable diseases ? chronic diseases, cancer, diabetes, cardiovascular
diseases, and chronic respiratory diseases? is increasing in Bangladesh as the population becomes more urbanized. In the first national survey to measure blood pressure and blood glucose, about one in three women and about one in five men age 35 and older has elevated blood pressure and roughly one in ten has elevated blood glucose, an indication of diabetes. Cancer is the sixth leading cause of death in Bangladesh, accounting for more than 150,000 deaths annually.

To know more about, please visit:

1. Ministry of Health and Family Welfare
2. Directorate General of Health Services (DGHS)
3. Directorate General of Health Services' Publications

Resources:

- Food safety and public health issues in Bangladesh: a regulatory

In Bangladesh, most of the foodstuffs, be they manufactured or processed, are unsafe for consumption or adulterated to varying degrees. This problem persists at every level of the food chain from preparation to consumption. Food manufacturers, processors, restaurants, fast food outlets and so forth are all involved in one way or another in this corrupt practice of adulteration. Foods are adulterated by using various harmful chemicals and toxic artificial colours, on the one hand, and rotten perishables turned to poisonous foods are stored, sold and served to consumers in an unhygienic atmosphere, on the other. The unhygienic and unsafe treatment of food is seriously impacting public health by causing numerous chronic and non-chronic diseases. Despite different reasons for the unsafe treatment and adulteration of foodstuffs in Bangladesh, this study will concentrate on the regulatory failures to combat the current food safety problems persisting in Bangladesh.

- Lead Poisoning: An Alarming Public Health Problem in Bangladesh

To assess the risk of lead poisoning among preschool and school-aged children in Bangladesh, 345 children were screened for blood lead levels (BLLs) from one rural and two urban areas in Bangladesh from September 2007 through January 2008. An urban industrial area at Tongi was identified as a disaster area, where 99% (104/105) of those tested had BLLs ?10 ?g/dL. Industrial emissions and use of leaded gasoline by two-stroke engine
vehicles were identified as possible sources of lead in that area. A rural nonindustrial area at Chirirbandar, Dinajpur was identified as another high-risk area, where 14% of the children screened had BLLs ≥10 μg/dL. BLLs at the urban industrial area were significantly higher than those at the rural and urban nonindustrial areas (24.58 ± 10.32, 7.24 ± 6.31, and 2.47 ± 3.32 μg/dL, respectively; p <0.001). Weight-for-age z-scores of the urban children were significantly lower than that of the rural children (-1.41 ± 1.88 vs. 0.20 ± 1.16, p <0.001). Children with elevated BLLs had poorer nutritional status (p = 0.05) than those with normal BLLs. Over 90% of the parents did not know that lead causes health problems. In conclusion, the problem of lead poisoning in children was found to be high in both urban and rural Bangladesh. A universal lead screening for preschool and school-aged children and a lead education program for parents are recommended for implementation in Bangladesh.

**Bangladesh on the Move**

Bangladesh has experienced some remarkable changes over the last few decades with improvements in health, education, the economy, and information and technology.

**Acute Respiratory Infections (ARIs) and Pneumonia**

![Photo credit](https://via.placeholder.com/150)
Pneumonia is the leading cause of death worldwide in children under five years of age. According to the World Health Organization, nearly 400 children die each day from ARIs in Bangladesh. Pneumonia, infection, and birth asphyxia are major causes of under-five deaths in the country. Early detection and treatment of infection is key to saving lives.

To know more about this:
Dengue is a mosquito-borne viral infection that causes flu-like symptoms and occasionally develops into a potentially fatal infection. As opposed to malaria, dengue is carried in mosquitoes that are active during daylight hours.

Approximately half of the world’s population is at risk, largely in urban areas in tropical and subtropical regions, and global incidence has grown markedly in recent decades. There is no treatment for dengue, however early detection and access to medical care lowers fatality rates.

To know more about:

1. The World Health Organization
2. Centers for Diseases Control and Prevention

Resources:

- Public Health Journal: Dengue

Dengue is rapidly becoming the most important mosquito-borne disease in the world; a fact in striking contrast with the disease often being dubbed a neglected tropical disease along with related arboviral diseases (e.g. Chikungunya). Looking at the figures, however, dengue cannot be neglected. Estimates for population at risk and numbers of cases per year vary (from 1 to 2.5 billion people at risk, and 50 to 100 million, perhaps even 400 million cases annually), but it is clear that the disease burden is huge. However compared to malaria, there
is no ?Roll-Back-Dengue Initiative?, no ?Global Fund to Fight AIDS, TB and Dengue?, nor even a large bilateral program to sponsor the fight against this mosquito-borne disease.

Dengue is a modern disease. Modern in the sense that sustainable human-mosquito cycle only developed several hundred years ago. And modern in the sense that its vectors, and hence transmission, thrive with urbanization, population growth, global travel, and our irresponsible disposal of modern products (plastic, used tires). As a result, dengue is spreading, moving north ? an alarming trend that has now reached Europe.

- **Dengue fever in the Indian subcontinent: an overview**

The Indian Subcontinent has emerged as a scene of many mosquito-borne infectious diseases, including malaria and dengue fever. After the 1990s, the rate of malaria declined owing largely to preventive measures, but at the same time dengue fever (DF) and dengue hemorrhagic fever (DHF) were increasing in the region. Outbreaks were recorded in all countries of the Indian Subcontinent with India, Pakistan, Bangladesh and Sri Lanka on the forefront and suffering from the largest number of cases and deaths. We discuss annual cases of DF/DHF in these four countries and possible factors involved in DF outbreaks. We also discuss prevalent serotypes in this region where data suggest the emergence of DEN2 and DEN3 as the most dominant and lethal serotypes. Climate is an important factor influencing DF outbreaks, and rainfall, temperature and humidity play a pivotal role in DF outbreaks. Finally the economic impact of DF/DHF cases is discussed showing that direct and indirect economic loss due to DF/DHF reaches millions of USD each year.

- **Clinical Profile of Dengue Fever in Children**

Dengue is a serious mosquito-borne viral disease which in recent years has become a major international public health concern. It is the most serious viral haemorrhagic fever in the world with an annual incidence of 100 million cases per year. Of them 250,000 to 500,000 cases are reported as dengue haemorrhagic fever (DHF) (because of the presence of haemorrhagic manifestations, thrombocytopenia and signs of plasma leakage) with an estimated death of about 12,000. The dengue virus is a RNA virus and consists of 4 serotypes (DEN 1 - 4). In Bangladesh the magnitude of dengue fever was largely unknown until it took a heavy toll in 2000 (5555 cases and 93 deaths were reported. Nearly 90% of the dengue infections occur in children with risk of dying during a secondary attack is nearly 15-fold higher than that of adults. Although children are the main group affected by dengue, little published data are available regarding dengue infections in children living in South Asia. In the context of Bangladesh, data of dengue infection in children are even scarce. The present study was carried out in order to document the clinical manifestations of dengue infections in children in Bangladesh.

Dengue fever and dengue haemorrhagic fever are becoming increasingly important public health problems in the tropics and sub-tropics. Exacerbated by urbanisation, increasing population movement, and lifestyles that contribute to the proliferation of man-made larval habitats of the mosquito vector, the worsening epidemiological trends appear likely to continue. The situation warranted an urgent review of the Global Strategy, the available tools and the partners, and to learn from and consider how relevant advances among other health and development, communications and commercial sector programmes can be applied to dengue.

Diarrhea and Water-borne Diseases

Diarrheal diseases account for nearly 2 million deaths a year among children under five years of age, making them the second most common cause of child deaths worldwide.

Measures to prevent childhood diarrheal episodes include: promoting exclusive breastfeeding, improving hygiene and sanitation, increasing access to improved sources of drinking water and sanitation facilities, zinc intake to ensure intestinal health, and hand washing with soap at critical times throughout the day (after using the bathroom, changing a diaper, before preparing a meal or eating).

Prompt treatment of diarrhea with zinc in combination with oral rehydration salts (khabar) or a homemade mixture of sugar, salt, and water (labongur) reduces serious illness and the risk of death.

Treatment of childhood diarrhea has improved in Bangladesh. According to the 2011 Bangladesh DHS, diarrhea is no longer a leading cause of death among children.
Effect of Water, Sanitation and Hygiene Intervention in Reducing self-reported Waterborne Diseases in Rural Bangladesh

Waterborne medical conditions represent substantial global burden of diseases. Under-five children are more likely to get these conditions compared to adults. This study examines effect of water. The burden of waterborne diseases is paramount in the globe. About 4% of the global burden of diseases is attributable to water, sanitation and hygiene (Prüss et al. 2002). Nearly 2.2 million people die every year due to diarrhoeal diseases globally. Of these, 1.8 million deaths occur alone in low-income countries (WHO 2004). Further, in low and middle-income countries one of the tenth leading causes of death is attributable to diarrhea-related diseases (Murray et al. 2001). Globally, diarrhoea alone kills more children compared to malaria and tuberculosis together (Odi 2006). In Bangladesh, every year more than one hundred thousand under-five children die due to diarrhoearelated diseases. On average, episodes of diarrhea occur more than twice a year among the children (Bern et al. 1992).

Combating waterborne disease at the household level

Lack of access to safe drinking water, together with inadequate sanitation and hygiene, is the
overwhelming contributor to the 1.8 million annual deaths caused by diarrhoeal disease. Providing safe and reliable water services to the 1.1 billion people who currently lack access to improved water sources is an essential long-term goal that will yield great health and economic benefits. Less well known is the large potential contribution that household-level water quality interventions can make to immediately improve the health of the most vulnerable.

Research Paper On Water born Diseases Caused by Using Surface Water

Abstract The research hypothesized that the disease burden from inadequate water, sanitation, and hygiene practices in selected unions of Mymensingh, Madhupur and Durgapur Upazilas of Bangladesh would be the infection of various diseases, principally diarrhea and skin diseases, and usually caused in conjunction by other risk factors or diseases. In this study, the disease burden was primarily finding out from the baseline survey and then it was justified with some economic and demographic characteristics to understand the dynamics of the diseases. For that purpose, two models has been drawn up: the baseline survey model to predict the water born diseases and the follow up survey or risk assessment model to find the association with different water uses in the household. For the assessment, some field-based scenarios have been developed to identify risk factors, obtained mainly from the follow up survey. We hypothesized that the disease burden from inadequate water, sanitation, and hygiene resulting in diarrhea and skin diseases occurred widely in the study area and that this burden is largely preventable. Other water and sanitation related diseases remain to be evaluated.

Essential Nutrition

Poor nutrition, often called under-nutrition can damage physical, intellectual, and mental health, leading to reduced immunity, increased susceptibility to disease, impaired physical and mental development and reduced educational and economic productivity.

It is well recognized that the period from birth to two years of age is the critical window for the of
behavioral and cognitive development promotion. Highly nutritious infant and young child feeding are crucial during this period.

Proper nutrition during pregnancy, breastfeeding exclusively for the first six months of life, complimentary feeding starting at age 6 months with adequate calories, protein, and micronutrients such as iron, folate, Vitamin A and Vitamin D are essential for a child’s development and a mother’s health.

**Photo credit**

Children in Bangladesh have poorer nutritional status than children in most other countries. In Bangladesh, close to 50% of children-under-five are stunted due to poor nutrition, with urban poor most affected. Twenty-two percent of infants are low birth weight, only 43% of infants are exclusively breastfed, and 41% of children-under-five are moderately to severely underweight. Improving nutrition should be a major public health priority in Bangladesh.

Find out more about nutrition:

1. WHO
2. UNICEF

**Resources:**

- Health, Population, Nutrition eToolkit for Field Workers

N/A

- Food Security: Building on a success story

Bangladesh has made commendable progress in domestic food grain, especially rice production due to rapid dissemination of HYV technology. However, while Bangladesh has experienced steady progress in food availability, the country faces a number of persistent and emerging challenges.
Future agricultural growth and food as well as nutrition security are threatened by population growth, shrinking resource base (such as land and water) and the deterioration of their quality and productivity.

- **Health, Population, and Nutrition eToolkit for Health Workers**

This is a series of pamphlets for health workers in Bangladesh to use when visiting homes and clinics and teaching about reproductive health and child health. The kit includes materials on the following topics: maternal and newborn child health, family planning, nutrition, antenatal care, adolescent health, and safe water and hygiene. There are 13 pamphlets.

- **Bangladesh Journal of Nutrition; Part-1**

The Bangladesh Journal of Nutrition is published in December of the year by the Institute and Nutrition and Food Science, University of Dhaka, Bangladesh. The journal publishes original research articles, review articles, short communications dealing with the aspects of nutrition and letters to the editor. Articles are accepted for publication only when they are submitted solely to this journal.

- **Bangladesh Journal of Nutrition; Part-2**

The Bangladesh Journal of Nutrition is published in December of the year by the Institute and Nutrition and Food Science, University of Dhaka, Bangladesh. The journal publishes original research articles, review articles, short communications dealing with the aspects of nutrition and letters to the editor. Articles are accepted for publication only when they are submitted solely to this journal.

**HIV/AIDS**

The human immunodeficiency virus (HIV) is a retrovirus, contracted through infected blood or bodily fluid, which infects cells of the immune system, destroying or impairing their function. As the infection progresses, the immune system becomes weaker, and the person becomes more susceptible to opportunistic infections. The most advanced stage of HIV infection is acquired immunodeficiency syndrome (AIDS). It can take 10-15 years for an HIV-infected person to develop AIDS; antiretroviral drugs can slow down the process.
In Bangladesh, only 1% of the population is reported to be HIV-positive, but rates are much higher among high-risk populations: injecting drug users, sex workers, and men who have sex with men. The majority of Bangladeshi adults are not well informed about transmission or prevention of HIV.

HIV is transmitted through unprotected sexual intercourse (anal or vaginal), transfusion of contaminated blood, sharing of contaminated needles, and between a mother and her infant during pregnancy, childbirth and breastfeeding. Using condoms correctly and consistently, having sexual relations with one monogamous partner, and avoiding intravenous drug use and regular testing can all help reduce exposure to the virus.

To know more about on this issue:

- UNAIDS
- UNICEF
- The World Health Organization

Resources:

- **Global AIDS Response Progress Reporting 2013**

  In the past two years, the AIDS response has recorded unprecedented gains in the prevention and treatment of HIV across the world. The Global report: UNAIDS report on the global AIDS epidemic 2012, shows that the pace of progress is accelerating. These promising results were based on country reports that UNAIDS received from 186 out of 193 United Nations Member States?the highest response rate for any international health and development mechanism. This exceptional dedication by countries to reporting on the AIDS response demonstrates our strong global commitment to our shared vision of: zero new HIV infections, zero discrimination and zero AIDS-related deaths.

- **HIV/AIDS Interventions in Bangladesh: What Can Application of a Social Exclusion Framework Tell Us?**
Bangladesh has maintained a low HIV prevalence (of less than 1%) despite multiple risk factors. However, recent serological surveillance data have reported very high levels of HIV infection among a subgroup of male injecting drug-users (IDUs). This suggests that an HIV/AIDS epidemic could be imminent in Bangladesh. Although biomedical and behavioural change projects are important, they do not address the root causes of observed risky behaviours among ?high-risk? groups. In Bangladesh, these groups include sex workers, IDUs, males who have sex with males, and the transgender population?hijra?who are all excluded groups. Using a social exclusion framework, this paper analyzed existing literature on HIV in Bangladesh to identify social, economic and legal forces that heighten the vulnerability of such excluded groups to HIV/AIDS. It found that poverty and bias against women are major exclusionary factors. The paper presents areas for research and for policy action so that the social exclusion of high-risk groups can be reduced, their rights protected, and an HIV epidemic averted.

THE SITUATION OF HIV/AIDS IN BANGLADESH: AN EXPLORATION

The situation of HIV/AIDS throughout the world is gradually becoming alarming. Many countries have already taken different effective measures to tackle this incurable disease. But unfortunately we and our government are still oblivious towards the threat of HIV/AIDS. A large number of people of our country even do not know what HIV/AIDS is, and therefore this low level of awareness among our people could be proven more threatening. This paper explains HIV/AIDS in detail and also discusses the situation of HIV/AIDS in Bangladesh. Efforts have been made in the paper to explore different possibilities to prevent HIV/AIDS from spreading in our society. Gender disparities and other related issues which help spread HIV/AIDS have also been discussed here in the context of our country. The paper tries to present the overall picture of HIV/AIDS of Bangladesh keeping in view the danger of this deadly HIV virus.

Bangladesh HIV/AIDS communication challenges and strategies

Bangladesh is in a precarious position in relation to the HIV/AIDS epidemic. Rates are currently low compared to the rest of the South Asian region, and the disease is relatively confined to small, highrisk populations ? mainly injection drug users (IDUs) and commercial sex workers. Yet if steps are not taken quickly to keep the epidemic in check, it could easily spread to the general population as it has in other countries nearby. This would both increase the negative impact of HIV/AIDS and make it much harder to target for containment. It is therefore imperative that healthy behavior be promoted among IDUs and sex users, not only for their own health, but for the health of the country. Prevention will be the key to halting the spread of HIV infection through the implementation of communication and education programs aimed to change high-risk behavior. However, the disparate number of HIV/AIDS prevention programs independently operating in Bangladesh combined with the difficulty in adequately targeting this unique population of IDUs and sex workers establishes a complex
situation where attaining behavior change is extremely difficult. This paper proposes adoption of the FOMENT model to design a health communication campaign targeting the high-risk populations in Bangladesh.

**HIV and AIDS in Bangladesh**

Bangladesh initiated an early response to the HIV epidemic starting in the mid-1980s. Since then, the response has been enhanced considerably, and many HIV-prevention interventions among the most at-risk populations and the general youth are being undertaken. Alongside prevention activities, gathering of data has been a key activity fostered by both the Government and individual development partners. This paper reviews available sources of data, including routine surveillance (HIV and behavioural among most at-risk populations), general population surveys, and various research studies with the aim to understand the dynamics of the HIV epidemic in Bangladesh. Available data show that the HIV epidemic is still at relatively low levels and is concentrated mainly among injecting drug users (IDUs) in Dhaka city. In addition, when the passively-reported cases were analyzed, another population group that appears to be especially vulnerable is migrant workers who leave their families and travel abroad for work. However, all sources of data confirm that risk behaviours that make individuals vulnerable to HIV are high—this is apparent within most at-risk populations and the general population (adult males and youth males and females). Based on the current activities and the sources of data, modelling exercises of the future of the HIV epidemic in Dhaka suggest that, if interventions are not enhanced further, Bangladesh is likely to start with an IDU-driven epidemic, similar to other neighbouring countries, which will then move to other population groups, including sex workers, males who have sex with males, clients of sex workers, and ultimately their families. This review reiterates the often repeated message that if Bangladesh wants to be an example of how to avert an HIV epidemic, it needs to act now using evidence-based programming.

**Improved Water, Sanitation and Hygiene (WASH)**

Around 1.1 billion people globally do not have access to improved water supply sources and 2.4 billion people do not have access to any type of improved sanitation facility. Approximately 2 million people die every year due to diarrheal diseases, the most vulnerable of which are children under 5 years of age. The most affected are the populations in developing countries, living in extreme conditions of poverty, normally peri-urban dwellers or rural inhabitants.
Sanitation generally refers to the toilets or latrines for safe disposal of human urine and feces. Inadequate sanitation is a major cause of disease worldwide. Improving sanitation is a proven public health intervention at the household, community, and national levels. The word 'sanitation' also refers to the safe disposal of environmental waste, such as garbage and wastewater.

Hygiene refers to conditions and practices that help to maintain health and prevent the spread of diseases. Medical hygiene includes a specific set of practices, for example environmental cleaning, infection control in health care facilities, hand hygiene, water and sanitation, and safe disposal of medical waste.

To know more about this issue:

1. Bangladesh Demographic and Health Survey
2. The World Health Organization/water
3. The World Health Organization/hygiene
4. The World Health Organization/sanitation
5. Unicef
6. www.unicef.org/media/media_21423.html
Meeting the MDG Drinking Water and Sanitation Target

The combination of safe drinking water and hygienic sanitation facilities is a precondition for health and for success in the fight against poverty, hunger, child deaths and gender inequality. It is also central to the human rights and personal dignity of every woman, man and child on earth. Yet 2.6 billion people — half the developing world — lack even a simple "improved" latrine. One person in six — more than 1 billion of our fellow human beings — has little choice but to use potentially harmful sources of water. The consequences of our collective failure to tackle this problem are dimmed prospects for the billions of people locked in a cycle of poverty and disease. In adopting the Millennium Development Goals, the countries of the world pledged to reduce by half the proportion of people without access to safe drinking water and basic sanitation. The results so far are mixed. With the exception of sub-Saharan Africa, the world is well on its way to meeting the drinking water target by 2015, but progress in sanitation is stalled in many developing regions. This report, produced by the WHO/UNICEF Joint Monitoring Programme on Water Supply and Sanitation (JMP), provides the latest estimates and trends on where we stand today. The JMP's estimates are critical for calculating rates of progress towards national goals and for highlighting priorities, especially those that target the underserved.

Contamination of drinking-water by arsenic in Bangladesh: a public health emergency

The contamination of groundwater by arsenic in Bangladesh is the largest poisoning of a population in history, with millions of people exposed. This paper describes the history of the discovery of arsenic in drinking-water in Bangladesh and recommends intervention strategies. Tube-wells were installed to provide "pure water" to prevent morbidity and mortality from gastrointestinal disease. The water from the millions of tube-wells that were installed was not tested for arsenic contamination. Studies in other countries where the population has had long-term exposure to arsenic in groundwater indicate that 1 in 10 people who drink water containing 500 mg of arsenic per litre may ultimately die from cancers caused by arsenic, including lung, bladder and skin cancers. The rapid allocation of funding and prompt expansion of current interventions to address this contamination should be facilitated. The fundamental intervention is the identification and provision of arsenic-free drinking water. Arsenic is rapidly excreted in urine, and for early or mild cases, no specific treatment is required. Community education and participation are essential to ensure that interventions are successful; these should be coupled with follow-up monitoring to confirm that exposure has ended. Taken together with the discovery of arsenic in groundwater in other countries, the experience in Bangladesh shows that groundwater sources throughout
the world that are used for drinking-water should be tested for arsenic.

**Malaria**

Photo credit

Malaria is an infectious blood disease caused by a parasite (Plasmodium Falciparum and Plasmodium Vivax) that is transmitted to humans via the bite of infected mosquitoes. Malaria is common in some areas in northeast and southeast Bangladesh. Out of the total 64 districts, 13 are high endemic areas of malaria transmission.

A total of 50,000 confirmed malaria cases are reported each year, but under-reporting is widespread. Prevention is key: sleeping under an insecticide-treated bed net every night and wearing long sleeved light colored clothing all help prevent mosquito bites. However, if malaria is contracted, simple medicines are available and largely effective when taken with the first sign of illness.

To know more about on this issue:

- The World Health Organization
- Roll Back Malaria Partnership
- Malaria No More
- UNICEF

**Resources:**

- WHO Global Malaria Programme: World Malaria Report 2012
The past five years have seen an impressive increase in international funding for malaria prevention, control and elimination. Following the call in 2008 by United Nations Secretary-General, Ban Ki-moon for universal access to malaria interventions, we saw a rapid expansion in the distribution of life-saving commodities in sub-Saharan Africa, the continent with the highest burden of malaria. The concerted effort by endemic country governments, donors and global malaria partners has led to strengthened disease control and visible results on the ground. During the past decade, an estimated 1.1 million malaria deaths were averted, primarily as a result of a scale-up of malaria interventions.

Malaria in southeast Bangladesh: A descriptive study

Malaria in Asia is thought to be grossly under-reported and this is evident from previously published statistics from Bangladesh. Malaria screening data from four Upazillas was analysed alongside census data to assess the trends in malaria incidence over time and distribution of malaria by age and gender. Malaria incidence in this area has decreased by around two thirds since 2003, although control measures were not significantly increased until 2005. Malaria occurred in people of all ages with the highest incidence being in young adults. This is consistent with higher occupational exposure in this group. The probability of being screened for malaria decreased with age suggesting significant numbers of adults with malaria may be being missed.

Understanding Malaria Fighting an Ancient Scourge

This document demonstrates a historical perspective of Malaria and pointed out various facets of Malaria.

New strategies for treating falciparum malaria in Bangladesh
Thirteen out of 64 districts in Bangladesh are seriously affected by malaria. The emergence and spread of antimalarial drug resistance and the resulting increase in treatment failures and case fatality rates due to falciparum malaria have seriously aggravated the malaria problem in Bangladesh. Two regimens for treatment of malaria were evaluated in two separate studies. Among 63 patients with confirmed falciparum malaria who received quinine, three times daily for three days followed by a single dose of sulfadoxine/pyrimethamine, 87% were cured at 42 days. Among 67 patients who received a combination of artemether and lumefantrine, 94% were cured at 42 days. Both combination regimens were effective in Bangladesh. Efforts to make effective antimalarial drugs widely available is vital for malaria control in Bangladesh.

**Maternal, Newborn and Child Health (MNCH)**

Ensuring optimal health for girls of reproductive age, improving the health and nutrition of mothers-to-be, and providing quality reproductive health services including ante- and post-natal care are pivotal to ensuring safe motherhood. Improving the health of mothers-to-be, including provision of quality reproductive health and family planning services, is pivotal to addressing many underlying causes of maternal and child mortality.

A vast majority of maternal deaths are caused by direct obstetric causes such as hemorrhage, infection, hypertensive disorders of pregnancy such as eclampsia, and complications from unsafe abortion. For every woman who dies from complications related to childbirth, approximately 20 more suffer injuries, infections and disabilities that may be left untreated and ignored, resulting in life-long pain and social and economic exclusion.

Many maternal and newborn deaths can be prevented through identification of complications and timely care, particularly in the first 24-48 hours after giving birth. Women who receive routine antenatal care, optimal nutrition and practice birth spacing are at a healthy advantage. Bangladesh’s maternal mortality ratio has declined over time.

However, with 240 deaths for every 100,000 live births, Bangladesh ranks well behind most other large Asian countries. Bangladeshi women are less likely to receive antenatal care and to give birth in health care facilities than women in many other countries, increasing risks to mothers and
babies.

For more information on MNCH in Bangladesh, please visit:

1. Maternal Health (WHO)
2. Newborn Health (WHO)
3. Child Health (WHO)
4. Maternal and Newborn Health (UNICEF)

Resources:

- **Maternal Infant Young Child Nutrition - Family Planning**

Maternal, Infant, and Young Child Nutrition-Family Planning (MIYCN-FP) Integration Working Group was established by the Maternal and Child Integrated Program (MCHIP) and its partners. This working group brings together the Postpartum Family Planning Community of Practice, the Lactational Amenorrhea Method (LAM) Working Group and the Nutrition community.

- **Research to Action: Designing Communication on Child Feeding in Bangladesh [Case Study ]**

The case study highlights 3 phases of this project: building a strategy, concept testing, and pretesting. Alive and Thrive (A&T) draws upon scientific evidence, assessments of infant and young child feeding (IYCF) practices, and programmatic experience globally and in Bangladesh. The comprehensive program strategy includes these elements: policy dialogue, community-based and media activities, promotion of a micronutrient powder to fortify home foods and handwashing before feeding young children, and rigorous monitoring and evaluation.

- **Maternal, Neonatal and Child Health Programmes in Bangladesh; Review of good practices and lessons learned**

Bangladesh has achieved substantial gains in the field of health during the last three decades despite modestly declining poverty and inadequate health services. However, Infant Mortality
Rate (IMR) and maternal mortality ratio (MMR) continue to be unacceptably high compared to many other developing countries, with persisting socioeconomic differentials. While access to family planning is increasing, access to three other pillars of safe motherhood namely antenatal care, clean and safe delivery, and essential obstetric care, remain largely unfulfilled. The objective of this study is to review the major maternal, neonatal and child health (MNCH) interventions since independence for documenting best practices, revisiting lessons learned and identifying gaps for informed programme design in future.

**Neglected Tropical Disease**

Leishmaniasis (Kala-azar) is caused by a parasite transmitted by sand flies that often live in mud walls of homes. The disease is usually found among the poorest populations and is most prevalent in the northwestern part of the country. A new oral drug, Miltefosine, can now cure the disease however a counterfeit, substandard generic is often available in through the nationwide treatment program.

Local drug regulations and supply monitoring must happen in order to eradicate this disease. Lymphatic filariasis (?elephantiasis?) is caused by infection with roundworms after transmission via mosquito bite. Adult worms lodge in human lymph nodes and disrupt the immune system. The disease causes local infections, tremendous swelling of lymph nodes, disfiguration and pain. Inexpensive medicines can cure the disease, and mass single-dose drug administration campaigns are run to help eliminate the disease in at-risk endemic communities.

Leishmaniasis and lymphatic filariasis occur disproportionately in Bangladesh. Ninety percent of visceral leishmaniasis cases occur in India, Bangladesh, Nepal, Sudan, Ethiopia and Brazil. In 2010, there were 3,800 cases of visceral leishmaniasis reported in Bangladesh alone out of a global total of approximately 1.5 million. Approximately 20 million people in Bangladesh suffer from lymphatic filariasis yet closer to 70 million people are at risk of infection as it is highly endemic in 33 out of 64 districts. It is considered a major public health issue in country.

To know more:

1. WHO
2. American Society of Tropical Medicine and Hygiene
3. Special Programme for Research and Training in Tropical Diseases -TDR
4. Global Infectious Diseases Epidemiology Network (GIDEON)

Resources:
Integrated Implementation of Programs Targeting Neglected Tropical Diseases through Preventive Chemotherapy: Proving the Feasibility at National Scale

In 2006, the United States Agency for International Development established the Neglected Tropical Disease (NTD) Control Program to facilitate integration of national programs targeting elimination or control of lymphatic filariasis, onchocerciasis, schistosomiasis, soil-transmitted helminthiasis and blinding trachoma. By the end of year 3, 12 countries were supported by this program that focused first on disease mapping where needed, and then on initiating or expanding disease-specific programs in a coordinated/integrated fashion. The number of persons reached each year increased progressively, with a cumulative total during the first three years of 98 million persons receiving 222 million treatments with donated drugs valued at more than $1.4 billion. Geographic coverage increased substantially for all these infections, and the program has supported training of more than 220,000 persons to implement the programs. This current experience of the NTD Control Program demonstrates clearly that an integrated approach to control or eliminate these five neglected diseases can be effective at full national scale.

Non Communicable Disease (NCDs)

Non-communicable diseases (NCD), defined as medical conditions that cannot be transmitted from person-to-person, are a growing public health problem in Bangladesh as well as in the rest of the world. Major noncommunicable diseases include high blood pressure, diabetes, cancer and asthma.

Cardiovascular (heart) disease is now considered to be a leading cause of death in Bangladesh. About one in three women and about one in five men age 35 and older has elevated blood pressure and roughly one in ten women and men age 35 and older has elevated blood glucose, an indication of diabetes.

To know more:
Noncommunicable diseases (NCDs) are currently responsible for over 60% of global deaths. This burden is one of the major public health challenges facing all countries, regardless of their economic status. NCDs threaten economic and social development and, without concerted efforts at country level, are predicted to increase in the coming decade. To assess the capacity of countries to respond to NCDs, in 2010 WHO conducted a global country capacity survey (CCS) - the 2010 NCD CCS. The survey gathered detailed information about progress made in countries to address and respond to NCDs, and assessed their current strengths and weaknesses related to NCD infrastructure, policy response, surveillance and health systems response. This periodic monitoring of national progress helps in identifying gaps in prevention and control efforts and assists with future planning.

Global status report on noncommunicable diseases 2010

This report sets out the statistics, evidence and experiences needed to launch a more forceful response to the growing threat posed by noncommunicable diseases. While advice and recommendations are universally relevant, the report gives particular attention to conditions in low- and middle-income countries, which now bear nearly 80% of the burden from diseases like cardiovascular disease, diabetes, cancer and chronic respiratory diseases. The health consequences of the worldwide epidemic of obesity are also addressed.

Road Safety
More than 4,000 people die each year on Bangladesh’s roads. According to the World Health Organization, road traffic injuries cause a loss of about 2% of GDP in Bangladesh each year—an amount nearly equal to the total foreign aid the country receives. Road accidents have many causes: unskilled and reckless drivers, speeding, overloading, vehicle defect, hazardous road conditions, poor supervision or adherence to traffic rules. Because of the sheer number of road-related accidents and mortality, road safety should be considered a public health issue when reporting on Bangladesh.

To know more:

1. Road Safety, LGED

2. Road Safety, BRTA

Resources:
Road safety research in Bangladesh: constraints and requirements

The problem resulting from road traffic accidents, injuries and property lose is an emerging, challenging and one of the major concerning issues in Bangladesh like many other developing countries in the world. To counteract this problem, road safety research has proven beneficial in documenting the road accident problem, appraising the current situation in terms of priorities and problem areas and has provided the means to develop and evaluate countermeasures. In respect to the magnitude of the problems, the safety initiatives are at a very infant level and the progresses in very slow for the causes of enormous constraints at different levels in Bangladesh. Indeed, the allocation for road safety research and intervention is very low in comparison to other diseases and disasters. In this paper, the authors briefly reviewed some major road safety initiatives in Bangladesh. The key issues of this paper is to evaluate the road safety research constraints in Bangladesh and future requirements for developing research based scientific, pragmatic and cost effective counter measures to improve the carnage on road. At the very outset of the paper, the scale and magnitude of road safety problems in Bangladesh has also been highlighted.

ROAD SAFETY IN BANGLADESH AND SOME RECENT ADVANCES

This power point presentation has pointed out road safety perspectives in Bangladesh and the dimensions and striking characteristics of accident problems. This paper has also demonstrated some emerging road safety priorities and options, some recent advances in road safety initiatives.

Tuberculosis
Tuberculosis, or TB, is an infectious bacterial disease caused by Mycobacterium Tuberculosis. It is transmitted from person to person via droplets from the throat and lungs of people with the active respiratory disease and thus, is most likely to spread overcrowded environments such as urban slums and prisons. People who are infected may have no symptoms.

TB is treatable with a strict six-month course of antibiotics. However, multi-drug-resistant TB (MDR-TB) is becoming more and more prevalent. Incidence of tuberculosis in Bangladesh is 225 cases per 100,000 people.

To know more about this:

1. Centers for Disease Control

2.
The World Health Organization

Resources:

- **New Drugs for the Treatment of Tuberculosis: Needs, Challenges, Promise, and Prospects for the Future**

  For the first time in 40 years, a portfolio of promising new compounds for the treatment of tuberculosis is on the horizon. The introduction of new drugs in combination treatment for all forms of tuberculosis raises several issues related to patients’ access to novel treatments, programmatic feasibility, cost effectiveness, and implications for monitoring and surveillance, particularly with regard to the development of drug resistance. Particular attention should be given to the identification of optimal drug combination(s) for the treatment of all forms of tuberculosis, particularly in high-risk and vulnerable groups, such as human immunodeficiency virus-coinfected persons and children, and to the rational use of new drugs. Addressing these issues adequately requires the establishment of clear guidelines to assist countries in the development of policies for the proper use of tuberculosis drugs in a way that guarantees access to best treatments for all those in need and avoids inappropriate use of new drugs. After a description of these various challenges, we present activities that will be carried out by the World Health Organization in collaboration with key stakeholders for the development of policy guidelines for optimal treatment of tuberculosis.

- **Identification of Mycobacterium of Mycobacterium tuberculosis clinical isolates in Bangladesh by a species distinguishable multiplex PCR**
Mycobacterium tuberculosis complex (MTC), including M. tuberculosis, M. bovis, M. africanum, M. microti, M. pinnipedii, M. caprae, "M. canettii" and other closely related strains, is a group of causative agents for human and animal tuberculosis (TB). Although the mycobacterial species in MTC are highly similar to each other in DNA level, MTC members differ widely in terms of host tropism, phenotype and pathogenicity. No further differentiation is usually performed with isolates determined as MTC, however, it seems to be important in some cases for the appropriate management of patients or for an epidemiological purpose. Especially, in the case of M. bovis infection, to identify the species in the early stage of diagnosis is essential to avoid inappropriate treatment, since M. bovis is naturally resistant to a major anti-TB drug, pyrazinamide, and the standard regimen including this drug has to be altered.

**Economics of TB Drug Development**

The Economics of TB Drug Development provides data required for industry, philanthropic foundations, and global financial and health organizations to make informed decisions about investing in TB drug development. The result of 12 months of expert research, analysis, and consultations, the report explores the economic obstacles and opportunities in TB drug development and provides novel data, analyses of recent trends, and calculates the financial and social benefits of developing new drugs. Tuberculosis is a leading threat to global health, infecting one-third of the world’s population. Every year, an additional 30 million people are infected with the bacterium, and 8 million people develop the active disease. TB takes the lives of nearly 6,000 people a day. It kills young and middle-aged adults faster than any other disease apart from AIDS. It also is the leading cause of death of HIV-positive people worldwide. The incidence of the disease is rising yearly. In 2001, TB will kill more people than any previous year in history.

**Vaccination and Immunization**

Immunization makes a person resistant to an infectious disease, typically by the administration of a vaccine. Vaccines stimulate the body’s immune system to protect a person against subsequent infection or disease. According to the 2011 Bangladesh DHS, 86% of children aged 12-23 months have received all recommended vaccinations.
Immunization is a proven tool for controlling and eliminating life-threatening infectious diseases and is estimated to avert between 2 and 3 million deaths each year. It is one of the most cost-effective health investments, with proven strategies that make it accessible to even the most hard-to-reach and vulnerable populations. Vaccination has clearly defined target groups; it can be delivered effectively through outreach activities; and does not require any major lifestyle change.

Photo credit

To know more, please visit:

1. World Health Organization
2. UNICEF

Resources:

- The Value of Vaccination

The world has come a long way since George Bernard Shaw fulminated against vaccination in the 1920s. Vaccines are now widely regarded as an effective and cheap tool for improving health. Children in all countries are routinely immunized against major diseases, and the practice has become a central plank of global public health efforts.

Chapter Four: Understanding the Health Care Delivery System Infrastructure in Bangladesh
The Constitution of the People’s Republic of Bangladesh states that health is fundamental to human development and “is the basic right of every citizen of the Republic”. Bangladesh has a health system that offers care through both public and private sectors, with the later largely run by local entrepreneurs, non-governmental organizations (NGOs), and international organizations.

To know more:
1. The Ministry of Health and Family Welfare (MoHFW)
2. Directorates under MoHFW
3. Management Information System, DGFP

Resources:

- **Health System in Bangladesh**

  A health system consists of all organizations, people and actions whose primary intent is to promote, restore or maintain health. In short, it is the infrastructure through which the desired services to the intended population are delivered. Home care of a sick baby, health care in private sectors, behavior change programmes, vector-control campaigns, health insurance and financing are all integral part of the system. It includes inter-sectoral actions through comprehensive approach to ensure family, community and country health. **Health service delivery, workforce, information, products, financing and stewardship** are the six building blocks for strengthening of the health system in a country. Current status and future
challenges of the system in Bangladesh can be conceptualized within the gamut of the six building blocks.

- **Bangladesh Health Scenario**

  This is a blog which deals with public health problems and prospects of Bangladesh. It contains research reports and articles and documents on relevant issues of Public Health and Health Systems in Bangladesh and blog posts on contemporary health issues of Bangladesh by Syed Masud Ahmed.

- **Healthcare Network of Bangladesh: From Policy-planners to domiciliary workers**

  The healthcare network of Bangladesh is an intricate web policy-planners, regulatory bodies, executing authorities, healthcare delivery systems, and Institutions for health education in the country. The ministry of Health and Family welfare (MoHFW) is the apex body responsible for formulating national-level policy, planning, and decision-making in the provision of healthcare-delivery system spread across the country from national to the community level. The ministry and its relevant regulatory bodies have also an indirect control over the healthcare system of the private sector. This chapter will highlights the roles and responsibilities of the public-sector authorities and the service delivery systems in the provision and promotion of the healthcare in the country.

- **Health Systems in Bangladesh**

  Health care delivery is a daunting challenge area of the Bangladesh’s healthcare systems. This paper looks at factual evidence to describe the main challenges facing health care delivery in Bangladesh, including absenteeism, corruption, shortage of doctors/nurses, inefficiency and mismanagement. This paper concludes that good governance, including training and monitoring, allowing more non-governmental involvement and the needs of the informal healthcare service providers is important in ensuring effective health care delivery, and that returns to investments in health are low, where governance issues are not addressed.

- **Health, Population and Nutrition Sector Development Program (HPNSDP), July 2011 - June 2016**
Health is one of the fundamental rights of human being, and the Government has a constitutional obligation to ensure public health to all citizens. Therefore health, population and nutrition are among the most urgent development issues of the Government of Bangladesh.

**Health Policy 2011**

Bangladesh has made significant progress in many of its social development indicators particularly in health; however, a vast portion of its people still does not use health care services from medically trained providers. An attempt has been made in this study to investigate levels and patterns of health care exclusion among women in Bangladesh. A face to face cross-sectional survey was carried out in a total of 674 married women, selected with the convenience sampling technique. This study was carried out in Bancharampur sub-district under Bramman Baria district and Mirpur sub-district under Dhaka district from 1st July to 30th July in 2010. Results revealed that the mean health care exclusion score was 14.0 (SD=4.40) out of 21. The least used reason to explain health care exclusion was ?A doctor recommended a surgery for a family member but we did not have it done?, with only 9.9% of the subjects giving this reason. The most common reason was ?A child in the family was sick but was unable to obtain the required health care? (32.6%). Multivariate regression analysis found that the independent variables explained 37.8% of variance. Significant association of health care exclusion appeared with the participants' level of education (B= -0.183, CI= -0.264 to -0.102), family?s wealth status (B= -0.803, CI= -0.970 to -0.637), family size (B=0.315, CI=0.214 to 0.416), exposure to mass media (B=0.415, CI=0.218 to 0.612) and history of ever use of health care service (B=1.971, CI=1.238 to 2.705). It is suggested that women’s education specific to health care utilization, health related mass media campaigns and effective counselling on positive aspects of health care by health professionals to the patients attending the clinics are necessary to reduce health care exclusion.

**Bangladesh Health System in Transition: Selected Articles**
The articles published here appeared in the daily New Age over the last one and a half years from early 2008 to mid 2009. They covered various issues related to the problems, constraints and challenges faced by the broader health system in Bangladesh- from gender based violence, overarching policy void to human and financial resource scarcity and to road traffic fatalities. Although each article was written in the context of prevailing issues confronting the health system, it is strongly felt that are still relevant and remain to be fully addressed.

Some of the articles are very much at the core of challenges faced by the health system in Bangladesh. The policy void is of particular importance. In 1988, during the autocratic rule of President Ershad, Bangladesh had its first health policy. However, the first overarching health policy by a democratically elected government did not see the light of the day before August 2000 too far into the mandate of the then ruling party (see the article entitled “National Health Policy: No Scope for a Piecemeal Approach?”). Unfortunately, much of the initiatives promised by the Health Policy 2000 were quietly abandoned by the newly elected government in 2001. However, it never bothered to come up with a comprehensive health policy of its own. The current elected government seems to be serious in presenting a new national health policy consistent with the letter and spirit of its election manifesto. As these articles are being published, we are still awaiting such a comprehensive national health policy, although some planned programs/initiatives have already become apparent through various piecemeal announcements of the Honourable Minister of Health and some of his high-level officials. As the new national health policy takes shape debates and dialogues among the stakeholders, I intend to participate in this debate through newspaper articles and other means. I hope that we shall be able to present another monograph next year bringing together some of these anticipated publications.

- **Health Related Millennium Development Goals in Bangladesh: A Reality Check**

Globally agreed all eight Millennium Development Goals (MDGs): eradicate extreme poverty and hunger, achieve universal primary education, promote gender equality and empower women, reduce child mortality rate, improve maternal health, combat HIV/AIDS, malaria, and other diseases, ensure environmental sustainability and develop a global partnership for development by 2015, are closely connected and all the targets might be achieved if the targets of the health related Millennium Development Goals are achieved. By reviewing literature related to health related Millennium Development Goals in Bangladesh issue this paper finds that progress made by Bangladesh on the MDGs, especially those related to health, has been extremely slow. With only five years left, it might be quite difficult to achieve the health related Millennium Development Goals as in most of cases the progress is not on track rather far away from the desired target.
Health Information System Assessment: Bangladesh Country Report

The Ministry of Health and Family Welfare (MOHFW) has taken the initiatives to assess current status of its health information system. The assessment result will be considered as the basis for future health information plan development. Standard assessment tool ?Health Metrics Network (HMN) Assessment Tool? was mainly implemented for this purpose.

The Ministry of Health and Family Welfare (MoHFW)

The Ministry of Health and Family Welfare (MoHFW) is the Governmental the leader for health and family planning based policy, planning and decision making at macro and micro levels. The Honorable Minister for Health & Family Welfare, who is assisted by the Honorable State Minister for Health & Family Welfare, heads the ministry. The principal executing staff of the ministry is the Secretary, who works with a set of bureaucrats who report to him, including: the Additional Secretary, Joint Secretaries/Joint Chiefs, Deputy Secretaries/Deputy Chiefs, Senior Assistant Secretaries/ Senior Assistant Chiefs, and others. Under the ministry, four Directorates are providing health services to the citizens. These include the Directorate General of Health Services (DGHS), Directorate General of Family Planning (DGFP), Directorate of Nursing Services (DNS) and Directorate General of Drug Administration (DGDA) along with Health Engineering Department (HED), National Nutrition Program (NNP), Transport & Equipment Maintenance Organization (TEMO), National Electro-medical & Engineering Workshop (NEMEW) and Essential Drugs Company Limited (EDCL).

Since health, population and nutrition are important indexes of human development, MoHFW has been treated as a priority ministry of the government since 1998. Considering the strengths, challenges and lessons learned from implementing the two previous sector programs, the HPSP and the HNPSP, the Government of Bangladesh has laid out a new five-year program (2011-2016) -Health Population Nutrition Sector Development Programme (HPNSDP)? Under the guidance of the MoHFW, the Directorates and other departments are actively participating in
implementation of this sector-wide approach.

Directorates under MoHFW

Directorate General of Health Services (DGHS)

Directorate General of Health Services (DGHS) acts as the focal point of all the health activities throughout Bangladesh. It is the largest executing authority under the Ministry of Health & Family Welfare. With more than 100,000 officers and staff, DGHS operates the health care delivery system for the ministry all over the country, down to village level. DGHS also provides technical guidance to the ministry. The activities of the DGHS are implemented through regular revenue as well as through development programs.

Community Health Care Service (CHCS) are community clinics (CCs) at the ward level; these are grass roots one stop primary health care (PHC) service facilities, catering to the day-to-day health needs of the rural population. The CCs represent the first entry and contact point to the health referral system.

Union-Level Health Care Facilities include union health and family welfare centers (UHFWC) and union sub-centers that are being made fully functional as part of the union health services (UHS).

Upazila-Level Health Facility Complex ensures that primary health care services are accessible for the entire rural population. Out of the 507 upazilas in Bangladesh, by 2000, 374 had a completed health complex. Each of these complexes is intended to provide specialized facilities for medicine, surgery, genecology, anesthesia, and dentistry.
District-Level Health Facilities are the next tier of public sector health care, located at the zila, or district level. Each of Bangladesh’s 64 zilas now has modern hospitals with a bed capacity ranging from 50 to 200 patients. Twenty-three medical college hospitals and eight postgraduate specialized institutes with attached hospitals are included in this level of health care.

Tertiary-Level Health Care Facilities are different types of special care centers. Infectious disease hospitals, tuberculosis hospitals, and leprosy hospitals all fall under tertiary care health facilities. The medical college hospitals are located in the regional level, one for several districts, are affiliated with medical colleges, and provide specialty care in many disciplines. These hospitals are also called tertiary hospitals. Tertiary hospitals also include the national-level super specialty hospitals or centers that provide high-end medical care services in only one field.

**Directorate General of Family Planning (DGFP)**

Directorate General of Family Planning (DGFP) has a similar managerial structure to the DGHS, operating from the national level down, including: director general, directors, deputy directors and assistant directors at the head office, divisional director, deputy director and assistant director at the division, district family planning officer (DFPO) at the district-level and upazila family planning officer (UFPO) in the upazila level. DGFP has a limited number of medical doctors, usually one medical officer for maternal and child health (MO, MCH) in each upazila, and one sub-assistant medical officer (SACMO) a medical assistant by background in union health facility. The DGFP also has family welfare visitors (FWV) in the upazila and union facilities to perform family planning procedures. The domiciliary staff are called family planning inspector (FPI), assistant family planning inspector (AFPI) and family welfare assistant (FWA) at the ward level.

The DGFP-run union facility, which is equivalent to that of union health and family welfare center of the DGHS, is called the family welfare center (FWC). There are 3,719 HFWCs at the union level. Additionally, DGFP operates 97 maternal and child welfare centers (MCWCs): 24 in union level, 12 in upazila level and 61 in district-level, plus 471 MCH-FP clinics (407 in Upazila level and 64 in district level) and 8 model clinics (2 at national level and 6 at regional levels). Lastly, DGFP organizes 30,000 makeshift satellite clinics each month and supports operation of 179 NGO clinics--27 in union-level, 86 in upazila-level, 44 in district-level and 22 in national-level.

**The Directorate of Nursing (DNS)**
The Directorate of Nursing (DNS) falls under the Ministry of Health and Family Welfare. It is the highest body for managing the overall administration of nursing services in Bangladesh. Regulation of nursing education and practices is the responsibility of the Bangladesh Nursing Council; however, the Council works closely with the Directorate of Nursing Services in regulating all services. The Directorate of Nursing Services is one of the members of the policy-making committees at the national-level relating to Health and has similar roles and responsibilities as the Directorates of Health Services and Family Planning in terms of authority and executive power.

There are approximately 82 Nursing Colleges and Institutes throughout the country. In Bangladesh, Registered Nurses (male), nurse-midwives (female), and assistant nurses (mainly female) are usually involved in providing clinical services. The nurses work at different levels of the health care system, primarily in hospitals, as Nursing Superintendent, Deputy Nursing Superintendent, Nursing Supervisor, Senior Staff Nurse and Staff Nurse. Nurses work at Government, private, Army institutions and NGO-run facilities. There are approximately 30,000 registered nurses in Bangladesh of which about 15,000 nurses are working in the Government sector. Nearly 13,000 registered nurse midwives are either unemployed or working in the nongovernment sector; and about 2,000 are working abroad. Institutional health care infrastructure has been extended from national-level down to the union levels where sub center exists. The Bangladesh Government has also begun to provide health care services at the household-level. As such, the sphere of nurses' clinical practice has also expanded from highest to lowest institution, namely, 10-bed Rural Health Centers (RHC).

**National Nutrition Service (NNS)**

National Nutrition Service (NNS) is housed in the DGHS and managed under the overall leadership of the NNS Line Director, who reports directly to the Director General of DGHS. The Line Director (LD) supervises the delivery of the program, manages the budget, maintains and coordinates maternal, newborn and child health (MNCH) activities of the DGHS and DGFP. Both Directorates identify respective focal points, at the level of program manager, to monitor and coordinate nutrition activities. One of the medical officers of the UHC (public health and nutrition) is assigned the responsibility of coordinating NNS activities at Upazila level and below, while a nutrition officer (under DGHS) is responsible for the technical management of nutrition activities. In addition, NNS has become part of other national plans of action, notably the National Food Policy Plan of Action (2008 -2015). The NNS includes:

- Facility-based services;
- Area-based nutrition activities;
- Capacity building through training of staff and development of relevant manuals;
- Provision of micronutrient activities, and;
- Research and surveillance.
The Directorate General of Drug Administration (DGDA)

The Directorate General of Drug Administration (DGDA), under the Ministry of Health and Family Welfare, is the drug regulatory authority of the country. The Directorate General of Drug Administration’s mission is to ensure that people have easy access to, safe and good quality essential and other drugs at affordable prices. The DGDA supervises and implements all prevailing drug regulations in the country and oversees all activities related to import, procurement of raw and packing materials, production and import of finished drugs, export, sales, and pricing of all kinds of medicines, including those of Ayurvedic, Unani, Herbal and Homoeopathic systems.

At present, there are 35 district offices under the DGDA. All the officers of the DGDA function as "Drug Inspector" pursuant to the drug laws, and assist the Licensing Authority for undertaking the respective responsibilities. A number of Committees also advise the Licensing Authority. These include the Drug Control Committee (DCC), Standing Committee for imports of raw materials and finished drugs, Pricing Committee and a number of other relevant committees. Health Engineering Department (HED), the engineering outfit of the Ministry of Health and Family Welfare (MOHFW), began as full-fledged directorate on 22 March 2010. It is entrusted with new construction, upgrades, repairs and renovation under the development and revenue budgets.

Chapter Five: Major Health Information Sources in Bangladesh

To do their jobs effectively, health journalists must be able to use data in their reporting. Data help journalists and public health professionals identify problems and trends. Statistics also enable us to put stories in context to show how widespread health problems are and what population and geographic groups are affected. As a result, they show where journalists should concentrate their reporting, and they help policy-makers and public health experts design programs to improve health.
In Bangladesh, many journalists do not know how to find accurate and useful health-related data. This present chapter describes health information sources that may be easily accessed and used to prepare stories on health, population and nutrition issues in Bangladesh.

Management Information System (MIS) of Directorate General of Family Planning

Management Information System (MIS) of the Directorate General of Family Planning delivers performance statistics on family planning issues around the country. This has become one the strongest management tools available to program managers. The MIS covers service statistics, health worker visits. And data on current use of contraceptives recorded continuously in the Field Workers Record Keeping Book (FWA Register). Besides, pregnancy estimates, births and deaths (all deaths) vaccination status of mothers and children and monthly stock balance of contraceptives, etc. are recorded through MIS. In addition, the DGFP MIS also accounts for logistics and supply system which tracks stock outs, desired inventory level and shelf life of major life-saving drugs and contraceptives.

Resources:

- MANAGEMENT INFORMATION SYSTEMS

Management information systems encompass a broad and complex topic. To make this topic more manageable, boundaries will be defined. First, because of the vast number of activities relating to management information systems, a total review is not possible. Those discussed here is only a partial sampling of activities, reflecting the author's viewpoint of the more common and interesting developments. Likewise where there were multiple effects in a similar area of development, only selected ones will be used to illustrate concepts. This is not to imply one effort is more important than another. Also, the main focus of this paper will be on information systems for use at the farm level and to some lesser extent systems used to support researchers addressing farm level problems (e.g., simulation or optimization models, geographic information systems, etc.) and those used to support agribusiness firms that supply goods and services to agricultural producers and the supply chain beyond the production phase.
The new health sector program reformulated the management information system (MIS) under the DGHS, including components of ehealth and Medical Biotechnology (MBT). The HIS is an organizational framework for collecting, reporting and collating indicators, producing performance reviews, and developing a functional, responsive, and timely routine HIS report. The new HIS is also developing a population health registry through Geographical Reconnaissance (GR). In this process, the community clinics, union facilities, union parishads and upazila health system will be linked with the population-based information system.

The recent and most updated government approved information can be accessed [here](#).

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**Bangladesh Demographic Health Survey (BDHS)**
Demographic and Health Surveys (DHS) are widely respected nationally-representative household surveys that provide data for monitoring indicators in population, health, and nutrition. Funded by USAID and other donors, the DHS surveys are carried out in more than 90 countries and are used to measure countries' success in meeting Millennium Development Goals and other health targets. Bangladesh has implemented six DHS surveys: 1993-94, 1996-97, 1999-2000, 2004, 2007, and 2011, providing trend data to measure improvements in public health.

Another BDHS will be conducted in 2014. The Bangladesh DHS is a very valuable source of national and divisional information and serves as the baseline for evaluating the Government's success in meeting more than one-third of the targets in the HPNSDP.

For more information on the DHS, go to www.measuredhs.com

Bangladesh Maternal Mortality and Health Care Survey (BMMS)

The 2010 Bangladesh Maternal Health Services and Maternal Mortality Survey (BMMS) is a nationally representative sample survey on maternal mortality, causes of maternal and non-
maternal deaths, and perception, experience, and use of maternal health care in Bangladesh.

The BMMS 2010 can be accessed here.

Multiple Indicator Cluster Survey (MICS)

The Multiple Indicator Cluster Survey (MICS) is a household survey developed by UNICEF in the mid 1990’s to assist countries in filling data gaps for monitoring the situation of children and women.

The most recent MICS in Bangladesh, known as Progotir Pathey, was conducted in 2009. The Multiple Indicator Cluster Survey can be accessed via this link: https://www.unicef.org/bangladesh/knowledgecentre_6292.htm

Household Income and Expenditure Survey (HIES)

Household Income and Expenditure Survey (HIES), also commonly known as Household Budget Surveys (HBS) or Living Condition Survey, collects data on the flow of monetary and non-monetary resources of households and individuals. These surveys are usually nationally representative, conducted on a regular basis and frequently contain a panel sample. The core of HIES is a detailed accounting of expenditures on food, goods and services, utilities, health care, and education, often captured through weekly or monthly diaries kept by participants. HIES can also contain modules on education, health, fertility, healthcare access and use, ownership of assets, and housing conditions. Data from HIES can be used to measure poverty, inequality, and standards and levels of living.

The latest Household Income and Expenditure Survey (2010) can be accessed here.

Census

A census systematically acquires information about the members of a given population and is usually carried out every 10 years. The national census provides basic information on the total population and household distribution in a country. In Bangladesh, the Bangladesh Bureau of
Chapter Six: Reading Tables

Social and medical sciences rely on tables, charts, and figures to show study results, national and sub national data, and population-based information. Journalists must be able to read and interpret these tables to report accurately. Tables also provide a lot of information, not necessarily described in the text of a report that can improve stories and yield new ideas. In this chapter we will learn about how to read tables and for this we will be using tables form the latest Bangladesh DHS 2011.

Table Example 1, Contraception Use

Example 1: Current Use of Contraception, A Question Asked of a Subgroup of Survey Respondents

Step 1

Read the title and subtitle. They tell you the topic and the specific population group being described. In this case, the table is about current use of contraception by currently married women age 15-49. This is a subgroup of survey respondents.

Step 2

Scan the column headings—the top horizontal row. They describe how the information is categorized. In this case, each column represents a contraceptive method: any method, any modern method, and any traditional method. The last column lists the number of women interviewed.

Step 3

Scan the row headings—the first vertical column. These show the different ways the data are presented.
divided into categories based on population characteristics. In this case, the table presents contraceptive use among married women by their age, number of living children, urban-rural residence, division of residence, educational level, and wealth. Most of the tables in DHS reports will be divided into these same categories.

**Step 4**

Look at the very last row at the bottom of the table. These percentages represent the totals of all married women age 15-49 who are currently using a method of contraception. In this case, 61.2% of currently married women age 15-49 are currently using any method of contraception, 52.1% are using any modern method, and 9.2% are using any traditional method.

**Step 5**

To find out what percentage of married women with no education are currently using a modern contraceptive method, draw two imaginary lines, as shown on the table. This shows that 50.2% of married women age 15-49 with no education are currently using a modern method of contraception.

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Table Example 2, Treatment for Diarrhea

**Example 2: Treatment for Diarrhea A Question Asked of a Subgroup of Survey Respondents**

**Step 1**

Read the title and subtitle. In this case, the table is about treatment of children under five who had diarrhoea during the two weeks preceding the survey.

**Step 2**

Scan the column headings—the top horizontal row. In this case, the columns display the different treatment of children who had diarrhoea during the two weeks preceding the survey: percentage for whom advice or treatment was sought from a health facility or provider, percentage given fluid from oral rehydration salt (ORS) packet, and percentage given oral rehydration therapy (ORT), as well as the number of children with diarrhoea.

**Step 3**

This table shows that there were 388 children under age five with diarrhea during the two weeks preceding the survey (last number on bottom right). Once these children are divided into the background characteristics, there may be too few cases for the percentage to be reliable. For example, look at the percentage of children in Sylhet and Khulna who were given ORT. The percentage in Sylhet (87.6) is in parentheses. In Khulna, there is no number, only an asterisk. In DHS tables parentheses around a number means that data were collected from fewer than 50 children (unweighted). Readers should use this number with caution since it may not be accurate. An asterisk in a table means that data were collected from fewer than 25 children (unweighted)?too few to provide a reliable measurement.

**Step 4**

When parentheses or asterisks are used in a table, the explanation will be noted under the table. If there are no parentheses or asterisks on a table, you can proceed with confidence that enough cases were included in all categories that the data are reliable.
Table Example 4, Knowledge of AIDS

Example 4: Knowledge of AIDS Comparing Data and Understanding Patterns

Step 1

Read the title and subtitle. In this case, the table is about knowledge of AIDS among ever-married women and men age 15-49 in Bangladesh. This is an example of a table with two different populations.

Step 2

Identify the two panels. First identify the columns that refer to women (a), and then identify the columns that refer to men (b). Both panels represent percentage of women and men who have ever heard of AIDS and the number of women and men interviewed.

Step 3

Scan the row headings—the first vertical column. These show the different ways the data are divided into categories based on population characteristics. This table presents knowledge of AIDS by age, marital status, urban-rural residence, division of residence, educational level, and wealth. The data in these categories will help you understand how knowledge of AIDS varies throughout the country. Most of the tables in DHS reports will be divided into the same categories.

Step 4

Answer the following questions to understand how knowledge of AIDS varies throughout the
population:

What are the lowest and the highest percentages of women and men who have heard of AIDS (range) within the divisions? Knowledge of AIDS among women ranges from a low of 54.9% in Rangpur to a high of 79.1% in Khulna; among men, from a low of 77.0% in Rangpur to a high of 94.8% in Khulna.

Look for patterns: Does knowledge of AIDS vary within specific populations? For example, is there a clear pattern of knowledge of AIDS by age? By wealth? By education?

Compare different groups: Do men know more about AIDS than women? Is one age group more knowledgeable than any other?

Step 5

Why is this important? Program managers can use this information to develop effective programs. For example, women are clearly less knowledgeable about AIDS than men, and residents of Rangpur are less informed than men and women in other divisions. Women and men with no education and those who are living in the poorest households are the least likely to know about AIDS. Education programs should be targeted towards these populations.

<table>
<thead>
<tr>
<th>Background Characteristics</th>
<th>Over-married women</th>
<th>Over-married men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-19</td>
<td>77.2</td>
<td>5,489</td>
</tr>
<tr>
<td>20-24</td>
<td>76.2</td>
<td>5,141</td>
</tr>
<tr>
<td>25-29</td>
<td>76.0</td>
<td>4,334</td>
</tr>
<tr>
<td>30-34</td>
<td>74.1</td>
<td>4,564</td>
</tr>
<tr>
<td>35-39</td>
<td>66.8</td>
<td>3,973</td>
</tr>
<tr>
<td>40-44</td>
<td>69.8</td>
<td>15,685</td>
</tr>
<tr>
<td>45-49</td>
<td>57.0</td>
<td>1,554</td>
</tr>
<tr>
<td>50-59</td>
<td>55.4</td>
<td>1,524</td>
</tr>
<tr>
<td>60+</td>
<td>41.5</td>
<td>134</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Divorced</td>
<td>76.0</td>
<td>2,332</td>
</tr>
<tr>
<td>Widowed</td>
<td>68.5</td>
<td>1,022</td>
</tr>
<tr>
<td>Single</td>
<td>76.2</td>
<td>2,249</td>
</tr>
<tr>
<td>Ever married</td>
<td>52.9</td>
<td>2,090</td>
</tr>
<tr>
<td>Residence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>76.0</td>
<td>2,249</td>
</tr>
<tr>
<td>Urban</td>
<td>68.5</td>
<td>1,022</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No education</td>
<td>76.2</td>
<td>2,249</td>
</tr>
<tr>
<td>Primary</td>
<td>52.9</td>
<td>2,090</td>
</tr>
<tr>
<td>Secondary</td>
<td>68.5</td>
<td>1,022</td>
</tr>
<tr>
<td>Wealth index</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highest</td>
<td>76.0</td>
<td>2,249</td>
</tr>
<tr>
<td>Lowest</td>
<td>52.9</td>
<td>2,090</td>
</tr>
<tr>
<td>Total 15-44</td>
<td>76.0</td>
<td>2,249</td>
</tr>
</tbody>
</table>

Note: Figures in parentheses are based on 25 to 19 weightless cases. An asterisk indicates that a figure is based on fewer than 25 weightless cases and has been suppressed.

Table Example 3, Prevalence and Prompt Treatment of Fever
Example 3: Prevalence and Prompt Treatment of Fever A Question Asked of a Subgroup of Survey Respondents

Step 1

Read the title and subtitle. In this case, the table is about two separate groups of children: (a) all children under age five and (b) children under age five who had symptoms of acute respiratory infection (ARI) in the two weeks preceding the survey.

Step 2

Identify the two panels. First identify the columns that refer to all children under five (a), and then identify the columns that refer only to the children under five who had symptoms of ARI in the two weeks preceding the survey (b).

Step 3

Look at the first panel. What percentage of children under five had symptoms of ARI? It’s 5.8%.

Step 4

Answer the following questions to understand how prevalence and treatment of ARI among children vary in Bangladesh: Now look at the second panel. How many children under five are included in this group? Only 486 or 5.8% of 8,395 children under five who had symptoms of ARI. The second panel is a subgroup of the first.

What are the lowest and the highest percentages (range) of children with symptoms of ARI within the divisions? Prevalence of ARI ranges from a low of 4.6% in Dhaka to a high of 7.4% in Chittagong.

Look for patterns: Does prevalence of ARI or treatment of ARI vary within specific populations? For example, is there a clear pattern of ARI prevalence or treatment by wealth? By mother’s level of education? By gender? The prevalence of ARI is highest among the poorest households and lowest among the wealthiest households. Treatment of ARI follows the opposite pattern—much higher in the wealthiest households than in the poorest household. The same patterns are found with mother’s education. Male children are slightly more likely to have symptoms of ARI than girl children (6.6% vs. 5.0%) but much more likely to receive medical treatment and antibiotics than girls.
Chapter Seven: Tips for successful writing - from Blogs to Traditional News Reporting

Health writers hardly lack subject matter. The challenge is to figure out how to turn information into good stories. Two approaches can work well for finding stories. One is to start with questions that people want or need to have answered, as indicated by current events and the reporter’s direct knowledge of an issue. The second is to start by identifying health information available in reports, such as those described in Chapter 4, and then to present it in ways that will
Both approaches require identifying accurate information to present in a way that most people can understand. New information on which to base health writing is always emerging. To evaluate information you find during your research, consider these three basic questions:

- Is it true?
- Is it new?
- Is the information important?

Resources:

- **Tip Sheets**

The Association of Health Care Journalists is an independent, nonprofit organization dedicated to advancing public understanding of health care issues. Its mission is to improve the quality, accuracy and visibility of health care reporting, writing and editing. There are more than 1,400 members of AHCJ.

- **12 Essential Blogwriting Tips for Building a Successful Blog**

One of the most common questions I get asked over at my other blog, Zen Habits, is this: How have you become so successful so quickly? Newer bloggers are looking for my secret formula or the key to my success, but I'm always sorry to tell them I don't have any secrets. I do the same things that other successful blogs have done, and that excellent blogs such as ProBlogger and Copyblogger teach you to do. However, without sounding like I'm bragging, I have learned a few things over the last year of blogging - a year in which my blog went from nothing (literally nothing - it didn't exist at the beginning of 2007) to a Top 50 blog with nearly 40K subscribers. While I don't claim to have any secrets, it's hard to come this far without learning a thing or two. In hopes of sharing some of this knowledge with my fellow bloggers, I'm going to list some of the key things I've learned about blogwriting. I hope to develop some of these things in future posts, but I thought a good overview would help.

- **26 Essentials for Blogging Success: What You Need to
Know

Do you want to be a more successful blogger? Are you keeping up with the newest developments in blogging? Whether you are new to blogging or you have been blogging for years, you will find insight in this article. It covers 26 blogging essentials, in an A?Z tour of the blogosphere. Each one has a full explanation, along with a link to further reading in case you want to know more.

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How to Be a Good Writer

Here are some tips on how to become a good writer. It takes time, perseverance and practice. But with patience, good practical approaches and determination, you can turn your creative desire into concrete writing.

•

What is good writing?

You know it when you see it. It isn?t that hard to tell whether a piece of writing is good or bad. You just have to read it. But things get more challenging if you have to explain why it's good. Even harder than that is analyzing the good things a writer is doing so you can learn to use his or her techniques in your own work. And teaching others how to use them is the hardest of all but that, of course, is exactly what we need to be able to do.

Having simple phrases to describe the good things writers do makes learning about those things easier.

•

Writing Tips

People respect high quality writing. If you deliver your work in a strong and error-free package, people take you seriously. Your message comes through clearly. Your words reach people’s hearts and minds. Your writing is more powerful than the sword. It inspires, educates, entertains. If the writing is weak, readers say, "So what?" If the writing has errors, readers are confused or distracted. Compelling, clear, error-free writing is what people expect when they buy a book. Give them what they expect. Readers will recommend your book to their friends, give it as a gift, and wait expectantly for your next publication. Reader by reader you will change your world. What an awesome responsibility! What a wonderful privilege!
Great Writing Tips

Writing tips to help you improve your writing skills

The site aims to do what it says in its title: provide great writing tips. It started out as a site for non-native speakers who have to write in English but it seems to have attracted a wider readership.

So, whatever your background, whether English is your mother tongue or not, I hope you enjoy the site and the tips it contains. Please let me know by commenting on posts or by sending me an e-mail.

Approaches to Finding Topics

- First, is it true? Confirm your facts! Does the researcher cite common, respected, professional references--the World Health Organization, for example, as opposed to a casual blog site? Evidence-based findings are the gold standard for accuracy in health information. The web sites recommended in this handbook all contain such high-quality information. In addition, look for possible bias on the part of those publishing the findings. A report funded by a pharmaceutical company, for instance, should be viewed with skepticism, while one published by a scholar or an independent research organization may be more objective and fact-based. But even independent researchers sometimes exaggerate their findings. So ask yourself: Do the researcher?s findings solidly support the conclusions? And has a news release overstated the findings? Finally, especially on contentious issues, seek the views of other experts so that your story is balanced.

- Second, is it new? Journalists are in the ?news? business. Sometimes, what is ?news? is obvious ? for instance, enactment of a new law or program, release of funds, appointment of government officials. But other times, judgment is required based on experience or ? especially if you are new to the health beat ? a little background research. You should routinely check your own media house?s archives to see what has been reported previously on a given topic. It also is a good idea to ask sources themselves what is new about what they are saying; they probably know the topic better than you, and can give you expert guidance.

- Third, is the information important? Often, there is no absolute answer to this question.
Information obviously is important if it affects people’s health, well-being or quality of life. It also is important if it sheds light on health policies, whether funds are being spent efficiently and to good effect, or whether strategies are working or are not working. Information also is important if it advances public knowledge about issues of concern; many times, the best health journalism occurs when new information emerges to help answer long-standing questions.

- Finally, news often is defined by public expectations. A development that is unexpected or runs contrary to what many people believe is, almost by definition, ?news.? In fact, some things can be considered new if they are not well known, even if they are not strictly new. For example, a research finding may have been announced weeks or even months ago in a professional journal, but if readers or viewers are unaware of the finding, it may be sufficiently fresh.

**Saving Ideas**

Reporters often come up with information that has some significance, but the time may not be right to pursue it. A finding may be too preliminary, or adequate information may still be lacking on a question of interest. If you come across something of interest, then you might want to save your ideas by writing them into files. You might even find it useful to keep three types of idea files:

- One for mere glimmers of ideas
- One for ideas that are more developed
- One for stories in progress to be pitched to your editor

Such files contain reminders of various ideas you may wish to pursue. The reminders may vary in form from a news release you find intriguing, to a journal article on a topic you think bears exploring, to notes from a talk by someone you may wish to profile, to jottings of story ideas that occurred to you after hearing acquaintances discuss medical concerns, to a recent global report that you could tie to local issues. When you are seeking story ideas, or when new developments make old topics timely, consult your story files. You may be off to a running start!
Information-Gathering Strategy

Health journalism requires thorough research – research that is deep enough to yield sufficient understanding and ensure that the information reported is solid and broad enough to provide adequate context. As you do your research, keep careful notes on the sources you use and the information you obtain. Two basic principles can aid in gathering information for health journalism efficiently and smoothly: begin with less technical sources and then move to more technical ones, and start with written sources, which may be either printed or electronic, and then move to human sources.

Identifying People to Interview

In gathering information for your story, you should identify people to interview. Contacts with
associations and institutions will likely yield suggestions of people who would be valuable contributors. Internet searches and consultations with colleagues can help round out lists of potential interview candidates. But be sure to assess each source’s reliability and credibility: as a journalist, you are responsible for ensuring that information you pass on is accurate, and that possible bias among sources is disclosed to your readers and audience so they can make informed judgments about what the sources say.

As you gain experience as a health journalist, you will develop your own group of favorite sources: people who are knowledgeable, articulate and ready to talk. Favorite sources may include press contacts within units of the Ministry of Health, local experts on disease control and prevention, respected doctors, local clinicians and pharmacists, health-based program managers at nongovernmental organizations like the International Centre for Diarrheal Disease Research, Bangladesh (ICDDR,B) or UNICEF. Keep in mind not to overuse them, though. The health community is a large one; let many voices be heard.

**Government officials:** Often, government agencies designate official spokespeople. You should get to know them and use them as sources whenever you need to report the official government position. But don’t stop with official spokespeople. You should strive to talk directly to officials, stressing to spokespeople that this is the only way to ensure credibility. You also should cultivate relationships with government employees below those in top positions. Often, the second or third-tier officials know more about a specific topic than top administrators, who have too many concerns to delve as deeply into specific subjects. Also, if you establish relationships of trust, you will find that they often will tell you more than the official position (although you may have to protect them by not identifying them by name). Lower level government officials also can be good sources of tips for news that is coming up.

**Experts:** The two most important things to understand about experts are that they are busy and often wary of journalists. The solutions are to do your homework so you can interview them quickly and convince them that you are knowledgeable enough to produce accurate stories. Beyond that, you should demonstrate your interest and commitment to solid reporting by giving them all the time they require answering you, listening carefully to what they say, and asking pertinent follow-up questions. In some cases, if experts are wary of you or express skepticism about the press, calmly explain that you have many readers or listeners who care about the issues you are discussing, and that your goal is to help them. But above all else, remember this: Listen. Experts don’t have the time or interest to listen to your own views on the subject. You should ask questions, but interviews are about their views and information.

**Everyday people:** In most cases, stories are incomplete unless they include the perspective of ordinary people. This includes people who are directly affected by the subject of your story?
people who suffer a disease you are writing about, for instance, or those who stand to gain or lose from a particular policy. But it also includes interested bystanders. One of the key roles of journalists is to encourage public discussion of issues; often ? especially when policy questions are being covered ? that only happens if you include views of a broad cross-section of people.

Journalists frequently rely on experts like health-care providers or associations to connect us with ordinary people. There is nothing wrong with this. It can be especially difficult to find people who have particular medical conditions without such help, for instance. Health providers often are reluctant to introduce you to such sources because they have an ethical responsibility to protect people?s confidentiality. But doctors and other health professionals often will respond if you ask them to ask a patient if he or she will be willing to talk to a reporter; if the response is positive, you have a good source.

One word of warning: Expert sources may introduce you only to ordinary people who will support their views. So don?t rely on them alone. Try to find your own sources. If an NGO takes you to visit a community, for instance, interview the people they introduce to you, but insist on finding some sources of your own too.

**Tips on Interviewing**

Interviewing people might sound really easy, but it actually gets quite tricky sometimes. Here are some tips:

1. **Decide on the Interview Medium**: Before jumping into an interview consider the best medium for the interview. Each medium has advantages and disadvantages.
   - Telephone interviews are less time-consuming and can be more spontaneous. They also are obviously one of the best ways to interview people who are far away. But while they are a good way to get a quick quote or some basic factual information, they have drawbacks: nuances can be lost, and sometimes you can misinterpret a person when not meeting face-to-
face.

- Written media (letter or e-mail), work well for gaining straightforward questions and having exact quotes, but they do not permit spontaneous responses, and can be inefficient if you have to ask many follow-up questions.

- In person interviews can yield many insights, materials and details. They are the best way to build trust with a source, so they offer the best chance to get information that may otherwise be unavailable. Wherever possible, you should rely on this approach, especially for stories that are complex or sensitive. But in-person interviews can be very time-consuming, so you can use other approaches for more straightforward or routine stories.

Prepare. Sources, especially experts, are busy and reluctant to give their time to reporters they think will get the story wrong. So spend some time reading about your topic, and check previous stories, so that you can show sources that you know what you are talking about. That doesn’t mean you have to be an expert yourself; you just have to be ready to ask appropriate questions and demonstrate that you can understand what the experts are saying and can report it accurately. Before you conduct an interview, you should:

- Brief yourself well on the topic, gaps or inconsistencies in what you have learned so far, and the role and responsibility of the person whom you are interviewing as it relates to the issue;

- Review your notes;

- Develop a list of questions, but remain flexible to pursue unexpected leads;

- Remember, as an interviewer your main task is to listen.

During the interview: There are some things you might need to remember during an interview session:

- Be polite; and be a good listener;

- Do not rush in with a new question if the person you are interviewing hesitates;

- Ask open-ended questions ? ones that encourage a person to expound on a topic. Questions that only require a ?yes? or ?no? answer, or that require simple answers, rarely yield much interesting information;

- Give the person sufficient time to think and offer their answer;

- Make sure the person feels his or her views have been fully aired. One good technique is to ask, at the end of the interview, if there is anything else that you should have covered.

Following Up: When you are done with the interview you might want to:
• Review your notes;

• If you tape-recorded the interview, check the tape and transcribe material of interest;

• Thank the interviewee for their time and let them know when the story may run.

• Ask if you can call or write them for more information if further questions arise.

Covering Research

Literally thousands of health-related research findings are reported every year, many of them highly technical and difficult to interpret. A health journalist has to wade through the jargon and, frequently, exaggeration to find the news and report on it accurately. Here are a few things to consider: Who paid for the research, and who profits from it? The sale of drugs and medical products is a huge business, and the companies often pay for research that will help them promote these products. Always check to see who paid for a study. Research by credible, independent organizations like universities is usually more reliable than research done by private, profit-seeking companies.

Also, tell your readers or audience how a study is funded, so they can judge its credibility for themselves. Is the scientist likely to profit from the sale of any products related to his work? Often, researchers themselves stand to gain by use of certain medical products or adoption certain medical procedures.

You should examine this question, and tell readers what you find. What do other researchers and experts think of the research and its findings? Interview or check online for what other experts are saying. Research published in peer-reviewed journals like The Lancet or the Journal of the American Medical Association generally is more credible than research that has not been reviewed. Consulting other experts has other benefits for the journalists: you may find new sources and new stories, or you may dig up controversies that make for more interesting and important stories than an individual research finding. Are the conclusions justified based on the research? Researchers sometimes exaggerate the importance or significant of their findings to draw attention to themselves or attract additional funding. So when scrutinizing research reports, see if the conclusions the experts research are supported by the actual research findings.

For instance, just because researchers observe that two issues are associated with each other that do not necessary prove that one factor caused the other. Because of the uncertainty,
scientists value randomized, controlled studies, in which individuals are chosen at random to receive a specific treatment, and the results are compared to those for a control group that no treatment. Clinical trials of new medicines or treatments are conducted as randomized controlled experiments following strict procedures; you should understand this process any time you report on clinical trials. What is the sample? Researchers base their conclusions on a sample or study population. In general, larger samples provide more reliable results. Check to see if the study sample is selected randomly, making it less biased and more representative of the larger population under study.

Put research findings into context. Scientific research moves in small, incremental steps. To help your audience make sense of a scientific finding (and to determine what is really new and significant about it), you should explain what research preceded it. How does a new study change what we know or believe to be true? If you have the opportunity to interview the scientist who performed the research, ask why he or she performed the study, what was surprising about the findings, and what further research is needed based on the latest findings.

Avoid jargon. Scientists use technical terms that mean a lot to them but that most people do not understand. Journalists should find everyday terms, or include definitions for technical terms in their studies.

The Art of Writing
While every writer understandably wants to develop an individual style, consistency in matters ranging from spelling to word usage and format helps readers. Check with your own publication to see if it has its own stylebook or follows one of the common ones. Some style guides for English prose can be found online, including William Strunk and E.B. White’s revered *Elements of Style*. The British newspaper, *The Guardian*, has put its style guide online, as has America’s *National Geographic* magazine. An excellent manual on feature writing is *The Art and Craft of Feature Writing*, by former Wall Street Journal writer William Blundell.

Example of Writing: Collection of feature articles on various health issues in Bangladesh

Resources:

- **Public Health News**

  The latest Public Health News articles published daily. Includes news on public health hazards, health services administration, biostatistics, epidemiology, access to care, health education, legislation, law enforcement and more.

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Writing and the Internet

Today, journalists must write for more than traditional newspapers or broadcast outlets. Blogs and other forms of website writing are now very much in style. Successful writers have to produce compelling and engaging content for many different media.

Exactly how this is done will vary from writer to writer, as everyone has his own style. But some basic principles of writing great content might be worth keeping in mind.

One fact about writing, especially content for the web, is that people don't stay on any page for very long. Usually, readers look at a page and decide within a few seconds if it's worth reading further or if they should turn a page or click away to something else. So your articles or blog posts should be written and formatted in a way that makes them not only visually appealing, but also readable for your intended audience. Make sure your visitors know what you're writing about immediately by following the tips below for creating readable blog posts.

Titles are important. The first things your audience will notice are the title of your piece. While it's great to use clever titles sometimes, the most important thing is to be clear and concise, so readers don't have to search very far to know what your blog posts are about. Grab the reader's attention and curiosity about how this piece of information relates to him or her.

Mark your Headings. Make your content more readable by breaking it into smaller pieces with clear sub-headlines for each section. If writing a blog, remember that search engines weigh titles more heavily than the content of each post, so take some time to consider search engine optimization when you name your posts. Make your headings relevant, clear and search engine friendly.

Make Lists. Bulleted and numbered lists work equally well in turning text that could be published as long paragraphs into easily readable content that the view can skim. Use lists whenever you can to break up long blocks of text.

Use **boldface** and *italics* strategically. Boldface and italics work very well to draw attention to
specific text within your articles. But they become useless when overused; instead of drawing attention to the most important parts of your post, they make your post cluttered and more difficult to read. Boxes or pull quotes can focus attention on particularly interesting quotes, statistics or facts, giving the reader quick information and drawing him or her into reading more of the article.

Links are important. When writing online, links can be very helpful in directing readers to more information. They're also helpful in search engine optimization because search engines weigh linked text higher than non-linked text. However, too many links can have a negative effect on the readability of your blog, just as too much bold or italics can. Use links but don't overuse them.

Images speak louder than words. Images are a great way to break up a text-heavy article. They can help draw attention to your work, and in blogs they help with search engine optimization. Don't use too many images though, or your reporting may get cluttered and your text too hard to read. While many websites offer free stock images, make sure you only use images that you have permission to publish. Take some time to learn about copyright and fair use laws before you publish images in your blog posts. A special tip to health journalists: All the images on Medline Plus, including numerous graphics illustrating health issues, can be used free of charge providing you acknowledge the source.

Remember ethical considerations when using images. It is critically important to use images in an ethical way. There are international standards for image publishing that should be followed, such as not revealing the face of a rape victim, HIV-positive clinic patient or child under 18 who has suffered abuse, just as you would not use their name in print to protect their identity. Identity protection and ethical use of images is particularly relevant when reporting on health issues, where privacy can be subjective. If you have any question whether using a photograph would violate patient privacy, ask yourself if you would be comfortable publishing such a picture of yourself or a family member. Sometimes, a journalist must find creative ways to depict an issue sensitively. Writers and photographers should work together when reporting to keep this in mind.

Write Short Paragraphs. Articles are easier to scan and read when paragraphs are short. In fact, in a blog, one-or two-sentence paragraphs are perfectly acceptable, and usually welcomed by blog visitors. Short paragraphs add white space and visual relief to text-heavy blog posts. Keep your writing concise!

Chapter Eight: Ethical Aspects of Health Journalism

![Ethics](image-url)
In deciding whether to pursue a given topic or include a specific piece of sensitive information, journalists should consider the following questions:

- What good is likely to result from sharing this information?
- What harm could result?
- Is the information truthful?
- Are you able to provide a respectable source?
- Is the information represented in a fair, balanced and respectful way, or does it favor some people over others?
- Are there alternatives to consider?

Resources:

- **JATRI Ethics and Standards Handbook for Journalists, Part-1**

Journalistic Ethics is addressed as core issue of quality and responsible journalism across the world. It is not merely the issue of journalist but touches entire society particularly in the transitional society like Bangladesh. As result of social transition existing fabrics of ethics and values are often some under challenged and the journalists find themselves pressed to renegotiate to follow the professional codes of conduct. Taking this broad perspective JATRI took an initiative to develop a handbook on ethics and standards for journalists the context of Bangladesh.

- **JATRI Ethics and Standards Handbook for Journalists, Part-2**

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Accuracy

The highest responsibility a health journalist is to provide clear, current and accurate health information. Therefore:

- Always provide complete, truthful and well substantiated information;
- Clearly define and communicate areas of controversy;
- Fairly represent conflicting points of view;
- Write in an objective way and label editorial comments and personal opinion as such;
- To the maximum extent possible, disclose sources of information;
- Understand that no one person has a monopoly on truth, that we can only search for data, events, issues and ideas to help readers and viewers form their own opinions.

Content

In vetting content, you might follow the points below:

- Gather and communicate information responsibly that best serves the needs of the public;
- Strive to select content based on its positive health benefit;
- Strive to include the cost and quality of care in order to ensure comprehensiveness;
- Give readers and viewers a sense of why the story is important at this time, in this place. This
includes deciding what is newsworthy, offering news in the public interest as well as news that interests the public.

**Independence and Personal Rights**

**Independence**

- Believe in freedom of the press and the public’s right to know;
- Avoid participating in organizations that would compromise personal and professional integrity;
- Do not accept gifts or special privileges that would compromise independence or integrity;
- Disclose any and all financial arrangements that might be viewed as affecting independence or integrity.

**Personal Rights**

- Support the inalienable rights of people in a free society;
- Acknowledge the right of each individual to privacy, dignity and confidentiality;
- Acknowledge the rights of people to question and challenge actions and ideas of other individuals and organizations;
- Acknowledge special responsibility to protect individuals from any behavior or practice that might be viewed as exploitative;
- Acknowledge the right of audience to have an interaction that is respectful, courteous and consistent with the ideals of medicine and journalism.

**Professionalism**

- Public health policy is for all people, with full individual autonomy;
Health care providers have special relationships with their patients, and journalists do not substitute diagnose or treat individuals;
It is essential to portray the risks and benefits of any behavior, regimen or treatment, not only to present one side;
It is important to delineate the possible outcomes to different approaches to care, including the repercussions of the absence of care.

**Journalism’s Don’ts**

**DO NOT:**

**Plagiarism:** Never use the words and ideas of another without giving credit to the source.

**Sloppy Reporting:** Don’t fail to check the facts. Don’t forget to check all sides of the story. Don’t forget to verify. Don’t overlook relevant details? the who, what, when, where, how and why? and the context in which stories arise.

**Bias:** Try to avoid it. Don’t allow your news reports to be influenced by your own opinions. Even if you think you’re right, let others make their case.

**Conflicts of Interest:** Don’t report a story if you are not completely independent of that story.

**Poor News Judgment:** Don’t offer news to readers and viewers that is irrelevant to their lives and their interests. Don’t blow things out of proportion to attract higher ratings and readership.

**Sensationalism:** While journalists legitimately can seek to entertain and amuse their audience, it is wrong to offer news simply to titillate the audience, especially when other ethical standards?
such as being fair, accurate and complete or respecting personal privacy are violated.

**Deception:** Never invent characters, quotations or any part of a story. The moment you make things up, or deliberately lie, you no longer are a journalist.

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**Journalism’s Dilemmas**

**Anonymous sources:** When to rely on people who supply or ‘leak’ information to you on the condition that you will not mention their names or identities as the sources of information in your story. If you use anonymous sources, make sure to consider whether the people you’re talking with have an ‘ax to grind’. Ask yourself: Are they bitter about something? Out to hurt another party? Remember: It is easy to make false charges under a cloak of anonymity. If you can get your sources to go on the record – agree to be identified? you’ll give readers and viewers a way to judge for themselves the reliability of information presented.

**Misrepresentation:** When to pretend to be someone other than a journalist, or use deceptive tactics, to get a story. Some news people think that using certain deceptive tactics (e.g., hidden cameras) is acceptable if that is the only way to get an important story. Whenever deceptive tactics are used, many news organizations take pains to ensure they’ve exhausted all other possible means of getting the story. Journalists should check with higher-ups in their organizations before they resort to these methods and should be open about their techniques when the stories are reported.

**Lack of regard for privacy:** When to reveal facts of a personal nature about someone and many readers and viewers think you have invaded that person’s privacy. Most people believe they can control the information revealed about them. That is a reasonable expectation for people who live private lives unless there is a compelling public need to know about their experiences. Some people—especially elected officials but also other ‘public figures’ like movie stars and famous athletes—give up some of their privacy. In general, if information about a person is of interest to the public, it is thought to be newsworthy and ‘fair game’ for reporters. However, news media sometimes face negative reactions from readers and viewers when they appear reckless in their pursuit of what is thought to be personal information about public people.

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**Chapter Nine: Additional Resources**
Nutrition remains a major concern; FAO representative stresses sustainability of food security

Bangladesh can deservedly bask in the glory of tripling its rice output in a span of four decades, but its aspiration to become a middle-income country by its 50th birthday remains hard to achieve until nutrition concerns are addressed. Speaking exclusively to The Daily Star ahead of the World Food Day, Mike Robson, the UN Food and Agriculture Organisation (FAO) representative in Bangladesh, said, ‘This country [Bangladesh] has demonstrated a good example on how to increase farm productivity.

Nutritional dev can spur economic growth

According to Bangladesh Breastfeeding Foundation (BBF), the newborn should be given colostrum within one hour of their birth and exclusive breastfeeding till six months. No other foods should be given to the baby till six months.

Collection of feature articles on various health Issues in Bangladesh

Press Institute of Bangladesh (PIB) initiated to publish a collection of feature stories on various common health issues in Bangladesh. Those who are interested to work as health journalist or has a great zeal of writing on health issues, this file will help them to get an idea on-how to write for health issues'.

Resources:
Additional Sources of Information by Health Topic

MNCH

- The recent Bangladesh Demographic and Health Survey
- Partnership for Maternal, Newborn and Child Health
- World Health Organization: Making Pregnancy Safer Initiative

ARIs and Pneumonia

- The recent Bangladesh Demographic and Health Survey
- The World Health Organization
- UNICEF Bangladesh

Water, Sanitation and Hygiene

- Bangladesh Demographic and Health Survey
- The World Health Organization

1. Water  Sanitation and Hygiene
2. Diarrhea
3. Cholera
4. Hygiene Resources
5. Sanitation Facts

UNICEF

- https://www.unicef.org/health/index_43834.html
- https://www.unicef.org/wash/
Malaria

- Roll Back Malaria Partnership
- The World Health Organization
- UNICEF
- Malaria No More

Dengue

- The World Health Organization

Vaccination and Immunization

- Bangladesh Demographic and Health Survey
- UNICEF
- The World Health Organization

- Fact Sheets for common immunizations
  - Pneumonia Fact Sheet
  - Measles Fact Sheet
  - Meningitis Fact Sheet
  - Polio Fact Sheet
  - Yellow Fever Fact Sheet
  - Hepatitis B Fact Sheet
  - Hepatitis A Fact Sheet

Nutrition

- Bangladesh Demographic and Health Survey
- World Health Organization
• UNICEF, focus on micro-nutrients
• UNICEF, focus on Breast feeding’s impact for child survival

Tuberculosis
• Centers For Disease Control
• World Health Organization

1. Factsheet
2. Directly Observed Therapy-Short Course (DOTS)

HIV
• UNICEF
• World Health Organization
• UNAIDS

Non Communicable Disease (NCD)
• World Health Organization
• DGHS
• Bangladesh NCD Network
• National Institutes of Health
• NCD-F

Road Safety
• World Health Organization
• Guardian UK Article
• BRAC
Various Journalism Organizations

For more ideas about health journalism, here are a few of the many policies developed by various journalism organizations:

The Association of Health Care Journalists

This American professional organization has developed a comprehensive set of principles, many of which apply to health journalists in particular: https://healthjournalism.org/secondarypage-details.php?id=56.

Society of Professional Journalists

An ethics policy developed by one of the leading American professional journalism associations: http://www.spj.org/ethicscode.asp.

Project for Ethics in Journalism

This nongovernment organization has a somewhat different approach to establishing ethics principles: http://www.journalism.org/resources/principles-of-journalism/.

The Guardian

Here is the ethics code of a leading newspaper in the UK: http://www.guuardian.co.uk/documents/2003/02/20/EditorialCode2.pdf

International Federation of Journalists


Reporting tools and Health Journalism


Cochrane Library info for Journalists on Health Care: http://www.rcpsych.ac.uk/press/informationforjournalists.aspx

Covering HIV Epidemic: Commonwealth Health and Media Partnership: https://sites.google.com/a/healthandmedia.org/commonwealth-health-and-media-partnership/home/reporting-tools


Reporters Without Borders (with UNESCO) has compiled a Handbook for Journalists for those
going to dangerous parts of the world, listing international norms protecting them and containing practical advice on how to stay alive and safe: http://rsf.org/IMG/pdf/guide_gb.pdf

Population Reports: Helping the News Media Tell the Family Planning Story: /toolkits/information-publications/helping-new-media-cover-family-planning


Inter-news Health Journalism Resources: http://www.internews.org/pubs/pubs_health.shtm


Chapter Ten: Glossary of Terms

Like other scientific fields, public health relies on technical vocabulary. To report on public health, journalists need to understand these technical terms and be able to translate them for the public. This glossary defines some terms commonly used in public health.

For more details:

1. Glossary terms for Health Journalist-Part one (A-F)
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Acute respiratory infection (ARI): Potentially serious illness in children and older adults. ARI is measured in the DHS by the following symptoms: cough accompanied by short, rapid breathing at any time during the two weeks preceding the interview. ARI is considered a proxy for pneumonia.

Anemia: Lower than normal levels of hemoglobin (iron-carrying molecules) in the blood; anemia can lead to fatigue and increased risk of infection and hemorrhage. Severe anemia in children can damage learning ability.

Antenatal care (ANC): Visits to a nurse, midwife, or other trained health care provider at any time during pregnancy for health education, monitoring, and preventive and curative care related to pregnancy and childbirth. Most countries recommend at least four ANC visits with the first visit occurring in the first trimester (12 weeks) of pregnancy.

Birth intervals: Number of months between successive births to the same woman. Closely spaced births (less than 24 months apart) lead to higher infant and under five mortality. The World Health Organization (WHO) now recommends 36 month (3-year) birth intervals. Child mortality rate: The probability of dying between age one and five, calculated as the number of children dying between age one and five (13 to 59 months) per 1,000 children surviving to 12 months of age.

Contraceptive prevalence rate: The percentage of currently married women of reproductive age (15-49) who are using contraception.

Discordance of HIV infection: When one member of a marriage or cohabiting partnership is infected with HIV and the other is not.

Exclusive breastfeeding: Providing a child with only breast milk and no other food or liquid, even water. The World Health Organization (WHO) recommends that children be exclusively breastfeed for the first six months of life.

Family planning: Conscious effort by sexual partners to regulate the number and spacing of births through modern and/or traditional methods of contraception.

Glossary terms for Health Journalist-Part Two

Full immunization/vaccination: Child has received all basic immunizations, including: BCG (against tuberculosis); three doses of DPT (diphtheria, pertussis, and tetanus), which may also be given as a pentavalent vaccine with Hepatitis B and Hib (haemophilus influenza type b); at least
three doses of polio vaccine; and one dose of measles vaccine. Full vaccination is usually calculated for children age 12-23 months.

**Frequencies:** Arrangement of values from lowest to highest with a count of the number of observations sharing each value; the counts are often converted into a percentage of the total.

**Higher-risk sex:** Sexual practice that increases the risk of becoming infected with or transmitting HIV; defined as sex with more than one partner in the past year.

**HIV incidence:** The number of people contracting HIV infection in a year per 1,000 populations. Incidence measures new cases of HIV infection in a given year.

**HIV prevalence:** The percentage of people in a population who are infected with HIV. Prevalence measures both new and ongoing cases of HIV infection.

**Incidence:** Incidence rate is the pace or intensity of accumulation of new disease cases. In other words, incidence rate measures how fast a disease is spreading.

**Infant mortality rate:** Probability of dying between birth and age one; calculated as the number of deaths among infants under 12 months per 1,000 live births. Informed choice: For a woman using modern contraceptive methods, being informed about the effectiveness of a method, potential side effects or problems of a method, and being told what to do if side effects or problems occur. In the case of sterilization, being told that the method prevents future childbearing.

### Glossary terms for Health Journalist-Part Three

**Informed consent:** For individuals who participate in the DHS or other research, informed consent means they have voluntarily agreed to participate in the study after the interviewer has clearly explained the purpose of the study, how the results will be used and any possible consequences to the study participant because of his or her participation.

**Intermittent preventive treatment (IPT):** Treating pregnant women with sulfadoxinepyrimethamine/Fansidar (SP/Fansidar) to prevent malaria at least twice during antenatal visits.

**Lactational amenorrhea method (LAM):** A family planning method in the first six months after birth and among women whose menstrual periods have not returned, exclusive breastfeeding at least every four hours during the day and at least every six hours at night.

**Male circumcision:** The removal of the foreskin of the penis for cultural, religious, or health reasons. Some studies have linked male circumcision with reduced risk of HIV transmission.
**Malnutrition**: A state of undernourishment or over nourishment due to a lack of adequate macro- and micronutrient intake. Also known as under-nutrition.

**Maternal mortality rate**: Number of women who die during pregnancy, childbirth, or in the six weeks after childbirth per 100,000 women of reproductive age during the same time period.

**Maternal mortality ratio**: Number of women who die during pregnancy, childbirth, or in the six weeks after childbirth per 100,000 live births.

**Mean**: The average; calculated by totaling the values of all observations and dividing by the number of observations.

**Median**: The middle observation?half the observations are smaller, and half are larger. When there are an odd number of observations, the median is found by arranging the observations from lowest to highest (or vice versa) and selecting the middle value. When there is an even number of observations, the median is calculated by taking the mean of the two middle values.

**Median age at first marriage**: The age by which half the population marries. If the median age at first marriage is 17, this means that half of the married women in the population married before or at age 17 and half married at or after age 17.

**Mode**: The value that occurs most frequently. Modern family planning methods: Male and female sterilization; male and female condoms; oral contraceptive pills; injectables; implants; intrauterine devices (IUDs); diaphragms; contraceptive foam, jelly, and spermicide; emergency contraception; and the lactational amenorrhea method (LAM).

**Glossary terms for Health Journalist-Part Four**

**Neonatal mortality rate**: Probability of dying within the first month of life; calculated as the number of children dying within the first 30 days after birth per 1,000 live births.

**Oral rehydration therapy (ORT)**: The use of either packets of oral rehydration salts (ORS) or increased fluids to prevent dehydration during episodes of diarrhea.

**Population-based HIV testing**: HIV-testing done among a representative sample of the population.

**Percentages**: A way of expressing a number as a fraction of 100; calculated by multiplying a proportion times 100, e.g., the number of men in a classroom divided by the total number of people in a classroom times 100.
Postnatal care (PNC): Check-up by a trained health care provider after delivery; WHO recommends a postnatal visit within 6?12 hours of delivery.

Prevalence: the proportion of a population found to have a condition (a disease or a risk factor like smoking or seat-belt use). Calculated by comparing the number of people found to have the condition with the total number of people studied. Prevalence is always expressed as a fraction, as a percentage, or as the number of cases per 10,000 or 100,000 people.

Range: Difference between the largest observation and the smallest; often expressed as the largest and smallest observation rather than the difference between them.

Rate: The frequency of events in a population during a specified time period (usually one year) divided by the total population. Rates tell us how common it is for an event to occur. For example, the infant mortality rate is the number of infant deaths during a set time period (usually 5 years) divided by the total number of infants born in the same time period (usually 5 years). Rates can be age-specific, sex-specific, and so on. (Hint: In rates, people in the numerator must be part of the same group as people in the denominator.)

Ratio: The relation of one population subgroup to the entire population or to another subgroup of the population. For example, the maternal mortality ratio is the number of women who die because of complications of pregnancy or childbearing in a given year per 100,000 live births in that year. (Hint: In ratios the numerator is not part of the denominator.)

Glossary terms for Health Journalist-Part Five

Representative sample: A group of households or people selected for a study from a larger population using scientific probability to ensure that the sample has similar characteristics to the population from which it is drawn. Each household or person is selected by chance through a systematic process designed by a trained statistician. This means that each member of the population has a known chance of being included in the sample.

Routine data collection: A standard procedure for gathering and measuring information on any topic, for example, the number of children at a health care center who get immunized each month. Another example is birth registration systems.

Standard Deviation: A measure of the spread of data around the mean or median.

Statistical significance: Statistical significance refers to whether any differences observed between groups being studied are real or whether they are simply due to chance.
**Stunting:** Height-for-age is two or more standard deviations below the median determined by international growth standards.

**Survey:** Interviews with selected persons or households in a population to gather information about specific topics, like family planning use or health practices.

**Study**

- **Case-Control Studies:** Looks at the characteristics of one group of people who already have a certain health outcome (the cases) and compare them to a similar group of people who do not have the outcome (the controls). Case-control studies can be done quickly and relatively cheaply, but are open to potential inaccuracy and bias as they rely on information from the past. Also called retrospective studies.

- **Cohort Studies:** Follows large groups of people over a long period of time. Researchers regularly gather information from the people in the study on a wide variety of variables (like meat intake, physical activity level, and weight). Once a specified amount of time has elapsed, the characteristics of people in the group are compared to test specific hypotheses. Time-consuming and expensive, cohort studies generally provide more reliable information than case-control studies because they don't rely on information from the past. These types of studies have provided valuable information about the link between lifestyle factors and disease. Also called prospective studies.

- **Randomized Trials:** Like cohort studies, these studies follow a group of people over time. However, with randomized trials, the researchers actually intervene to see how a specific treatment affects a health outcome. They are called "randomized trials" because people in the study are randomly assigned either to receive or not receive the intervention. This randomization helps researchers identify the whether and how t the intervention is effective.

**Total fertility rate (TFR):** Average number of children born to a woman in her reproductive lifetime if she were to pass through all of her childbearing years conforming to the age-specific fertility rates in a population. Traditional family planning methods: Periodic abstinence (rhythm method, calendar method), withdrawal (coitus interrupts), and folk methods.

**Under-five mortality rate:** Probability of children dying between birth and age five; calculated as the number of children dying between birth and age five per 1,000 live births.

**Underweight:** Weight-for-age is two or more standard deviations below the median determined by international standards.

**Unmet need for family planning:** The percentage of women who want to delay their next birth or who do not want any more children AND are not using a method of family planning.

**Wasting:** Weight-for-height is two or more standard deviations below the median determined by international standards.

If you are looking for terms you can't find here, try: The Kaiser Family Foundation's Global Health Glossary.
or Medline Plus Medical Dictionary.

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