"ANALYZING THE ONLINE RESOURCES OF INFORMATION AVAILABLE FOR THE NATIONAL HEALTH PROGRAMS IN INDIA"

A Dissertation Proposal for

Post Graduate Diploma in Health and Hospital Management

By

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I wish I really knew how to express my subtle feelings of gratitude to **Dr. Rajesh Bhalla,** Dean (Student and Academic affairs) **and Dr. T. Muthukumar, IIHMR** for giving me the opportunity to undergo this project as an academic activity for the partial fulfillment of the degree.

I express my indebtedness to my colleagues who ceaselessly extended their co-operation in time of need. If there is any instance of failure to give proper credit where due, it is an unintentional omission.

Dr. Anjali Nanda

Asian Institute of Public Health
action through innovation and alliance

Jan 6 2012

Department of Academic Affairs

IIHMR

New Delhi

Subject: Offer to do your dissertation work at CPHI

Dear Anjali,

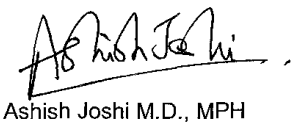
It is my pleasure to inform you that we have been offered an opportunity to do your dissertation work with the Center for Public Health Informatics, at Bhubaneswar beginning Jan 2012. Your roles and responsibilities to evaluate National Public Health programs and it will involve literature review, extracting data from the existing studies, identifying gaps, and proposing the use of informatics to address those gaps.

You will be provided all logistical support, guidance and you will be working under the mentorship of Dr. Joshi Head, Center for Public Health Informatics.

You will be guided to present your work at National Conference and submit for a possible publication to an International peer reviewed journal.

Please let us know if you have any questions

Thanks



Ashish Joshi M.D., MPH

Head, Center for Public Health Informatics

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Certificate of Internship Completion

TO WHOM IT MAY CONCERN

Date: April 02,2012

This is to certify that Dr. Anjali Nanda has successfully completed her 3 months internship in our organization from January 02, 2012 to April 02, 2012. During this intern she has worked on The project - Analyzing the online resources of information available about National Health Programs in India under the guidance of me and my team at Centre for Public Health Informatics.

We wish her good luck for her future assignments.

Ashish Joshi

(Signature)

Dr. Ashish Joshi (Name)

Head, Centre for Public Health Informatics Designation

T. Muthukumar

(Prof. (Dr.) T. MUTHUKUMAR)

(Internal Examiner).

Certificate of Approval

The following dissertation titled " Analyzing the online resources of information available about National Health Programs in India" is hereby approved as a certified study in management carried out and presented in a manner satisfactory to warrant its acceptance as a prerequisite for the award of

Post- Graduate Diploma in Health and Hospital Management for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee for evaluation of dissertation

Name	Signature
Dr SBGOGIA	
Dr Anandhi Ramadoss	
Prof. I. Bhattacharya	

Synopsis for Dissertation

Analyzing the online resources of information available for the National Health Programs in India

Introduction:

Internet has become an increasingly popular healthcare information resource (Diaz, J.A et al 2002). At the same time it is a powerful tool as it has great penetration and scalability. Large amount of detailed information is easily available on the internet. It has been found through a survey that a third of the web surfers are searching for health information.

The motivation behind this study was the finding that the ability to obtain accurate, quick and convenient online information about various National health programs will present an opportunity for better informed decision making and greater participation of the stakeholders in the adoption of these programs.

Objective

The objective of this study is to evaluate information about the national health programs in India available over the internet and the associated challenges faced while acquiring information about them over the internet.

Methods

To achieve this objective, the following key words National Health Programs OR Public Health Programs OR Health Programs AND India were used with Google Search engine from Jan 1-Jan 10 2012 to find information about these existing Health Programs. The first 20 web links were chosen across all the three search terms to yield 60 websites, which were then reviewed for their

relevance. Sites that were duplicates, non-functional or not applicable to the study criteria were excluded from final analysis.

Limitations

Some of the study limitations were the limited use of key terms to search the relevant information about the National health programs in India. Another important limitation could be use of only Google as a search engine however prior literature has shown that Google is the most commonly used search engine. Another possible limitation of this study could be that a large volume of information is available over the internet and it is likely that some information might have been missed which could have been useful to the search criteria. However, every effort was made to effectively review the searched information.

Results

The search National Health Programs AND India yielded about 47,700,000 results (0.17 seconds), Public Health Programs AND India yielded about 10,300,000 results (0.25 seconds) and Health Programs India yielded about 11,000,000 results (0.26 seconds). It was found that the website category '.org' were more relevant compared to the other website categories for all the three key words. Website category "other" was also found to be relevant. Of all the national health programs, National Vector Borne Disease Control Program was the only program that was widely disseminated.

Conclusion

The study showed that there was inadequate information about the existing national health programs existing in India. This suggests a need to develop an online resource that can disseminate information about the various health programs in a more structured, organized and tailored manner to the needs of diverse group of stakeholders.

PART -1

INTERNSHIP REPORT

PROFILE OF THE ORGANIZATION

Centre for Public Health Informatics

Centre for public health informatics consists of a diverse group of public health and informatics experts focused to translate rigorous and multidisciplinary research into action to improve population health.

The mission of CPHI is to improve public health through use of novel and effective informatics applications to enhance early detection of disease, continuous disease monitoring and multifaceted interventions to support disease management, and prevent or reduce morbidity.

CPHI aims to enhance public awareness, and formulate policy on best applications and/or methods of informatics for use in public health.

Objectives

- Bring together researchers from diverse backgrounds including public health, medicine, other allied healthcare professionals, policy makers, information systems, statistics, medical geography, computer science and psychology to design and evaluate technology mediated interventions to support disease prevention and disease management.

- Integrate clinical and public health approaches to improve health information exchange (HIE) among various stakeholders to improve healthcare access, reduce costs, and improve overall quality of life of the people.
- Use informatics applications to improve prevention and management of communicable and non-communicable diseases.
- Improve data integration from multiple sources; analyze the data to create and disseminate information effectively.
- Assist the local, state and the central government to assess the community needs and implement novel informatics approaches for real time disease monitoring to improve disease surveillance.
- Create a global consortium of public-private members including individuals, primary health care centers, healthcare facilities, NGOs, and other industries.

Academic Programs

The academic programs focus on short term training, workshops, certificate and diploma in Public Health Informatics at graduate and post graduate levels to prepare individuals with the knowledge, required skills and expertise to leverage the utilization of modern information technology in the field of public health research and practice.

Online Education Programs offered by CPHI includes:

Dual Certification Program in Public Health Informatics (Approved by Center for Continuing Education, UNMC, USA)

Skill Development Programs in Research Methodology in Public Health Informatics (Enrollment on Rolling Basis)

Research areas:

Consumer Informatics

Dr. Joshi has designed and developed an interactive Consumer Health Information Portal based on behavioral and cognitive learning theories. The system supports multilingual, self-paced learning environment to deliver health education in a format that is understandable using multiple mediums of delivery. The platform has three key components: screening, learning and evaluation and has been successful in assessing individual disease risk, knowledge, attitudes and behavior to deliver tailored learning material through use of this interactive platform. The evaluation component gauges the effectiveness of the learning component and can provide feedback and reinforcement based on individual responses. The system can be deployed on various technology platforms including touch screen, laptop, desktop, Web-based and has been successfully implemented in various clinical and non-clinical settings for various medical conditions to improve information access and knowledge.

An Interactive Multilingual Nutrition program to educate mothers of Spanish children (03/07- 08/07)
Role: Sub-contract Principal Investigator
Funding Agency: Johns Hopkins University

The goal of the study was to investigate the feasibility and acceptance of an interactive computer assisted program to educate mothers of Spanish children about nutrition in an outpatient pediatrics ambulatory clinic at the Johns Hopkins University, Baltimore.

A Pilot Program to Educate Nurses about Multiple Sclerosis in the VA Hospitals (08/08-01/09)
Role: Principal Investigator
Funding Agency: MS Center of Excellence, Baltimore U.S. Department of Veteran Affairs

A 508 compliant, Web Based interactive educational program designed and implemented for MS Center of Excellence, Baltimore VA, to educate nurses In the VA hospitals taking care of Multiple Sclerosis patients. The program allows creating individual profile, has a training module, tracks the learning progress, and allows printing customized educational modules based on topics of relevant interest. The goal is to provide information that is easy to understand, self-paced, simple navigation and can be accessed in a timely manner.

Design and implement Multiple Myeloma Education program for U.S. Veterans Affairs (08/07-11/08)
Role: Principal Investigator
Funding Agency: U.S. Department of Veteran Affairs

This is an interactive program, 508 compliant, which delivers educational material on a Stand Alone Tablet PC and online through the MyHealtheVet website. The project was funded under an initiative of the Secretary of the VA. The Stand Alone Tablet PC will provide patient education for veterans living with Multiple Myeloma and will be implemented in VA outpatient facility waiting rooms and can be accessed by patients while they wait for their appointments. The program is being pilot tested at ten sites including Boston, MA; Pittsburgh, PA; Los Angeles, CA; Little Rock, AK; Baltimore, MD; Greater Chicago, IL; Washington, DC, Tampa, FL; Houston, TX; and Seattle, WA.

http://www.is.umbc.edu/news_events.asp?ID=68

A pilot program of Computer based education to increase influenza vaccine rates for Baltimore children (6/07-6/08)
Role: Co-Principal Investigator
Funding Agency: The Thomas Wilson Sanitarium for Children of Baltimore City

The objective of this pilot study was to assess and describe changes in knowledge, attitudes and practice regarding influenza vaccination in a pediatric emergency department (ED) and a pediatric clinic (PC) in an inner city setting using an interactive computer-based educational program.

An Interactive Pediatric Asthma Education in the Pediatric Emergency Department (03/07- 08/07)
Role: Sub-contract Principal Investigator
Funding Agency: University of Maryland School of Medicine (Department of Health and Mental Hygiene

The goal of the study was to investigate the feasibility and acceptance of an interactive computer assisted asthma education program in the pediatric emergency department (ED) for children age 3 to 18 years with acute asthma exacerbations at the University of Maryland Hospital for Children, Baltimore.

Public Health Surveillance

Dr. Joshi has designed a chronic disease surveillance platform **"Portable Health Information Kiosk (PHIK)"** aimed to support chronic disease prevention, monitoring and management. This is a unique platform that can be utilized in a community as well as home setting and can characterize the individual or populations into prevention, monitoring and management categories through a combination of subjective and objective assessments and further delivers feedback based on their individual category.

The system allows individuals in home settings and populations in a community setting to identify their disease state based on chronic care parameters and provide feedback at the point of care, monitoring, specialist referral and management plan.

The system has been pilot tested in different rural, urban and tribal settings in India and is now proposed to be evaluated in Brazil.

Telehealth

Evaluation of RedeNutes Telehealth Program, NUTES, Center of Telehealth, UFPE, Recife, Brazil (06/2010-08/2010)

Dr. Joshi has interest in evaluation of telehealth programs. He was recently awarded a 3 month STAR- USA-Brazil fellowship to evaluate RedeNutes telehealth program at NUTES **Nucleus Telehealth Federal University of Pernambuco** (http://www.nutes.ufpe.br/), Recife, Brazil.

Feasibility of INR patient self testing at homes (Ongoing)
Role: Principal Investigator
Funding Agency: Inverness/QAS

The purpose of the study is to determine a set of procedures that will seek to establish disease management criteria for patients being monitored through telehealth methodologies.

Evaluation of INR monitoring in homes in patients with ventricular assist device (04/06-02/08)

Role: Principal Investigator
Funding Agency: International Technydyne Corporation

The goal of this study was to assess the usability, feasibility and acceptance of INR monitoring using point of care device "ProTime" in ventricular assist device patients.

Health Outcomes Research

Epidemiological, statistical and data mining focus on incidence and prevalence of Bladder cancer (Ongoing)
Role: Principal Investigator
Funding Agency: Inverness/QAS

This Collaborative project specifically addresses the methodologies currently in effect for screening and treatment of bladder cancer.

Statistical analysis of Total Joint Replacement (Ongoing)
Role: Principal Investigator
Funding Agency: Rothman Institute/Thomas Jefferson University; Philadelphia

The objective of this project was to conduct clinical research in the field of musculoskeletal conditions and determine its public health impact.

Analysis of healthcare databases (02/07-02/08)
Role: Principal Investigator
Funding Agency: Perry Point Cooperative Studies Program Coordinating Center (PPCSPCC); Perry Point VA Medical Center

The goal of the project was to perform statistical analysis of large administrative and healthcare databases and publish research findings.

Thrombin dysregulation leads to early saphenous vein graft Failure (01/07-01/08)
Role: Principal Investigator
Funding Agency: UMB School of Medicine/ (NIH RO1 Grant)

The goals of this project was to design and develop an electronic data capturing system (EDCS) and provide feedback on study design, analysis of longitudinal data, publish research findings and presentation at National and International Conferences.

Analyzing the online sources of health information

Objective of the research:

The objective of the study is to construct a framework to systematically analyze and compare the content of health information websites. There is very little published literature available to guide this study, therefore the dimensions of the content were selected based on health communications literature.

Background and Literature review:

The rapid development of health information on the Internet raises the issue of its quality and of potential dangers related to its erroneous or unsuitable use. At present, it is impossible to assess the magnitude of this problem because studies on the subject are not consistent with one another. While some authors consider that the quality of health information on the Internet is poor, others feel that it is of equal value to information provided by other media. These contradictory results are not surprising when we consider the large number and variety of sources for health information on the Internet. Because of this problem, criteria for evaluating Internet health information quality have been developed by several organizations. These criteria take into account not only website content (quality, reliability, accuracy, scope, etc.), but also form (design, aesthetics, interactivity, use of media, etc.), accessibility (fee for access, navigability, functionality, etc.), credibility of sources, and confidentiality policy. Until now, however, the impact of these criteria on the design and the use of health information websites has been relatively weak because they are subject to the good will of website designers, and also because users are unaware of them.

There are many sources of health and medical information on the Internet, and they are growing very quickly. In 2000, there were >70000 health-related sites . However, there are very few tools to help people find relevant information in this mountain. For example, the scientific quality of information is difficult to evaluate by the public, for whom the most important thing is to be able to find the information they need, to understand it and to apply it. The few studies on the subject

show that this is not always the case. For example, Berland's study shows that when using the most popular search engines (AltaVista, Google, Lycos, etc.) to find information on breast cancer, obesity, depression or asthma, only one link out of five leads to a website with relevant information. Furthermore, while available information is often valid, in many cases it is incomplete. Berland's study demonstrates that important information for each of the selected health problems is missing on most of the studied websites. This lack can negatively influence user decisions. For example, lack of information about alternative treatments prevents users from making an enlightened choice. Moreover, locating accurate health information may also be difficult because of lack of user-friendliness and lack of permanence (sites disappear and change without warning).

Once the information is found, and assuming that it is valid and complete, users must understand it and put it into practice. At present, most medical information websites present technical information to a population unfamiliar with medical literature. In addition, the difficulty with technical terms and the required reading skill level is also a problem. Berland's study shows that English medical websites generally require high school level or greater reading ability. But nearly half of all Canadians have difficulty with written information in their daily activities, and in the US, people with the greatest health care needs have low information access due to lower health literacy level. These people, who are also those with little or no access to the Internet (the poor, the elderly, etc.), are excluded from these sources of medical information. But even with Internet users, it is likely that some of them have difficulties reading and understanding medical information displayed on this medium. Unfortunately, there is no information on the magnitude of this problem.

Research Findings:

I. Survey on the ranking of health related websites in US:

SNo.	Name and details of the health related websites
1.	**1** | Yahoo! Health **209** - eBizMBA Rank | **21,500,000** - Estimated Unique Monthly Visitors | ***220*** - Compete Rank | ***198*** - Quantcast Rank | **N/A** - Alexa Rank. **Most Popular Health Websites** | **Updated 4/15/2012** | eBizMBA
2.	**2** | NIH **216** - eBizMBA Rank | **20,000,000** - Estimated Unique Monthly Visitors | **126** - Compete Rank | **101** - Quantcast Rank | **421** - Alexa Rank. **Most Popular Health Websites** | **Updated 4/15/2012** | eBizMBA
3.	**3** | WebMD **247** - eBizMBA Rank | **19,500,000** - Estimated Unique Monthly Visitors | **47** - Compete Rank | **46** - Quantcast Rank | **649** - Alexa Rank. **Most Popular Health Websites** | **Updated 4/15/2012** | eBizMBA
4.	**4** | MedicineNet **563** - eBizMBA Rank | **10,500,000** - Estimated Unique Monthly Visitors | **193** - Compete Rank | **145** - Quantcast Rank | **1,351** - Alexa Rank. **Most Popular Health Websites** | **Updated 4/15/2012** | eBizMBA

5.	 **5** | MayoClinic **658** - eBizMBA Rank | **7,000,000** - Estimated Unique Monthly Visitors | **175** - Compete Rank | **138** - Quantcast Rank | **1,660** - Alexa Rank. **Most Popular Health Websites** | **Updated 4/15/2012** | eBizMBA
6.	 **6** | Drugs **871** - eBizMBA Rank | **6,000,000** - Estimated Unique Monthly Visitors | **248** - Compete Rank | **206** - Quantcast Rank | **2,159** - Alexa Rank. **Most Popular Health Websites** | **Updated 4/15/2012** | eBizMBA
7.	 **7** | everydayHealth **969** - eBizMBA Rank | **5,700,000** - Estimated Unique Monthly Visitors | **186** - Compete Rank | **144** - Quantcast Rank | **2,577** - Alexa Rank. **Most Popular Health Websites** | **Updated 4/15/2012** | eBizMBA
8.	 **8** | MedHelp **1,243** - eBizMBA Rank | **4,600,000** - Estimated Unique Monthly Visitors | **560** - Compete Rank | **553** - Quantcast Rank | **2,616** - Alexa Rank. **Most Popular Health Websites** | **Updated 4/15/2012** | eBizMBA
9.	 **9** | HealthGrades **1,540** - eBizMBA Rank | **4,200,000** - Estimated Unique Monthly Visitors | **437** - Compete Rank | **208** - Quantcast Rank | **3,974** - Alexa Rank. **Most Popular Health Websites** | **Updated 4/15/2012** | eBizMBA

10.	 **10** | RealAge **1,677** - eBizMBA Rank | **4,000,000** - Estimated Unique Monthly Visitors | **567** - Compete Rank | **401** - Quantcast Rank | **4,063** - Alexa Rank. **Most Popular Health Websites** | **Updated 4/15/2012** | eBizMBA
11.	 **11** | WellSphere **1,726** - eBizMBA Rank | **3,900,000** - Estimated Unique Monthly Visitors | **1,091** - Compete Rank | **593** - Quantcast Rank | **3,439** - Alexa Rank. **Most Popular Health Websites** | **Updated 4/15/2012** | eBizMBA
12.	 **12** | BetterMedicine **1,936** - eBizMBA Rank | **3,000,000** - Estimated Unique Monthly Visitors | **2,386** - Compete Rank | **1,486** - Quantcast Rank | ***NA*** - Alexa Rank. **Most Popular Health Websites** | **Updated 4/15/2012** | eBizMBA
13.	 **13** | RxList **2,601** - eBizMBA Rank | **2,400,000** - Estimated Unique Monthly Visitors | **735** - Compete Rank | **394** - Quantcast Rank | **6,674** - Alexa Rank. **Most Popular Health Websites** | **Updated 4/15/2012** | eBizMBA
14.	 **14** | Healthline **3,051** - eBizMBA Rank | **1,900,000** - Estimated Unique Monthly Visitors | **657** - Compete Rank | **678** - Quantcast Rank | **7,817** - Alexa Rank. **Most Popular Health Websites** | **Updated 4/15/2012** | eBizMBA

15.	 **15** | Prevention **4,017** - eBizMBA Rank **| 1,150,000** - Estimated Unique Monthly Visitors **| 2,225** - Compete Rank **| 1,497** - Quantcast Rank **| 8,330** - Alexa Rank. **Most Popular Health Websites** | **Updated 4/15/2012** | eBizMBA

Table 1: List by ranking of the health related websites in U.S. (Source: eBizMBA)

II. Health Related Websites in India

Based upon the information available at the website of Indian Council of Medical Research (ICMR)

1. http://www.ctri.in:8080/Clinicaltrials/index.jsp Clinical Trials Registry-India (CTRI) is to encourage all clinical trials conducted in India
2. http://www.ilbs.in Institute of Liver and Biliary Sciences (ILBS).
3. http://www.findouter.com/Asia/India/Health Search Engine for Health India, Asia
4. http://www.careurheart.com specializes in offering details about cholesterol treatment, tips & guidance
5. http://www.herbalcerpa.org Centre for Research, Planning & Action, Best Information system for Herbal Sector
6. Indian Red Cross Society

7. Central Council of Research in Yoga and Naturopathy
8. Ministry of Health & Family Welfare
9. Central Council for Research in Ayurveda & Siddha (CCRAS)
10. National AIDS Control Organisation (NACO)
11. http://www.unanimedicine.com
12. Department of Biotechnology (DBT)
13. Department of Science and Technology (DST)
14. Indian Council of Agricultural Research (ICAR)
15. Indian National Science Academy (INSA)
16. Centralised Accident and Trauma Services (CATS) Centralised Accident and Trauma Services (CATS) is a dedicated ambulance service of the government of Delhi, India. It provides specialised pre-hospital emergency health care in Delhi.
17. About NFI Comprehensive nutrition information on India, including research papers by scientists, health professionals, researchers and others. Also contains the quarterly bulletin brought out by the Foundation. http://www.nutritionfoundationin.org/aboutnfi/collab.htm
18. Welcome to Health Net India - Health Portal with a difference
Health Net India is India's portal site for all health related information from India and around the world. Here, you will find daily updates from... www.healthnetindia.com
19. Indmedica :
India's premier medical site with lots of journals ,mdical sites, equipment suppliers online,information about Indian hospitals etc. http://www.indmedica.com/

20. Welcome to - Lepra India
LEPRA India is dedicated to improve public health status of the community through implementing control programs for leprosy and other allied diseases, improving awareness level on health issues, promoting research in health science and rehabilitating the needy and disabled.
http://www.lepraindia.org/
21. http://www.trc-chennai.org
22. http://www.vigyanprasar.com
23. http://www.rehabcouncil.org
24. http://www.isro.org
25. http://www.pginephro.org

Table 2: List of Indian Health Related Website. (Source: ICMR)

Analysis and Interpretation:

Following factors were found to affect the website quality:

1. Usability:

Usability is a term that encompasses a combination of factors that affect a user's experience accessing a website. It depends on the need of the target audience and the purpose of the website.

2. Quality of information:

Many internet sites provide information that is misleading, incorrect and possibly dangerous. Due to sheer volume of the health information websites coupled with the changing nature of the website content, the task of rating and monitoring the website content is daunting.

3. Purpose:

Purpose of a health related website can include: health promotion, health protection, prevention, condition/ disease management, social support, health news, healthcare systems, service delivery etc.

4. Audience:

A thorough analysis of intended audience should be conducted

5. Accountability:

Accountability for a website is defined as a system by which a named person or persons have a duty to respond to the questions and issues raised by users in a reasonable time. In a small organisation this may be one person who simultaneously performs many other tasks. Easy to use tools for providing feedback to a site should be used wherever appropriate.

6. Credentials:

Where information is provided by a person or organisation on the basis of profession, such as physician, nurse, midwife or other health professional, the qualification and where and when it was obtained, should be made clearly visible on the site. Where possible, links to the organisation issuing the qualification should be provided.

7. Funding:

The term as used in the Guidelines includes any financial, material or in-kind support provided by organisations or individuals towards the development or maintenance of the website

8. Interoperability:

Interoperability is defined under Directive 91/ 250/ EC [16] (Whereas 12) as "functional interconnection and interaction" and is "the ability to exchange information and mutually to use

the information which has been exchanged;" In relation to web-based health services it is the possibility for two or more systems to functionally interconnect and interact.

PART 2

DISSERTATION

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List of Abbreviations

ASHA : Accredited Social Health Activist

AWW : Anganwadi Worker

AYUSH : Ayurveda, Yoga, Unani, Siddha and Homeopathy

BMI: Body Mass Index

BPL : Below Poverty Line

CBR: Crude Birth Rate

CH : Child Health

CHC : Community Health Centre

DHFW : Department of Health and Family Welfare

DH : District Hospital

DOTS : Directly Observed Treatment Strategy

EAG : Empowered Action Group

FRU : First Referral Unit

GoI : Government of India

IDSP: Integrated Disease Surveillance project

NRHM:National Rural Health Mission

NUHM:National Urban Health Mission

NVDCP: National Vector Borne Disease Control Program

RCH: Reproductive and Child Health

RNTCP: Revised National Tuberculosis Control Program

Chapter 1

Introduction

India has second largest population in the world, 1.2 billion (2011) according to Census of India 2011, accounting for 17% of the world's population. As per the World Health Organization's National System profiles report, there has been an improvement in the quantity and quality of health services in India, still there are seen interstate, inter-district, rural-urban, gender wise disparities in health status, differential income levels and disparate socio-economic conditions. Social and economic inequality is detrimental to the health of any society and affects the healthcare delivery system. In India, the healthcare facilities are overwhelmingly concentrated in urban areas and even then the socio-economic distance prevents access to healthcare for the urban poor. These socio-economic barriers include cost of healthcare, social factors, such as the lack of culturally appropriate services, language/ethnic barriers, and prejudices on the part of providers. People in urban slums are particularly affected due to lack of good health education, housing and proper sanitation. There is also significant lack of health education in slums as much as in rural areas.

In India the various mortality and morbidity rates differ from one state to another. Communicable diseases such as malaria, kala-azar, and tuberculosis and HIV infection remain the major causes of illness in India. India carries the highest tuberculosis burden according to the Annual Status Report of TB-India 2011. Moreover, non-communicable diseases are also on the rise. The burden of diseases such as asthma, COPD, heart disorders has a devastating effect. In rural areas there is a predominance of infectious waterborne diseases and reproductive tract infections. WHO-SEARO, Progress Report 2010 states that urban slums are also home to a wide array of infectious diseases (including HIV/AIDS, tuberculosis, hepatitis, dengue fever, pneumonia, cholera, and malaria) that easily spread in highly concentrated populations where water and sanitation services are non-existent. The infant mortality rate among the poorest quintile of the population is 2.5 times higher than that among the richest. It is seen that due to pregnancy related complications more than one lakh women die each year. During next five to ten years, existing initiatives in healthcare are likely to eliminate polio and Leprosy. However,

TB, malaria and AIDS will continue to remain major public health problems (Ashwani Kumar et al 2007). A study by Abegunde D et al (2006) states that in 2005, it is estimated that India lost 9 billion USD in national income from premature deaths due to heart disease, stroke and diabetes (World Health Organization). These losses are expected to cumulatively lead to 237 Billion USD over the next 10 years.

The healthcare system in India consists of a public sector, a private sector and an informal network of providers of care. The organization at national level consists of the Union Ministry of Health and Family Welfare. The total annual expenditure of National Health Sector is of the order of 5.1% of the GDP, which is lower than average for lower and middle income countries. As per Peters D.H (2002) still public health expenditure barely reaches 17% of total health expenditure and the more regressive fact is that 68.8% of the total health expenditure is "out of pocket" expenditure.

Introduction to National Health Programs in India:

Health programs are created in India with the aim of improving the health of the masses, eliminating diseases and ill health and for achieving improved health outcomes.

The need for national program in India arises as

- there is a high disease burden,
- huge geographical spread
- proven strategies for prevention and control are available
- resources for program implementation are available

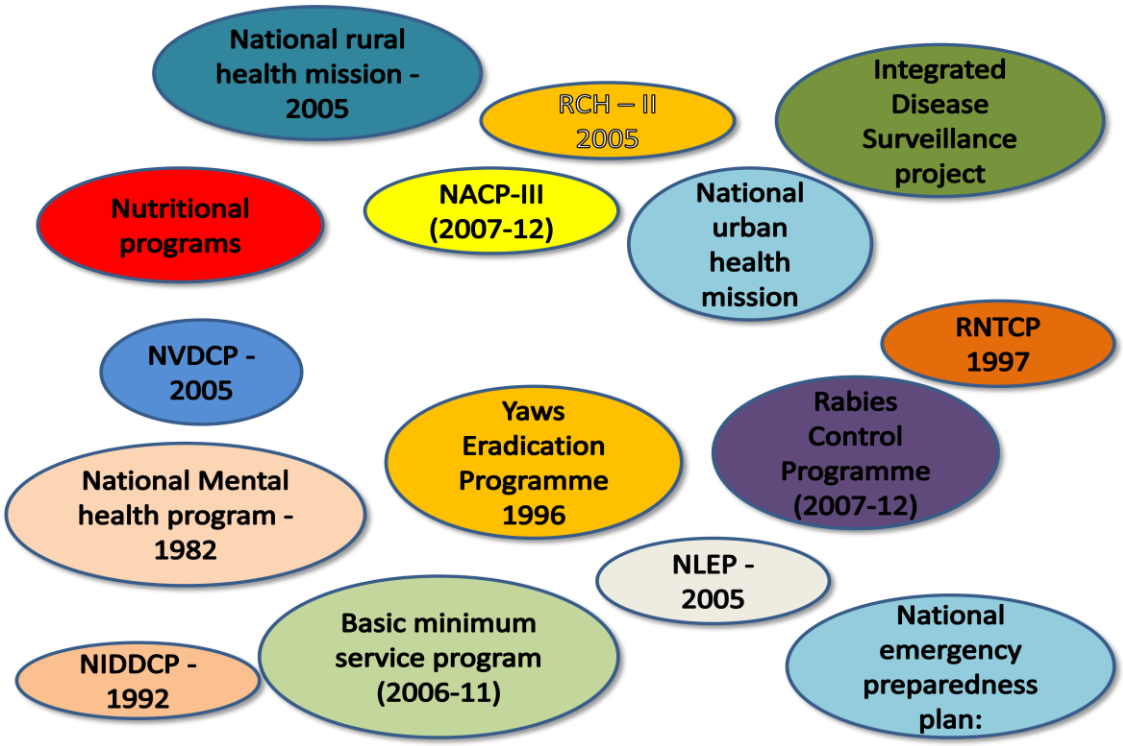


Figure 1: The Diagram shows different National Programs launched in India with their year of Launch

Vertical Health Programs in India:

Separate Health Structures with strong central management dedicated to the planning, management & implementation of selected interventions.

The advantages of vertical health programs are:

- Clear objectives & targets motivate staff
- Operational planning is focused & easy to deliver
- Efficient & effective delivery
- Better ability to monitor restricted output

Disadvantages of the vertical health programs:

- No capacity to accommodate extra work in disasters
- Resources used for specific activities only
- Deskilling of health worker
- No focus on overall development
- Dependent on donors for funding
- Placement of workers after completion-Challenging
- Long term public motivation not sustained
- May not be cost effective in long run

Integrated Health Programs

Advantages

- Help national development on a broader perspective
- Incorporates multidimensional concept of health
- Efficient & effective delivery through inter-sectoral collaboration
- Has capacity to accommodate extra work
- Responds to community needs
- Cost effective in long run
- Holistic approach to health

Disadvantages

- Sometimes fail to target priority effectively
- Complex programming may lead to more failure
- Lack of expertise in integrated programme management

Programs for Communicable Diseases

- National Vector Borne Diseases Control Programme (NVBDCP)
- Revised National Tuberculosis Control Programme

- National Leprosy Eradication Programme
- National AIDS Control Programme
- Universal Immunization Programme
- National Guinea worm Eradication Programme
- Yaws Control Programme
- Integrated Disease Surveillance Programme

Programs for Non Communicable Diseases

- National Cancer Control Program
- National Mental Health Program
- National Diabetes Control Program
- National Program for Control and treatment of Occupational Diseases
- National Program for Control of Blindness
- National program for control of diabetes, cardiovascular disease and stroke
- National program for prevention and control of deafness

National Nutritional Programs

- Integrated Child Development Services Scheme
- Midday Meal Programme
- Special Nutrition Programme (SNP)
- National Nutritional Anemia Prophylaxis Programme
- National Iodine Deficiency Disorders Control Programme

Programs related to System Strengthening /Welfare

- National Rural Health Mission
- Reproductive and Child Health Programme
- National Water supply & Sanitation Programme

- 20 Points Programme

National Health Policies

- National Health Policy 2002
- National Population Policy 2000
- National AIDS control and Prevention Policy
- National Blood Policy
- National Policy for empowerment of Women 2001
- National Charter for Children
- National Youth Policy
- National Nutrition Policy

Introduction to the role of IT in disseminating information about the National Health programs

Government has launched several health programs in India with the aim of improving the health of the masses, it is imperative that information about the public health programs should reach the end user for their greater adoption and success. It is being widely recognized that the current age has often been characterized as a "knowledge economy" where information has replaced physical resources as a leading source of wealth. The knowledge economy has been enhanced by advances in information technologies, including the rise of information communications technologies (ICTs), which enable the rapid and easy flow of information from one location to another. Thus Internet has a great role in making the information accessible to the masses and thus leading to improved health status, Baker L et al (2003) and Eysenbach G et al (2001).

Information technology plays a pivotal role in a rapidly changing global environment, and challenges us to devise initiatives to address a host of vital socio-economic issues such as reliable infrastructure, skilled human resources, open government, and other essential issues of capacity building. Information technology built on reliable human resources and infrastructure constitutes the fundamental tool and means of assessing, planning, managing development, change and for achieving sustainable growth. The Internet is increasingly used as a medium to disseminate information. The rapid growth of the Internet and the advantages of this medium over traditional communication format in terms of flexibility, speed and reach make it an obvious route for dissemination. Information about the Public health programs on the internet can be a facilitator of health education, communication and information sharing. Given the emphasis on evidence-based decision-making as a way of improving the allocation of scarce resources to improve health, and given the focus on dissemination therein, the potential of the web to get digestible information to the right people at the right time is even more apparent.

Importance of the study

The objective of our study is to evaluate information about the existing national health programs in India over the internet and the associated challenges faced while acquiring information about them over the internet.

Internet is being widely accepted as a source of information in the current era of knowledge economy. It is very important that the information being accessed is credible and serves the purpose which was intended.

There is a vast amount of online information available regarding the national health programs, this creates a difficult situation for the stakeholders as there is no credibility criteria available and thus this leads to accessing information which does not serve the purpose.

National Health programs in India are being created with the aim to improve the health status of the masses. It is highly necessary that right information reaches the stakeholders at the right time. This study analyzes the effectiveness of the online sources of information. It finally proposes the creation of an online resource to facilitate the availability of information at a single site, this information needs to be updated at regular intervals. It should be credible, reliable and should

meet user requirements. This study proposes the need to design an online system for addressing the challenges which were faced while performing this study and which are usually faced by users while searching for the national health programs related information online.

Limitations

- Relevant and credible online source of information is missing

  The online sites available for the information on national health programs vary in quality. For the users / stakeholders looking for information regarding national health programs consisting of administrative staff, common man, people in decision making positions; it is very difficult to analyze the relevance of the available information.

- Information is outdated at many places, dispersed. There is information overload and thus it is difficult to locate the required information.

  There is potential for false information being accessed by users and thus misleading the users.

  Rapid advances in information and communications technologies have led to information overload being experienced on a much larger scale than it was few years back. Thus it becomes difficult for a user to access the information which is most suitable as per their requirements.

- Information specific to the needs of different stakeholders is missing. There is difficulty in finding the correct information and then using the same effectively

- Difficult to search the relevant information based on the selective search term. In the present study only three search terms were used and thus the search results obtained were limited.

Chapter 2

Data and Methods

Study Design:

Study Design adopted for the study is Descriptive Analysis.

Descriptive research can utilize elements of both quantitative or qualitative research methodologies , often within the same study. The term descriptive research refers to the type of research question, design, and data analysis that will be applied to a given topic.

Descriptive statistics provides simple summaries about the sample and about the observations that have been made.

Descriptive analysis was performed to report the frequencies of website categories which were relevant for the study, to analyze the national health programs for which most information was available and to determine the most relevant search term for our search. Stratified analysis by website category was performed. All results were analyzed using SAS v9.1.

Literature review is done to determine the need for national health programs in India:

- The sources of online information resources available about the national health programs. Sixty websites providing information about national health programs were analyzed, out of these 20 were chosen for final analysis based upon specific exclusion and inclusion criteria.

-literature review done to determine the factors affecting the reliability, credibility and relevance of websites providing information about national health program.

The literature review done is of peer reviewed academic articles. Several databases were utilized for the literature review inclusive of: SpringerLink, PubMed, Sage Journals. Also the literature

review was supplemented by other e-journals search engine such as Google Scholar. The literature review done is qualitative.

Research Methodology

- **Number of websites selected**: 60
- **Final websites selected based upon selection criteria**: 20
- **Sampling Technique**: convenience sampling
- **Data Type**: primary data
- **Data collection Methods**: online source of information

- Tools and techniques applicable: The following may be the tools and techniques used to analyze the data gathered

1) Histograms.

2) Check sheets. Etc

3) Ranking method.

- **Search engine:** Google
- **Search terms:** *National Health programs* OR *Public Health Programs* OR *Health Programs* AND *India*

- Search duration: Jan 1- Jan 20' 2011

- **Website identification**: Chose first 20 weblinks across all the three search terms to yield 60 websites.

- **Website inclusion criteria**: sites mentioning information about national health programme

- **Website exclusion criteria:** Sites that were

» Duplicates

» Non-functional.

Research Question:

"How can information Technology lead to success of India's National Health Programs by acting as a tool for information dissemination"

Supplementary Question:

"Analyzing the online information available about various National Health programs in India, what are the factors which should be considered while evaluating the source of information?"

Research Design:

Need of the Study:

- India has second largest population in the world, poor economy of the country, poor level of literacy
- High disease burden
- Health for all by year 2000 was not achieved
- The government has introduced various National health programs and policies to improve the health and standard of life of its citizens

For the success of these programs it is imperative that the correct information should reach the correct stakeholders.

The most efficient method of dissemination of information is online source of dissemination as this is the "knowledge age". There is a huge amount of information available online but is a challenge to choose the most relevant information as per our requirements.

Similarly for the National Health Programs launched by the Government, there are immense sources of information available but the credibility and correctness of these sources is a concern.

The lack of adequate source of online information was the motivation behind this study.

Objectives:

- Evaluating the online information available about the National Health Programs
- Analyzing the challenges in the searching of information about the national Health Programs online
- to identify the online sources for information regarding the national health programs.
- To analyze the relevance of the online sources available
- To develop criteria to locate the information regarding national health programs available online in the form of using correct search terms
- To identify the stakeholders and to analyze the proper criteria to identify the issues related to the accessing online information regarding the national health programs

Literature Review

Information Technology as a tool for success of national health programs

According to the Pew Research Center (2001), approximately 104 million American adults have access to the Internet. Of these, there are slightly more females (51%) on the Internet than males (49%), of both high and low socioeconomic status. As the Internet's audience continues to grow and subsequently mirror the general population, understanding how people use it to obtain medical information becomes more important to both users and providers.

When considering the Internet, one distinct feature pertaining to the flow of online information must be understood; unlike traditional media, the Internet has no government or ethical regulations controlling the majority of its available content. This unregulated flow of information

presents a new problem to those seeking information, as more credible sources become harder to distinguish from less credible sources. Moreover, without knowing the exact URL of a given site, the amount of information offered through keyword searches can make finding a predetermined site difficult as well as increase the likelihood of encountering sites containing false information.

Many documents on the Web "lack basic information about the origin, authorship, or age of the material they provided". Moreover, when considering the ease of creating and changing a Web page, together with the very large number of Web publishers, the task of monitoring all medical information becomes insurmountable. Thus, the task of assessing the credibility of information obtained online rests with the user. In order to understand how people perceive credibility on the Internet, it is first essential to understand how more traditional media research (i.e., television and print) has explored the issue of credibility.

Early credibility research on media can be traced back to Hovland & Weiss' research on communication and persuasion. They found that the "trustworthiness" of a source significantly affected acceptance of the message and changes in opinion. Significantly related to trustworthiness were reactions to "fairness" of presentation and "justifiability" of the conclusions. Since these original studies, many variables have been examined to assess source credibility. Perceived expertise, bias, fairness, truthfulness, accuracy, amount of use, depth or completeness of message, prior knowledge and message quality have all emerged as components of credibility.

Recognizing the large number of indicators and dimensions used to assess the construct of credibility, West validated two frequently used scales of credibility. The five dimensions created in the Meyer study were found to be: "…valid and reliable measures of credibility; they consisted of fairness, bias, depth, accuracy, and trustworthiness". These five indicators, as well as 12 others, were listed in the Gaziano and McGrath scale. When evaluating which items to include, it must be determined whether credibility of the source or of the stimuli (content) is being measured, and whether credibility should be measured from the receiver's perspective or from the source's attributes. That being said, this study identified items related to the content from the receiver's perspective.

While these as well as other dimensions have been found to be significant components in understanding perceived credibility, there are other factors that have helped to gain understanding of how people perceive credibility, such as age, education, amount of use, reliance and medium.

Methodology/Data Collection Technique:

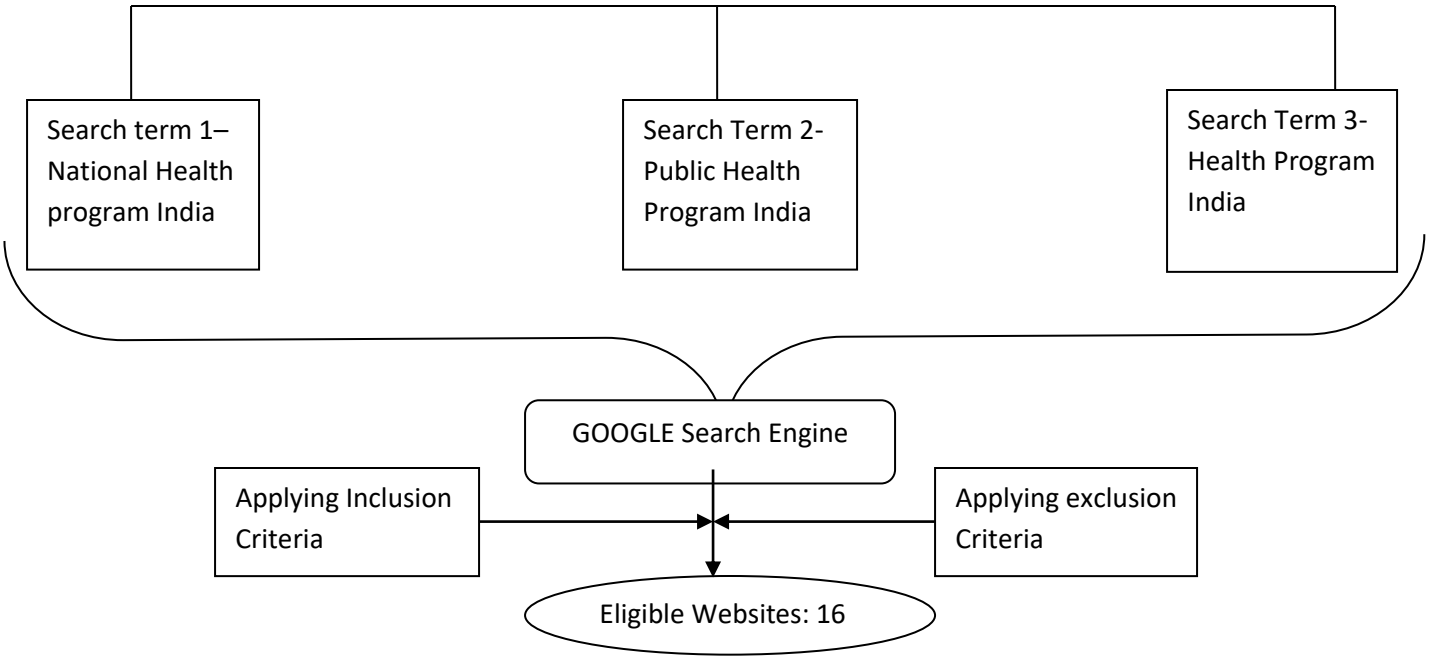


Figure 2: the methodology adopted for the study

Various National Health Programs in India

1. National Rural Health Mission

The National Rural Health Mission to carry out necessary architectural correction in the basic health care delivery system. The Mission adopts a synergistic approach by relating health to determinants of good health viz. segments of nutrition, sanitation, hygiene and safe drinking

water. It also aims at mainstreaming the Indian systems of medicine to facilitate health care. The Plan of Action includes increasing public expenditure on health, reducing regional imbalance in health infrastructure, pooling resources, integration of organizational structures, optimization of health manpower, decentralization and district management of health programs, community participation and ownership of assets, induction of management and financial personnel into district health system, and operationalizing community health centers into functional hospitals meeting Indian Public Health Standards in each Block of the Country. The Goal of the Mission is to improve the availability of and access to quality health care by people, especially for those residing in rural areas, the poor, women and children.

The vision of the National rural Health Mission:

The National Rural Health Mission (2005-12) seeks to provide effective healthcare to rural population throughout the country with special focus on 18 states, which have weak public health indicators and/or weak infrastructure.

• The Mission is an articulation of the commitment of the Government to raise public spending on Health from 0.9% of GDP to 2-3% of GDP.• It aims to undertake architectural correction of the health system to enable it to effectively handle increased allocations as promised under the National Common Minimum Programme and promote policies that strengthen public health management and service delivery in the country.

• It has as its key components provision of a female health activist in each village; a village health plan prepared through a local team headed by the

Health & Sanitation Committee of the Panchayat; strengthening of the rural hospital for effective curative care and made measurable and accountable to the community through Indian Public Health Standards

(IPHS); and integration of vertical Health & Family Welfare Programs and Funds for optimal utilization of funds and infrastructure and strengthening delivery of primary healthcare.

• It seeks to revitalize local health traditions and mainstream AYUSH into the public health system.

• It aims at effective integration of health concerns with determinants of health like sanitation & hygiene, nutrition, and safe drinking water through a District Plan for Health.

• It seeks decentralization of programs for district management of health.

• It seeks to address the inter-State and inter-district disparities, especially among the 18 high focus States, including unmet needs for public health infrastructure.

• It shall define time-bound goals and report publicly on their progress.

• It seeks to improve access of rural people, especially poor women and children, to equitable, affordable, accountable and effective primary healthcare.

3. GOALS

· Reduction in Infant Mortality Rate (IMR) and Maternal Mortality Ratio (MMR)

· Universal access to public health services such as Women's health, child health, water, sanitation & hygiene, immunization, and Nutrition.

· Prevention and control of communicable and non-communicable diseases, including locally endemic diseases

· Access to integrated comprehensive primary healthcare

· Population stabilization, gender and demographic balance.

· Revitalize local health traditions and mainstream AYUSH

· Promotion of healthy life styles

2. RCH –II

The National Policy on Population, 2000 has laid emphasis on population stabilization by 2045 at a level consistent with the requirement of national economy. In consonance with the Policy, interventions to be made by health sector especially through RCH [Reproductive & Child Health] have been clearly defined and made more object oriented to attain sustainable development, equitable distribution of resources and easier access to health care. The goals thus set are:

- Ensuring more intensive pre & post natal check up of Mothers
- Reducing Infant Mortality Rate to 30 per 1000 live births
- Compulsory Registration of Births, Deaths & Marriages

- Universal access to information/counseling services for fertility regulation and contraception with a wide basket of choice
- Immunization of children against vaccine preventable diseases, elimination of Polio, Tetanus and Measles.
- Achieving 80% institutional deliveries and increasing percentage of deliveries conducted by trained persons to 100%
- Reducing Maternal Mortality Rate to less than 100 per 100,000 live births

Sustained efforts have made it possible to significant success in betterment of health indices; several parameters are even higher than national figures. Tripura is amongst the most advanced states in terms of health indices. Activities under the RCH programme can broadly be classified as Immunization, Mother & Child Health and Family Welfare. Both components are implemented as part of the main programme. The most critical activity concerns maternal and child health care. Immunization plays a very important role here. As per the National Immunization Schedule, prepared by the Government of India, routine immunization is carried out to cover all children in the age group of 0-1 year.

3. National Urban Health Mission

The National Urban Health Mission aims to address the health concerns of the urban poor through facilitating equitable access to available health facilities by rationalizing and strengthening of the existing capacity of health delivery for improving the health status of the urban poor. The existing gaps are planned to be filled up through partnership with non government providers. This will be done in a manner to ensure well identified facilities are set up for each segment of target population which can be accessed as a matter of right. The National Urban Health Mission based on the key characteristics of the existing urban health delivery system proposes a broad framework for strengthening the extant primary public health systems, rationalizing the available manpower and resources, filling the gaps in service delivery through private partnerships through a regulatory framework and also through a communitised risk

pooling / insurance mechanism with IT enablement, capacity building of key stakeholders, and by making special provision for inclusion of the most vulnerable amongst the poor. The quality of the services provided will be constantly monitored for improvement (IPHS/ Revised IPHS for Urban areas etc.)

Core strategies:

(i) Improving the efficiency of public health system in the cities by strengthening, revamping and rationalizing urban primary health structure

(ii) Partnership with non government providers for filling up of the health delivery gaps

(iii) Promotion of access to improved health care at household level through community based groups : Mahila Arogya Samittees

(iv) Strengthening public health through preventive and promotive action

(v) Increased access to health care through risk pooling and community healthinsurance models

(vi) IT enabled services (ITES) and e- governance for improving access improved surveillance and monitoring

(vii) Capacity building of stakeholders

(viii) Prioritizing the most vulnerable amongst the poor

(ix) Ensuring quality health care services

4. RNTCP

RNTCP is the largest and the fastest expanding DOTS programme in the world and approximately 100,000 patients are being initiated on treatment every month. The WHO report on Global Tuberculosis Control in 2005 remarks that "India, the country with the greatest burden of TB, is also the country where the most dramatic advances are being made in DOTS expansion." In 1999, the Indian expansion of RNTCP accounted for 1/3 and in 2000 and 2001 for over 1/2 of the global increase in DOTS coverage.

Despite the rapid expansion, quality of services has been maintained and phased implementation of the programme is in part responsible for this. Infact, there has been a considerable improvement in the level of case detection and India has made a greater contribution to the global increase in case finding than any other country since 2000.

During 2004, sputum positive case detection and treatment success rates were 72% and 86% respectively-both being higher than their respective global targets. Improvement in treatment success rates since the implementation of RNTCP have lead to reduction in death rates by 7-fold from 29% to 4% .

The improvement in cae detection and treatment has also been witnessed in extra-pulmonary and retreatment cases. In the third quarter of 2004, extra-pulmonary cases comprised 14% of all new case while re-treatment cases comprised 25% of all smear positive cases.

RNTCP's progress has been remarkable not only because of the expansion in population coverage and case detection but also because it has been made at a lower than predicted cost. The budget per patient is lowest in India among all the countries that have a high burden of disease (US$ 34 vis-Mvis US$ 100200 for all such countries).

5. National AIDS control program phase III

The primary goal of NACP–III is to halt and reverse the epidemic in India over the next 5 years by integrating programs for prevention, care, support and treatment.

This will be achieved through four stages, namely:

1. Prevention of new infections in high risk groups and general population through:

a. Saturation of coverage of high risk groups with targeted interventions (TIs), and

b. Scaled up interventions in the general population

2. Providing greater care, support and treatment to a larger number of people living with HIV/AIDS.

3. Strengthening the infrastructure, systems and human resources in prevention, care, support and treatment programs at the district, state and national levels.

4. Strengthening a nation-wide Strategic Information Management System. ii

The specific objective of the above strategy is to reduce new infections as estimated in year 1 of the programme by:

· Sixty per cent (60%) in high prevalence states so as to obtain the reversal of the epidemic; and

· Forty per cent (40%) in the vulnerable states so as to stabilize the epidemic.

Guiding principles include the Three Ones, equity, legal, ethical and human rights, PLHA and civil society participation.

NACP–III seeks to learn from the lessons of the previous two phases of programme implementation and build on the strengths thereof.

Training and capacity building for communication, advocacy and social mobilization is a critical component of the overall strategy in NACP-III. Both routine and needsbased technical support plans will be developed at the National and State levels for building capacity and conducting training. These will cover IEC - development of communication materials, strategy implementation through media planning and buying; IPC – various forms of Interpersonal Communication, Meetings and Groups

Discussions.

The scope of Advocacy and Social Mobilization will fall under IPC and the personnel involved will be all IEC officers/ staff at NACO/ SACS/ Districts along with Partners.

National and state level institutions and resource persons will be identified for conducting training programs. Appropriate IEC/BCC/IPC training modules will also be developed. Advocacy workshops for media persons, CBOs, PRIs, political 73 leaders, administrative machinery, corporate and business houses, opinion leaders, youth and faith based organizations will be organized at the national and state levels.

Under NACP-III, first line ART drugs will be provided to all those who need it.

Public health facilities will ensure that ART is provided to (a) PLHAs referred from targeted interventions; (b) sero-positive women particularly those who have participated in PPTCT programme; (c) infected children; and (d) those below poverty line. The primary aim of ART strategies is to suppress viral replication. Successful viral suppression restores the immune system, slows or halts the disease progression and improves the quality of life. Since adherence is the key to the success of the ART programme as well as to the prevention of HIV drug resistance, NACP-III will seek to achieve drug adherence rates of 95 per cent and above.

Similarly, the quality of ART delivery will be enhanced by providing training to service providers, linkages to community care, adherence to monitoring systems, setting up of EQAS and a mechanism for certification and accreditation. NACP-III recognizes the role of private sector in the provision of care and support services. Currently, a majority of PLHA are provided treatment by the private sector.

Many non-governmental organizations, particularly non-profit charitable institutions have been providing excellent care, support and treatment services to PLHA. Having regard to their track record and subject to strict quality parameters, they will be identified and covered under NACP-III for supply of free drugs, capacity building and linkages

6. NVBDCP

The National Vector Borne Disease Control Programme (NVBDCP) is an umbrella programme for prevention and control of Vector borne diseases. Earlier the Vector Borne Diseases were managed under separate National Health Programs, but now NVBDCP covers all 6 Vector borne diseases namely:

1. Malaria
2. Dengue
3. Chikungunya
4. Japanese Encephalitis
5. Kala-Azar
6. Filaria (Lymphatic Filariasis)

This programme has now come under the umbrella of National Rural Health Mission.

7. Yaws eradication programme

Objectives:

Interrupting the transmission of yaws infection in the country.

Eradication of Yaws from the country.

Strategy:

Manpower development, detection and treatment of cases, IEC involving multi-sectoral approach for community awareness, Monitoring and Supervision

8. National Leprosy eradication programme

Govt. Of India started National Leprosy Control Programme in 1955 based on Dapsone domiciliary treatment, through vertical units, implementing survey education and treatment activities.

NLEP was launched in 1983 with the objective to arrest the disease activity in all the known cases of leprosy. In order to strengthen the process of elimination in the country, the first World Bank supported project was introduced in 1993.

The 2 Phase of World Bank Project on NLEP started for a period of 3 years from 2001-02. This phase was implemented with the objectives towards:

1. Decentralization of NLEP responsibilities to States/ UTs through State/ District Leprosy Societies.
2. Accomplish integration of leprosy services with General Health Care System (GHS) and
3. Achieve elimination of leprosy at National level by the end of the Project

9. Guinea worm eradication programme

Encouraged with the success of “Small-pox Eradication”, the Ministry of Health & Family Welfare, Government of India launched the National Guinea Worm Eradication Programme

(GWEP) in 1983-84 as a centrally sponsored scheme on a 50:50 sharing basis between Centre and States with the objective of eradicating guinea worm disease from the country. The National Institute of Communicable Diseases (NICD), Delhi was designated as the nodal agency for planning, co-ordination, guidance and evaluation of GWEP in the country. The Programme was implemented by the endemic State Health Directorates through the Primary Health Care system. The Ministry of Rural Development, Govt. of India, State Public Health Engineering Departments, and the Rajiv Gandhi National Drinking Water Mission (Rural Water Supply) assisted the Programme in provision and maintenance of safe drinking water supplies and conversion of unsafe drinking water sources, on priority, in the guinea worm affected areas.

Strategy

Based on the life cycle of the worm and well defined prevention and control measures, Guinea Worm Eradication Programme envisaged the efficient implementation of strategies including:

- Guinea worm case detection and continuous surveillance through three active case search operations and regular monthly reporting
- GW case management
- Vector control by the application of Temephos (50% EC) in unsafe water sources eight times a year and use of fine nylon mesh/double layered cloth strainers by the community to filter cyclops in all the affected villages
- Provision and maintenance of safe drinking water supply on priority in GW endemic villages
- Trained manpower development and Intensive health education
- Concurrent evaluation and operational research.

NICD with financial support from the World Health Organization deployed epidemiological surveillance teams in endemic states which closely monitored the Programme and helped the district/local authorities in effective implementation of various GWEP operational components; especially surveillance and GW case containment measures.

10. National Rabies Control and prevention Programme

The government is doing more to promote rabies awareness with initiatives such as a pilot project to prevent human rabies deaths launched by the National Centre for Disease Control (NCDC) – formerly the National Institute of Communicable Disease – in 2008 in five Indian cities. The pilot includes training of health professionals in animal-bite management and raising public awareness about the need to seek post-exposure treatment, notably through posting messages on buses and in other public places.

The contribution of nongovernmental organizations has also been a crucial part of an improving picture, notably from the Rabies in Asia Foundation, the Association for Prevention and Control of Rabies in India and the Animal Welfare Board of India,

11. Integrated Disease Surveillance project

This program is needed for prevention and disease control. Integration of communicable and non communicable diseases is a real challenge for this program. Implementation of this program is another issue.

Number of parallel systems under various programs is still operational and duplication of record generation has not gone down.

12. National Programme for control and treatment of occupational diseases

In India, the current burden of occupational health diseases is estimated to be around 18 million cases.

The occupational health has received the lowest priority in 11^{th} five year plan document and national rural health mission.

Ministry of Health and family welfare, Government of India has no special plan for occupational and health safety of workers which constitute a big proportion of total population.

13. Nutritional programs

Strategies recommended for the 11th five year plan:Articulating malnutrition as number one public health problem, training programs for health personnel, to include in primary health care, creating nutrition awareness at all levels.

a. Integrated child development services scheme-
   To improve the nutritional and health status of preschool children in the age group of 0-6 years;
b. Mid day meal program
c. National nutrition anemia prophylaxis program
d. National program for prophylaxis against blindness in children caused due to Vitamin-A deficiency
e. World food program

14. National Programme for control of blindness

National Programme for Control of Blindness was launched in the year 1976 as a 100% Centrally Sponsored scheme with the goal to reduce the prevalence of blindness from 1.4% to 0.3%. As per Survey in 2001-02, prevalence of blindness is estimated to be 1.1%. Target for the 10th Plan is to reduce prevalence of blindness to 0.8% by 2007 prevalence of Blindness is 1% (2006-07 Survey).

Main causes of blindness are as follows: - Cataract (62.6%) Refractive Error (19.70%) Corneal Blindness (0.90%), Glaucoma (5.80%), Surgical Complication (1.20%) Posterior Capsular Opacification (0.90%) Posterior Segment Disorder (4.70%), Others (4.19%) Estimated National Prevalence of Childhood Blindness /Low Vision is 0.80 per thousand

The objectives of the programme are: -

- To reduce the backlog of blindness through identification and treatment of blind.
- To develop Eye Care facilities in every district.
- To develop human resources for providing Eye Care Services.
- To improve quality of service delivery.
- To secure participation of Voluntary Organizations in eye care.

15. National Iodine deficiency disorders control program

Iodine Deficiency Disorders (IDD) are widely prevalent in our country and their consequences for human development are well known. The scope of National Goitre Control Programme (NGCP) launched in 1962 was expanded and the programme was renamed as National iodine Deficiency Disorders Control Programme (NIDDCP) to connote wider implications of iodine deficiency in population. It is necessary to monitor the progress of NIDDCP using quantifiable indicators to ensure achievement of programme objectives. Prevalence of iodine deficiency disorders, status of lodised salt and level of Knowledge. Attitude & practice (KAP) of community regarding IDD and lodised salt are a few such indicators. Children in the age group of 8-10 years are considered most appropriate target group to monitor IDD prevalence. The quality of lodised salt assessed at various levels in West Bengal (using field testing kit) indicated 'satisfactory' iodine content (i.e.≥15 ppm) at wholesalers (84.3 per cent). retailers (74.3 per cent) and consumers (71.2 per cent) level. it is suggested that the quality of iodised salt should be periodically assessed and intensive educational campaigns on IDD be launched to create increased demand for consumption of lodised salt in the community.

16. National Mental health program

National Mental Health Program was launched in 1982 in view of the magnitude of mental illness in the country and availability of infrastructure and trained manpower in India.

NMHP has 3 components, namely

1. Treatment of Mentally ill
2. Rehabilitation
3. Prevention and promotion of positive mental health.

Various programs are being run by different ministries but appropriate management package is never made available to the patients. Drug addiction is a major concern and legislation available for controlling the problems are usually not implemented adequaltely.

17. National program for prevention and control of Cancer, Diabetes, CVD and stroke

Objectives of NPCDCS

1) Prevent and control common NCDs through behaviour and life style changes,
2) Provide early diagnosis and management of common NCDs,
3) Build capacity at various levels of health care for prevention, diagnosis and treatment of common NCDs,
4) Train human resource within the public health setup viz doctors, paramedics and nursing staff to cope with the increasing burden of NCDs, and
5) Establish and develop capacity for palliative & rehabilitative care.

The Strategies to achieve above objectives are as follows:

1) Prevention through behaviour change
2) Early Diagnosis
3) Treatment
4) Capacity building of human resource
5) Surveillance, Monitoring & Evaluation

18. National Anti tobacco program

To facilitate the effect implementation of the Tobacco Control Laws and bring about greater awareness about the harmful effects of tobacco and to fulfill the obligation(s) under the WHO-FCTC, the Ministry of Health and Family Welfare has launched this new National Tobacco Control Programme (NTCP) in the XI Five Year Plan. The Cabinet Committee on Economic Affairs (CCEA) on 28th January 2010 approved the programme.

Major impact: The implementation of the NTCP will increase the awareness of the community about the harmful effects of the tobacco use, make the public aware of the provisions under COTPA, establish tobacco product testing labs and also provide baseline estimates of tobacco prevalence and status of implementation of the Tobacco Control Law.

States/Districts covered: The components of the NTCP at the National level covers the entire country while the pilot phase will focus on 42 districts of 21 States.

Source: Press Information Bureau, Jan 28, 2010

Activities under the National Tobacco Control Programme are as follows:-

- To arrange Exhibitions, Seminars, Banners at District level.
- To implement the anti- tobacco act in letter and spirit.
- To send the Monthly reports regarding the Anti-tobacco activities in the District level to the State Headquarters.
- To promote IEC activities at the District level.
- Multi-sectoral involvement for the implementation of the Act with the help of NGOs, Police department, Education Department and the Local administration.

19. National oral health program

National Oral Health Care Programme a project of DGHS and Ministry of Health & Family Welfare was initiated in 1998 with aim of providing oral health care in the country through organized primary prevention and strengthening of Oral health setup as per the recommendations made in National Oral Health Policy. Later on the Department of Dental Surgery, All India Institute of Medical Sciences was chosen as the nodal agency to implement it.

During the implementation of the National Oral Health Care Programme in the pilot phase, it was perceived that most of the times our policymakers give oral health last priority. They are inadequately informed about burden of oro-dental problems and its connection with the systemic health and possibly minimal threat to human life due to oro-dental problems makes step motherly treatment for dental public health programs. One of the major disadvantages is that in India, health is a state subject and most of the states in the country are suffering from financial burden even for subsistence rather than providing quality health care. Mostly the health care is looked after by the private sector and individual practices including non-formal medical facilities. However, the treatment cost for oral diseases is enormously expensive and it has not been possible for any Govt. setup to provide dental services to all. Moreover, our country lacks experts in dental public health. The curriculum for graduation is outmoded with very little importance to prevention. The dental graduates are unable to perceive the importance of learning prevention of oro-dental problems for the community and they are not aware of their responsibilities towards the society. The internship programme is also underutilized by the dental colleges for services to the grass root level and dental health needs of our geriatric population are overlooked. We do not have organized school oral health education programs so that children may learn right oral health practices from the beginning. Over and above fastest growing population, rapid westernization and lack of resources are increasing the burden of oral diseases in our country. Tobacco abuse is further causing menace for not only the poor and disadvantaged but also civilized population. Early initiation of tobacco habits in children is causing havoc in terms of morbidity and mortality of our younger generations.

20. National organ transplant program

The national programme aims to enhance the facilities for organ transplantation throughout the country, establish a network for equitable distribution of retrieved deceased organs, and increase the availability of organs through facilitation and attitude change. The programme also involves building up human resources. For this a body will be created for procurement, distribution of organs at national, regional and zonal level covering the entire country.

In order to improve safety, equitability and monitoring in the field of organ transplant the ministry had notified many changes in the Transplantation of Human Organ Rules. These changes clearly delineated the role to be played by the Registered Medical Practitioners, and authorisation committees so that scams and other malpractices can be avoided.

The ministry has proposed far reaching changes in the Transplantation of Human Organ Act (THOA), 1994. The proposed changes include expansion of the definition of 'near relatives' to include grandparents and grand children, introduction of the concept of 'required consent' and stricter norms where foreign nationals and minors are involved.

21. National program of healthcare for the elderly

The National Programme for the Health Care for the Elderly (NPHCE) is an articulation of the International and national commitments of the Government as envisaged under the UN Convention on the Rights of Persons with Disabilities (UNCRPD), National Policy on Older Persons (NPOP) adopted by the Government of India in 1999 & Section 20 of "The Maintenance and Welfare of Parents and Senior Citizens Act, 2007" dealing with provisions for medical care of Senior Citizen.

The NPHCE has been approved by the Minister of Finance on 10th June, 2010 at an expenditure of Rs.288.00 crore for the remaining period of the 11th Five Year Plan. This includes 20% share of State Governments (excluding the expenditure on Regional Medical Institutes) amounting to Rs.48.00 crore. The Government's share would be Rs.240.00 crore(2010-12). The programme has been implemented in 30 districts of 21 States during the year 2010-11 and

70 will be added during 2011-12. The programme is expected to be expanded to the entire country during the 12th Plan.

22. National program for prevention and control of deafness

OBJECTIVES OF THE PROGRAMME

1. To prevent the avoidable hearing loss on account of disease or injury.
2. Early identification, diagnosis and treatment of ear problems responsible for hearing loss and deafness.
3. To medically rehabilitate persons of all age groups, suffering with deafness.
4. To strengthen the existing inter-sectoral linkages for continuity of the rehabilitation programme, for persons with deafness.
5. To develop institutional capacity for ear care services by providing support for equipment and material and training personnel.

Loading of information about deafness and burden of detection and mobilization of deafness on ASHA and aganwadi worker indicates poor planning.

23. Essential medicines and program for rational use of drugs

The rational use of Medicines (RUM) is defined as "Patients receive medications appropriate to their clinical needs, in doses that meet their own individual requirements, for an adequate period of time, and at the lowest cost to them and their community." Irrational use occurs when one or more of these conditions are not met. The use of too many medicines per patients; inappropriate use of antimicrobials, often in inadequate dosage, for non-bacterial infections; over use of injections; and prescriptions not in accordance with STG; are few common types of irrational use of medicines.

Under the Constitution of India both the Central Government and the individual States have concurrent legislative mandates for drug control, towards their safety, quality and efficacy.

24. Programs and schemes for disabled persons

The problem of rehabilitating the disabled is tackled at various levels – by the Central Government, State Governments, and by Voluntary Organisations. In the Central Government, the Ministry of welfare plays a major role in framing policies and programs for the handicapped. All State Governments and Union territories in India have established Social Welfare of the handicapped. The Voluntary Sector also plays a very important role in providing welfare and rehabilitation services for the Disabled.
Educational Facilities While the disabled children may attend the regular schools there are also special schools for the disabled children. Most of thesespecial schools are located in Urban areas. Voluntary Organisations are taking major initiative in opening special schools in the country. The Ministry of Welfare provides financial assistance to these organisations to establish special schools. A few special schools offer vocational training in trades like tailoring, carpentry, book binding etc. There are four national institutes in the area of visual, hearing, mental and locomotor disability which organise regular programs for the training of teachers for the training of teachers for the handicapped. The Scheme has been transferred to the Department of Education since 1982.

Under the Integrated Education Scheme for Disabled operated by the Department of Education, handicapped children are sought to be integrated in the normal school system. Hundred per cent assistance is provided to states and UTs for education of the children suffering from certain mild handicap in common schools with the help of necessary aids, incentives and specially trained teachers.

25. National program for prevention of burn injuries

The estimated annual burn incidence in India is approximately 6-7 million per year. The high incidence is attributed to illiteracy, poverty and low level safety consciousness in the population. The situation becomes further grim due to the absence of organized burn care at primary and secondary health care level. But the silver lining is that 90% of burn injuries are preventable. An initiative at national level is need of the hour to reduce incidence so as to galvanize the available resources for more effective and standardized treatment delivery. The National Programme for Prevention of Burn Injuries is the endeavor in this line. The goal of National programme for prevention of burn injuries (NPPBI) would be to ensure prevention and capacity building of infrastructure and manpower at all levels of health care delivery system in order to reduce incidence, provide timely and adequate treatment to burn patients to reduce mortality, complications and provide effective rehabilitation to the survivors. Another objective of the programme will be to establish a central burn registry. The programme will be launched in the current Five Year Plan in Medical colleges and their adjoining district hospitals in few states. Subsequently, in the next five year plan it will be rolled out in all the medical colleges and districts hospitals of the country so that burn care is provided as close to the site of accident as possible and patients need not to travel to big cities for burn care. The programme would essentially have three components i.e. Preventive programme, Burn injury management programme and Burn injury rehabilitation programme.

26. National emergency preparedness plan: Disaster management

Government of India has earmarked responsibilities to various concerned departments /sectors and to coordinate the entire activities relating to specific types of disasters and also to support ministry to develop sectoral contingency planning for implementation, monitoring and evaluation.

The government machinery lacks propoer training in disaster management, financial resource allocation to long term measures is minimal.

27. School health services

School Health program is a program for school health service under National

Rural Health Mission, which has been necessitated and launched in fulfilling the vision of NRHM to provide effective health care to population throughout the country

It also focuses on effective integration of health concerns through decentralized management at district with determinant of health like sanitation, hygiene, nutrition,safe drinking water, gender and social concern.

Components of School Health Program:

Health service provision:

• Screening, health care and referral

• Immunization

• Micronutrient (Vitamin A & IFA) management

• De-worming

• Health Promoting Schools

• Capacity building

• Monitoring & Evaluation

• Mid Day Meal

28. National program for prevention and control of fluorosis

- Goal of NPPCF Goal of National Programme for Prevention and Control of Fluorosis (NPPCF): To prevent and control of fluorosis cases in the country
- Objectives of NPPCF To collect & use of baseline survey data of fluorosis Comprehensive management of fluorosis in endemic areas Capacity building for prevention, diagnosis & management of fluorosis cases
- Programme Framework & Phasing Phase I (2008-09) : 5 districts Phase II (2009-10) : 15 districts Phase III (2010-11) : 40 districts Phase IV (2011-12) : 40 districts

- Strategies of NPPCF Training of field level health personnel Capacity building of District Hospitals & Medical Colleges Laboratory support development in District Hospitals & Medical Colleges Information, Education & Communication (IEC) for the community
- Activities under NPPCF-I Community diagnosis of fluorosis - village/block/cluster wise Facility mapping from prevention, health promotion, diagnostic facilities, reconstructive surgery and medical rehabilitation point of view – village/block/district wise
- Activities under NPPCF-II Gap analysis in facilitation & organization of physical & financial support for bridging the gaps Diagnosis of individual cases & providing its management Public health intervention on the basis of community diagnosis Behavioral change by IEC.

29. Basic minimum service program

It was started with the objective to provide certain basic minimum needs and thereby improve the standard of living of people in terms of social and economic development of the community particularly the underprivileged and the underserved population.

Revised twenty point program 2006-2011

Poverty eradication, support to farmers, housing for all, child welfare, education for all, rural roads, energizing of rural areas.

30. India population projects

To strengthen the maternal and child health care, Government of India with the assistance of World Bank has implemented India Population Programme IPP-VIII in the slum population of four metropolitan cities viz.Bangalore, Delhi, Hyderabad and Kolkata in 1993 for a period of seven years. One of the objectives of the programme was to strengthen the maternal and child health care services so as to reduce infant, child and maternal mortality rates in urban slums by expanding the service delivery system to slum population by construction of additional facilities. After the completion of the project period, the end line evaluation of the project was undertaken. The Ministry of Health and Family Welfare, Government of India, commissioned the National

Institute of Medical Statistics; formerly known as Institute for Research in Medical Statistics (ICMR) as the nodal agency for carrying out the end line evaluation of the programme.

31. Poverty alleviation programs

The poverty alleviation programs of the government in the post-economic reform era to evaluate the contribution of these programs towards reducing poverty in the country.

The poverty alleviation programs are classified into *(i)* self-employment programs; *(ii)* wage employment programs; *(iii)* food security programs; *(iv)* social security programs; and *(v)* urban poverty alleviation programs. The parameter used for evaluation included utilization of allocated funds, change in poverty level, employment generation and number or proportion of beneficiaries. The paper attempts to go beyond the economic benefit of the programs and analyzes the social impact of these programs on the communities where the poor live, and concludes that too much of government involvement is actually an impediment. On the other hand, involvement of the community, especially the poor has led to better achievement of the goals of the programs.

Such endeavours not only reduced poverty but also empowered the poor to find their own solutions to their economic problems. There is a need for decentralization of the programs by strengthening the panchayat raj institutions as poverty is not merely economic deprivation but also social marginalization that affects the poor most.

32. National water supply and sanitation programme

Water supply and sanitation were added to the national agenda during the first five-year planning period (1951-1956).

The Ministry of Water Resources (MoWR) drafted a National Water Policy in 1987 to guide the planning and development of water resources throughout the country.

The policy included several recommendations, which were subsequently adopted by the states. The recommendations focussed on the need for introducing

(i) water resource management and according domestic water supply the highest priority (ii) design standards for groundwater structures to protect groundwater sources

(iii) water quality monitoring and mapping, and (iv) data management and valuation. The 1987 policy has been recently revised and the National Water Policy 2002 has now been adopted, once again according primacy to drinking water. While states have been asked to formulate state water polices based on this within the next two years, some states such as Karnataka, Madhya Pradesh, Orissa, Rajasthan and Tamil Nadu have already drafted state policies based on the new national policy.

The national policy guiding the water and sanitation sector in India today is contained in the Eighth Five-Year Plan

(1992-97), which states: "Safe drinking water and basic sanitation are vital human needs for health and efficiency [given that] death and disease, particularly of children and the drudgery of women are directly attributable to the lack of these essentials." High priority was given to serving villages that did not have adequate sources of safe water and to improving the level of service for villages classified as only partially covered. The Eighth Five-Year

Plan also identified several points of emphasis including management of water as a commodity, delivery of water services based on principles of effective demand, standards of service corresponding to the level that users are willing to maintain, etc. The Ninth and Tenth Plan broadly follow the directions set by the Eighth Plan.

33. National program for improved chulha

During 1984—85, Ministry of Non-Conventional Energy Sources (MNES), Govt. of India launched a National Programme on Improved CHULHAS (NPIC) in view of conservation of wood-fuel and reduction of smoke from kitchens of rural India. Improved chulhas are wood-stoves designed through continuous research. The traditional chulhas have an efficiency of only 8 to 10 per cent whereas improved chulhas have a minimum thermal efficiency of 20 to 25 per cent. Thus, an improved chulha produces more energy and consumes less wood without producing much smoke and ash.

The National Programme on Improved Chulha had popularized only durable chulhas having a potential life span of at least 5 years, and provided with a chimney. The reasons for disseminating only such chulhas is that the improved chulhas are costlier than the traditional chulhas and therefore they have to last longer than the average life of just two years of a typical mud chulha, and that the harmful flue gases and smoke are taken out of the house by a chimney.

Because these models are costly, NPIC provides a subsidy to their users. There are however several other chulhas that are being offered outside the NPIC by chulha entrepreneurs and potters in Maharashtra. Some of the popular models are Laxmi, Parvati, Grihalaxmi and Bhagyalaxmi. They are generally made of unburnt clay, but the same models can also be fired or made by using cement concrete.

An improve wood-stove ensures quality and durability of improved chulhas, the Bureau of Indian Standards (BIS) has introduced ISI marking scheme on these chulhas. About 35.2 million improved wood stoves have been installed in rural homes so far.

Chapter 3

Results and Findings

The search National Health Programs AND India yielded about 47,700,000 results (0.17 seconds), Public Health Programs AND India yielded about 10,300,000 results (0.25 seconds) and Health programs India yielded about 11,000,000 results (0.26 seconds).

The diagram below represents the criterion which was adopted for the research. The search was performed on the Google search engine as well as pubmed with the three search terms as have been previously described. A total of 60 websites were retrieved, based on the criterion to retrieve first twenty websites for each search term. Thus convenience sampling method was adopted.

Exclusion criterion consisted of removing repetitive, non operation links or the sites with no relevant information regarding the national health programs. The inclusion criterion consisted of including the websites which were in English and which contained information about the national health programs in India.

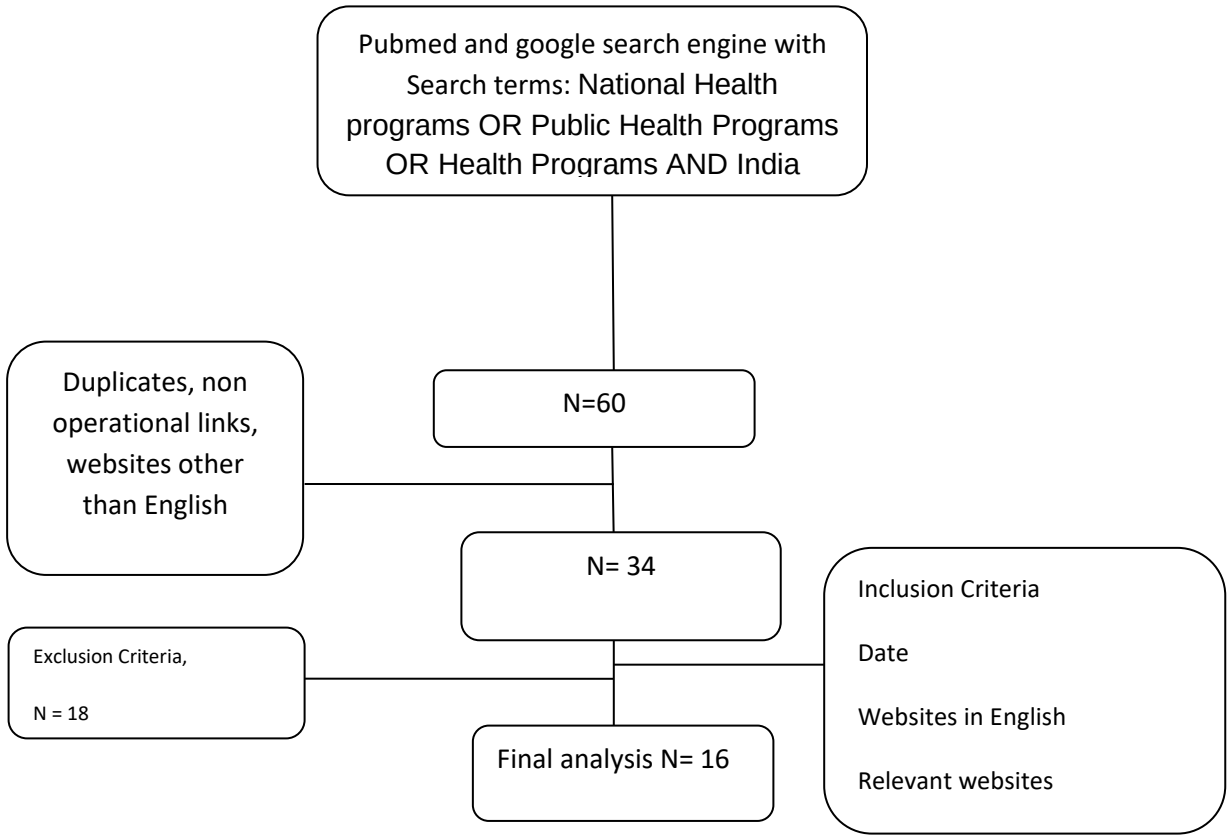
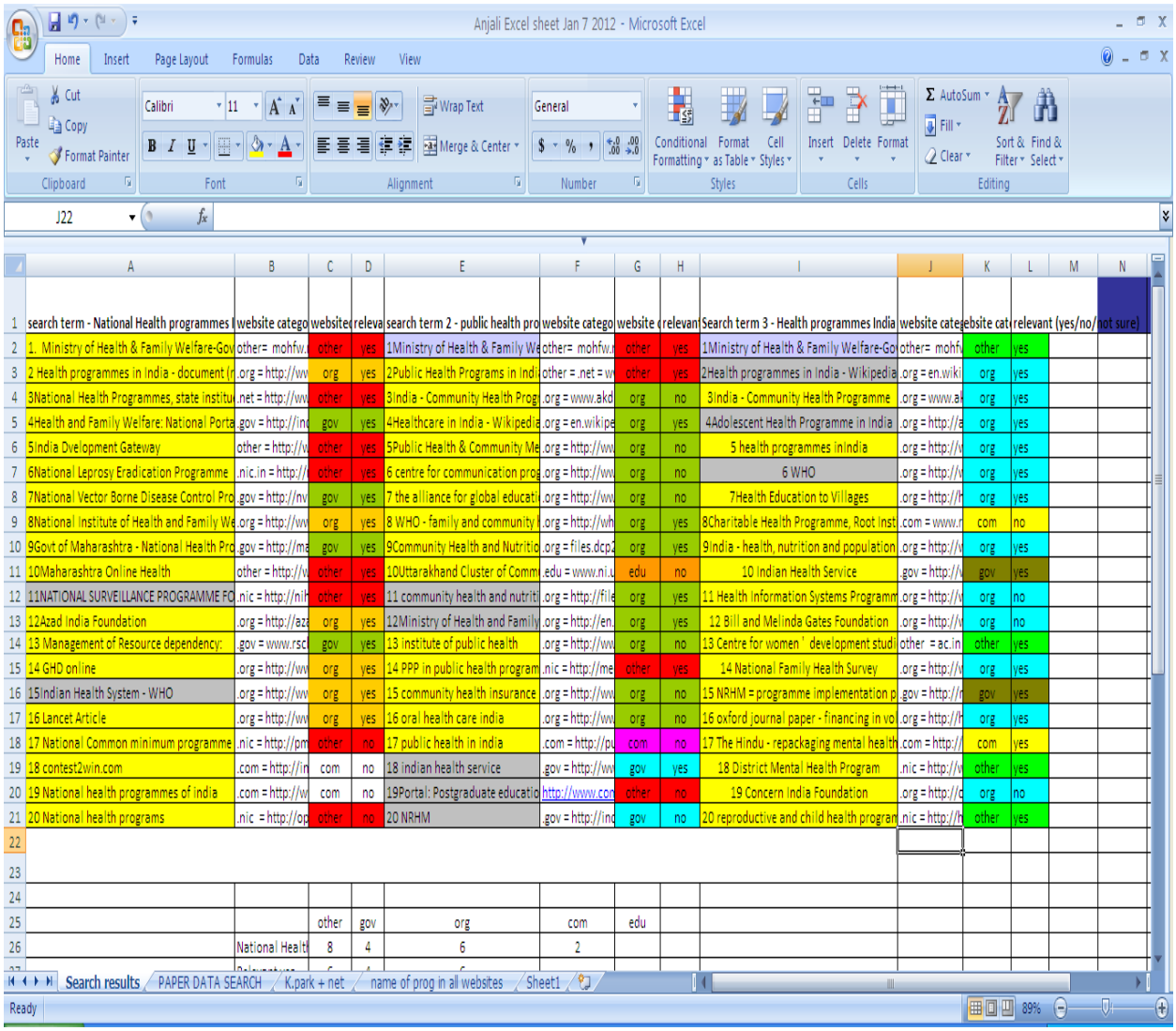


Figure 3: diagrammatic representation of the findings of the study and the selection criteria adopted for the online health sources for the study



search term - National Health programmes I	website catego	website	releva	search term 2 - public health pro	website catego	website	relevant	Search term 3 - Health programmes India	website cate	website cat	relevant (yes/no/	not sure)
1. Ministry of Health & Family Welfare-Gov	other= mohfw.i	other	yes	1Ministry of Health & Family We	other= mohfw.r	other	yes	1Ministry of Health & Family Welfare-Gov	other= mohfv	other	yes	
2 Health programmes in India - document (r	.org = http://ww	org	yes	2Public Health Programs in Indi	other = .net = w	other	yes	2Health programmes in India - Wikipedia	.org = en.wiki	org	yes	
3National Health Programmes, state institu	.net = http://ww	other	yes	3India - Community Health Prog	.org = www.akd	org	no	3India - Community Health Programme	.org = www.al	org	yes	
4Health and Family Welfare: National Porta	.gov = http://in	gov	yes	4Healthcare in India - Wikipedia	.org = en.wikipe	org	yes	4Adolescent Health Programme in India	.org = http://a	org	yes	
5India Dvelopment Gateway	other = http://w	other	yes	5Public Health & Community Me	.org = http://ww	org	no	5 health programmes inIndia	.org = http://w	org	yes	
6National Leprosy Eradication Programme	.nic.in = http://	other	yes	6 centre for communication prog	.org = http://ww	org	no	6 WHO	.org = http://w	org	yes	
7National Vector Borne Disease Control Pro	.gov = http://nv	gov	yes	7 the alliance for global educati	.org = http://ww	org	no	7Health Education to Villages	.org = http://h	org	yes	
8National Institute of Health and Family We	.org = http://ww	org	yes	8 WHO - family and community h	.org = http://wh	org	yes	8Charitable Health Programme, Root Inst	.com = www.r	com	no	
9Govt of Maharashtra - National Health Pro	.gov = http://ma	gov	yes	9Community Health and Nutritio	.org = files.dcp2	org	yes	9India - health, nutrition and population	.org = http://w	org	yes	
10Maharashtra Online Health	other = http://w	other	yes	10Uttarakhand Cluster of Comm	.edu = www.ni.u	edu	no	10 Indian Health Service	.gov = http://w	gov	yes	
11NATIONAL SURVEILLANCE PROGRAMME FO	.nic = http://nih	other	yes	11 community health and nutriti	.org = http://fil	org	yes	11 Health Information Systems Programm	.org = http://w	org	no	
12Azad India Foundation	.org = http://aza	org	yes	12Ministry of Health and Family	.org = http://en.	org	yes	12 Bill and Melinda Gates Foundation	.org = http://w	org	no	
13 Management of Resource dependency:	.gov = www.rsc	gov	yes	13 institute of public health	.org = http://ww	org	no	13 Centre for women ' development studi	other = ac.in	other	yes	
14 GHD online	.org = http://ww	org	yes	14 PPP in public health program	.nic = http://me	other	yes	14 National Family Health Survey	.org = http://w	org	yes	
15Indian Health System - WHO	.org = http://ww	org	yes	15 community health insurance	.org = http://ww	org	no	15 NRHM = programme implementation p	.gov = http://r	gov	yes	
16 Lancet Article	.org = http://ww	org	yes	16 oral health care india	.org = http://ww	org	no	16 oxford journal paper - financing in vo	.org = http://h	org	yes	
17 National Common minimum programme	.nic = http://pm	other	no	17 public health in india	.com = http://p	com	no	17 The Hindu - repackaging mental health	.com = http://w	com	yes	
18 contest2win.com	.com = http://in	com	no	18 indian health service	.gov = http://ww	gov	yes	18 District Mental Health Program	.nic = http://w	other	yes	
19 National health programmes of india	.com = http://w	com	no	19Portal: Postgraduate educatio	http://www.co	other	no	19 Concern India Foundation	.org = http://c	org	no	
20 National health programs	.nic = http://op	other	no	20 NRHM	.gov = http://inc	gov	no	20 reproductive and child health progran	.nic = http://h	other	yes	
		other	gov	org	com	edu						
	National Healt	8	4	6	2							

Figure 4: the search results – 60 websites selected across all the search terms

The above figure represents the list of 60 websites which were selected based on convenience sampling. The categorization was done based on the relevance of the website, the website category being .org, .com, .nic, other.

Analysis and Interpretation

Search Term	Name of the Website	Website Link	Website Category
NHP-India	Ministry of Health & Family Welfare-Government of	mohfw.nic.in/	.nic
NHP-India	Health and Family Welfare: National Portal of India	http://india.gov.in/sectors/health_family/index.php	.gov
NHP-India	India Development Gateway	http://www.indg.in/health/national_health_program	other
NHP-India	National Leprosy Eradication Programme	http://nlep.nic.in/about.html	.nic
NHP-India	National Vector Borne Disease Control Programme	http://nvbdcp.gov.in/	.gov
NHP-India	National Institute of Health and Family Welfare	http://www.nihfw.org/NDC/Services.html	.org
NHP-India	Govt of Maharashtra - National Health Programmes	http://maha-arogya.gov.in/programs/default.htm	.gov
NHP-India	Maharashtra Online Health	http://www.maharashtraonline.in/Health/Health-Pr	other
NHP-India	Azad India Foundation	http://azadindia.org/social-issues/maternal-health-i	.org
NHP-India	GHD online	http://www.ghdonline.org/drtb/resource/revised-na	.org
NHP-India	National health programs	http://openmed.nic.in/view/subjects/N03.349.550.ht	.nic
PHP-India	NRHM	http://india.gov.in/spotlight/spotlight_archive.php?i	.gov
HP-India	India - health, nutrition and population	http://www.worldbank.org.in/WBSITE/EXTERNAL/CO	.org
HP-India	The Hindu - repackaging mental health programmes	http://www.thehindu.com/opinion/lead/article8670	.com
HP-India	District Mental Health Program	http://www.nimhans.kar.nic.in/dmhp/default.htm	.nic
HP-India	Reproductive and child health programmes	http://healthmizoram.nic.in/rch.htm	.nic

Table 1: Categorization of the 16 websites selected after final analysis

Finally 16 websites were selected as per the study design and research criterion.

The search term National Health Program India yielded 11 relevant websites.

From these websites 3 belonged to .nic category, 3 belonged to .gov category, 3 belonged to .org category, 2 belonged to other category.

The search term Public Health Program India yielded one relevant website belonging to the category .gov.

The search term Health Program India yielded 4 relevant websites. 2 belonged to .nic category, 1 to .org and 1 to .com.

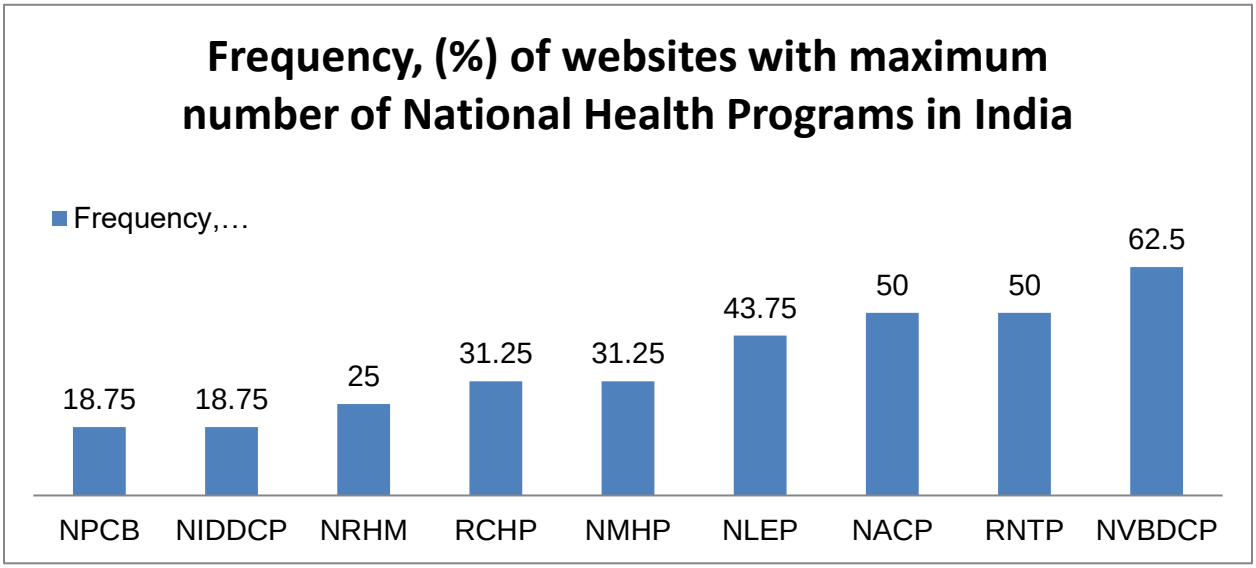


Figure5: Frequency of the websites presenting information about the common National Health Programs in India

The above figure shows the frequency of the websites presenting information about the National Health Programs based upon the frequency of the information about each specific program. The National Vector Borne Disease Control Program (NVBDCP) has the highest frequency of occurrence with a frequency of 62.5%. The programs Revised National Tuberculosis Control Program (RNTCP) and National Aids Control Program (NACP) are having 50% frequency each in the websites considered for the study. The National Program for Control of Blindness (NIPCB) and National Iodine Deficiency Disorder Control Program (NIDDCP) has the least frequency of 18.75%

Table 2: the table shows the percentage of different national health programs across the website categories selected.

	website category	Percentage of national health programs	fifty percent and above
1	other	54.55	1
2	other	36.36	0
3	other	4.55	0
4	other	27.27	0
5	other	9.09	0
6	other	31.82	0
7	other	4.52	0
	Total	24.02286	
8	gov	13.64	0
9	gov	4.55	0
10	gov	45.45	0
11	gov	0	0
	Total	15.91	
12	org	9.09	0
13	org	4.55	0
14	org	13.64	0
15	org	22.73	0
	Total	12.5025	
16	com	4.55	0
	Total	4.55	

The table above shows the percentage of the information about the national health programs according to the website categories. First the websites were grouped based on their categories being “other”, “gov”, “org” and “com”. Then the percentage of the information about the national health programs in each website category was calculated. The “total” represents the percentage of the information about the national health program across a particular category.

Table 3: the table shows the percentage of the different national Health Programs across different websites selected and the respective Search term which was used

Search Term	Name of the Website	Website link	Website category	Frequency % of the program
NHP-India	Ministry of Health & Family Welfare- Government of India	mohfw.nic.in/	.nic	54.55
NHP-India	Health and Family Welfare: National Portal of India	http://india.gov.in/sectors/health_family/index.php	.gov	13.64
NHP-India	India Development Gateway	http://www.indg.in/health/national_health_programs/	other	36.36
NHP-India	National Leprosy Eradication Program	http://nlep.nic.in/about.html	.nic	4.55
NHP-India	National Vector Borne Disease Control Program	http://nvbdcp.gov.in/	.gov	4.55
NHP-India	National Institute of Health and Family Welfare	http://www.nihfw.org/NDC/Services.html	.org	9.09
NHP-India	Govt of Maharashtra -	http://maha-arogya.gov.in/programs/def	.gov	45.45

	National Health Programs	ault.htm		
NHP-India	Maharashtra Online Health	http://www.maharashtraonline.in/Health/Health-Programs.aspx	other	27.27
NHP-India	Azad India Foundation	http://azadindia.org/social-issues/maternal-health-in-india.html	.org	4.55
NHP-India	GHD online	http://www.ghdonline.org/drtb/resource/revised-national-tuberculosis-control-program-of/	.org	13.64
NHP-India	National health programs	http://openmed.nic.in/view/subjects/N03.349.550.html	.nic	9.09
PHP-India	NRHM	http://india.gov.in/spotlight/spotlight_archive.php?id=14	.gov	0
HP-India	India - health, nutrition and population	http://www.worldbank.org.in/WBSITE/EXTERNAL/COUNTRIES/SOUTHASIAEXT/INDIAEXTN/0,,contentMDK:21461176~pagePK:141137~piPK:141127~theSitePK:295584,00.html	.org	22.73
HP-India	The Hindu - repackaging mental health programs	http://www.thehindu.com/opinion/lead/article867064.ece	.com	4.55
HP-India	District Mental Health Program	http://www.nimhans.kar.nic.in/dmhp/default.htm	.nic	4.55
HP-India	Reproductive and child health programs	http://healthmizoram.nic.in/rch.htm	.nic	31.82

The above table represents the frequency of the national health programs based on the search terms and website categories. The table shows the names of the websites and their links. The percentage of the information about the national health programs has been calculated based on the "search terms" and the "website categories". This led to the conclusion that which search terms are most relevant when finding information about National Health programs. As well as the website categories which have the most information about the national health programs. Thus, facilitating the search procedure to be followed by the relevant stakeholders. Further it is aimed to facilitate the design of a relevant online resource based on the website category which is having the most relevant information.

Chapter 4

Discussion

Public health programs in India have been launched by the Government of India with the aim to improve the health indicators, to meet the healthcare needs of the masses and to facilitate appropriate utilization of the financial and other resources.

The common end user will benefit by the accurate information availability of the programs.

Use of internet as a tool to disseminate information about public health program:

Internet has become an increasingly popular healthcare information resource. At the same time it is a powerful tool as it has great penetration and scalability. Large amount of detailed information is easily available on the internet. It has been found through a survey that a third of the web surfers are searching for health information.

The Internet offers widespread access to health information, and the advantages of interactivity, information tailoring and anonymity. However, access is inequitable and use is hindered further by navigational challenges due to numerous design features (e.g. disorganization, technical language and lack of permanence).

The motivation behind our study was the finding that the ability to obtain accurate, quick and convenient online information about various public health programs will present an opportunity for better informed decision making and greater participation in the adoption of these programs. However there is very little information regarding the sufficiency, completeness and accuracy of the information which is available, to support the decision making by the stakeholders.

Moreover searching for valid information on the internet can be difficult because of the speed and lack of control with which the information is accumulating.

Tools such as internet directories, indexes, and search engines assist those searching for information regarding the national health programs particularly on the World Wide Web. Finding information that is applicable and credible may present a greater challenge than just searching for information.

The individual's risk of encountering an inadequate site on the web is a function of both the proportion of inadequate information on the web and the inability of the individual to filter the inadequate sites. However, national health programs related online information has been shown to contain inconsistencies, indicating a need to provide reliable, interactive, structured, evidence based source of the information.

Besides online information source there are several other mediums which could be used to information dissemination such as TV, radio, newspaper, information campaigns organized at schools, public health centres, regularly published newsletter. The literature review revealed that Internet-based information dissemination has been recognized to be the best and the handiest tool for information processing**.** Thus an IT based solution is being proposed as through such a solution each stakeholder can access information based on their needs.

Every stakeholder must get equal opportunity to access of information and information must be provided systematically and, as a whole, be easy to understand. The correctness of information about national health programs is critical in order to increase its trustworthiness.

Three factors crucial to the integrity of a website are the information quality, the content of the information and its readability.

Further the literature reviewed suggests that the credibility of the information can also be decided based upon:

The relationship between topic knowledge, source expertise, and perceived credibility of the message. The level of source expertise (i.e., high, moderate, and low), and content knowledge (i.e., an unknown topic and a known topic) with the user are the most relevant criteria.

New strategies and policies need to be developed to help stakeholders access relevant and credible health information.

To help them use such information to make informed health-related decisions

Chapter 5

Conclusion and Recommendations

The study demonstrates some of the challenges that exist to gather information about the existing health programs in India.

This search showed that there is absence of credible and relevant online information source. Information which is available is outdated at many sites as several new reforms have been made in the field of health programs in India. Information is dispersed, there is absence of a single source with all the relevant information. Information specific to the needs of specific stakeholders is missing.

There is a felt need for information dissemination to relevant stakeholders which has been the motivation for our study. The stakeholders identified for public health programs are: **(more)**

1. Those involved in program operations (government, program managers, program staff, funding agencies),

2. Those served or affected by programs (general public, community members, elected officials, health care systems)

This suggests a need to develop an online source of information that can disseminate information tailored to the needs of diverse group of stakeholders.

Information when provided to the relevant stakeholders will increased awareness and will lead to stakeholder participation and engagement in success of the programs, will increase credibility. Stakeholder's engagement will aid in future planning and investments.

New strategies and policies need to be developed to help stakeholders access relevant and credible health information

To help them use such information to make informed health-related decisions about seeking appropriate health care, resisting avoidable and significant health risks, and promoting their own health

References:

1. A study of undue pain and surfing: using hierarchical criteria to assess website quality *Health Informatics Journal (2008) 14(3): 155-173*
2. Patients retrieving additional information via the Internet: A trend analysis in a Swedish population, 2000--05 *Scand J Public Health (2007) 35(5): 533-539*
3. Agency for Health Care Policy and Research. *(*1999*). Criteria for assessing the quality of health information on the Internet – policy paper. Retrieved Feburary, 2000, from the World Wide Web:* http://www.ahcpr.gov/data/infoqual.htm
4. Global Water Supply and Sanitation Assessment 2000 Report. World Health Organization, United Nations Children's Fund, and Water Supply and Sanitation Collaborative Council, 2000
5. Government Policy and Investment in Water Supply and Sanitation in India. Katailiha, K. P., Shelter, Vol. 5, No.1, HUDCO and HSMI, January 2002.
6. State of the world's children. New York, United Nations Children's Fund, 2000.
7. Groundwater Regulation and Management. South Asia Rural Development Series, The World Bank and Allied Publishers, New Delhi, 1999
8. Trevor J.B. Dummer, Ian G. Cook Health in China and India: A cross-country comparison in a context of rapid globalization, *Social Science & Medicine, Volume 67, Issue 4, August 2008, Pages 590-605*
9. Ashok Vikhe Patil, K. V. Somasundaram, R. C. Goyal, Australian Journal of Rural Health, Volume 10, Issue 2, pages 129–135, April 2002
10. Geneva: WHO; 2006. [Last cited on 2010 Oct 15]. World Health Organization. THE GLOBAL PLAN TO STOP TB 2006-2015: PART I Strategic directions. Available from: http://www.searo.who.int/LinkFiles/TB_Day_Kit_The_Global_Plan_to_Stop_TB_2006-2015.pdf .
11. World Health Organization. Joint TB Programme Review-India: WHO, SEARO-TB-224. Geneva: WHO; 2000.
12. WHO. Life in the 21st century. A vision for all. The World Health Report 1998:5.

13. WHO. Epidemiology and prevention of cardiovascular diseases in elderly people. Technical report series 1995; 853, 5,2-3,21.
14. Kumar V. Aging in India. Indian J Med Res 1997;106:257-64.
15. Directorate of census operation. Census of India. General population tables and primary abstract. Part II-A and II-B. Series 28:1991.
16. National family Health programme. Available at http://india.gov.in/sectors/health_family/index.php
17. Gupta MC, Mahajan BK. (Editors). Textbook of preventive and social medicine. 3rd ed. Jaypee. New Delhi. 2003. P.496
18. Niranjan GV, Vasundhra MK. A study of health status of aged persons in slums of urban field practice area, Bangalore. Indian J Com Med 1996;21:1-4.
19. Padda AS, Mohan V, Singh J, et al. Health profile of aged persons in urban and rural field practice area of medical college Amritsar. Indian J Com Med1998;23:72-76.
20. Agarwal A, Advani SH. Anaemia. In: Sharma OP, ed. Geriatric care in India. Geriatrics and gerantology. A textbook. 1st ed. India: A'N' B Publishers Pvt. Ltd, 1999:421-6.
21. Khandekar R, Mohammed AJ, Raisi AA. Prevalence and causes of blindness and low vision: Before and five years after 'VISION 2020' initiatives in Oman: A review. Ophthalmic Epidemiol. 2007;14:9–15.
22. Thulasiraj RD, Nirmalan PK, Ramakrishnan R, Krishnadas R, Manimekalai TK, Baburajan NP, et al. Blindness and vision impairment in a rural south Indian population: the Aravind Comprehensive Eye Survey. Ophthalmology. 2003;110:1491–8.
23. Ministry of Health. Cataract and blindness in Oman (Situation Analysis) Community Health and Disease Surveillance Newletter. 2007;16:4–7.
24. WHO. Hypertension control. Technical report series 1996;862:3.
25. Chadha SL, Radhakrishna S, Ramachandran K, et al. Epidemiological study of coronary heart diseases in rural population in Gurgaon district (Haryana State). Indian J Com Med 1989;14:141-7.
26. Kapil U, Singh C, Nayar D, Saxena N. Status of universal iodization of salt program in selected districts of Madhya Pradesh state. Hlth Popn Persp Issues 1996; 19: 132-136.
27. Elimination of Iodine Deficiency Disorders in South East Asia, World Health Organization, Regional Office for South East Asia, SEA/NUT /138,1997; pp 1-8.

28. National Family Health Survey (MCH and Family Planning), India,1992–1993. Bombay, India, International Institute for Population Sciences, 1995.
29. UN Millennium Development Goals. Available from: URL: http://www.un.org/millenniumgoals/. Accessed September 10, 2005.
30. Khatri GR. DOTS progress in India 1995-2002. Tuberculosis 2003; 83:30-34. http://www.tbcindia.org (Accessed on Aug 9, 2005).
31. Global tuberculosis control: surveillance, planning, financing. WHO report 2005. Geneva, World Health Organization (WHO/HTM/TB/2005.349
32. Chauhan LS. Status Report on RNTCP. Indian J Tuberc 2005; 52: 49.51.
33. Uplekar M, Pathania V and Raviglione M. Private practitioners and public health: weak links in tuberculosis control. Lancet 2001; 358: 912-916
34. *National Rural Health Mission* [Mission Document]. Available from: http://mohfw.nic.in/NRHM/Documents/Mission_Document.pdf [accessed on 12 February 2008.
35. Agarwal S,Taneja S. All Slums are Not Equal: Child Health Conditions among the Urban Poor. Indian Pediatr 2005;42:233-244.
36. National Health Policy-2002. Available from: http://www.mohfw.nic.in. [Last accessed on 2011 Nov 30].
37. Mavalankar D, Vora K. *Changing role of auxiliary nurse midwife in India*. Ahmedabad: Indian Institute of Management; 2007.
38. Mavalankar D, Raman P, Shankar M. *Top management capacity: key constraints in Safe Motherhood Program in India*. Ahmedabad: Indian Institute of Management; 2006.
39. *Maternal Health, National Family Health Survey*, NFHS-3. India: International Institute for Population Sciences; 2006. Chapter 8.
40. Morris, T. A., Guard, J. R., Marine, S. A., Schick, L., Haag, D., Tsipis, G. et al. (1997) Approaching equity in consumer health information delivery: NetWellness. Journal of the American Medical Information Association, 4, 6–13.
41. Wanta, W., & Hu, Y. *(*1994*).* The effects of credibility, reliance, and exposure on media agenda setting: A path analysis model. Journalism Quarterly, 71*(*1*),* 90–98.
42. West, M. D. *(*1994*).* Validating a scale for the measurement of credibility: A covariance structure modeling approach. Journalism Quarterly, 71*(*1*),* 159–168.

43. Wright, J. B. *(*1998*).* Quality connection on the Internet. Healthcare Executive, 13, 44–45.
44. Kim, P., Eng, T. R., Deering, M. J. and Maxfield, A. (1999) Published criteria for evaluating health related web sites: review. British Medical Journal, 318, 647–649.
45. Morris, T. A., Guard, J. R., Marine, S. A., Schick, L., Haag, D., Tsipis, G. et al. (1997) Approaching equity in consumer health information delivery: NetWellness. Journal of the American Medical Information Association, 4, 6–13.
46. Pew Internet and American Life Project (2000a) The Online Health Care Revolution: How the Web helps Americans take Better Care of Themselves. Http://www.pewinternet.org (last accessed 13 February 2002).
47. Robinson, C., Flowers, C. W., Alperson, B. L. and Norris, K. C. (1999) Internet access and use among disadvantaged inner-city patients. Journal of the American Medical Association, 281, 988–989.
48. . Shepperd, S., Charnock, D. and Gann, B. (1999) Helping patients access high quality health information. British Medical Journal, 319, 764–766.
49. Winker, M. A., Flanagin, A., Chi-Lum, B., White, J., Andrews, K., Kennett, R. L. et al. (2000) Guidelines for medical and health information sites on the internet: principles governing AMA web sites. American Medical Association. Journal of the American Medical Association, 283, 1600–1606.
50. Kim P, Eng TR, Deering MJ, Maxfield A. *Published criteria for evaluating health related web sites: review. BMJ 1999; 318: 647–649.*
51. Jadad A, Gagliardi A. *Rating health information on the internet. JAMA 1998; 279: 611–614.*
52. George, A. and Nandraj, S. (1993): 'State of Health Care in Maharashtra: A Comparative Analysis', Economic and Political Weekly, Aug 7, pp-1671-83.
53. Gopalan, C. (1994): 'Challenges to Public Health Systems', Economic and Political Weekly, May 14, pp-1204-9.
54. Ewles L, Simnett I. *Promoting health: a practical guide. London: Scutari Press, 1995.*
55. Smith T. *Information for patients. BMJ 1992; 305: 1242.*
56. Sless D, Wiseman R. *Writing about medicines for people. Canberra: Australian Government Publishing Service, 1997.*

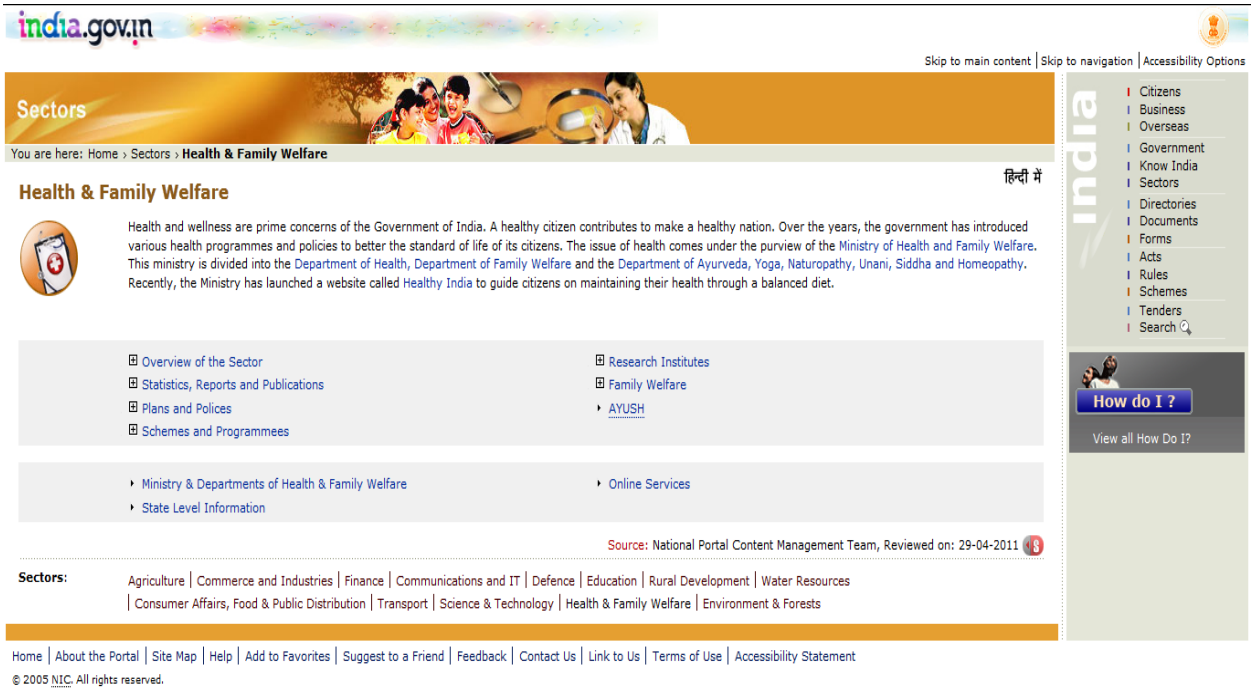
57. Candlin C, Hyland K, Wright P. *Writing and information design of healthcare materials. In: Candlin C, Hyland K, eds. Writing: texts, processes and practices. London: Addison Wesley Longman, 1998.*
58. http://www.mohfw.nic.in/NRHM.htm
59. http://health.cg.gov.in/ehealth/welcome.htm
60. Coulter A. *Evidence based patient information. BMJ 1998; 317: 225–226*

APPENDIX

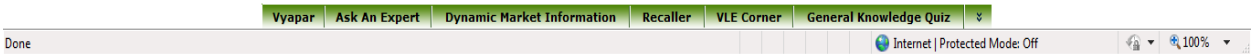
e. Screen shots of the websites included in the study

1. Website name: Ministry of Health & Family Welfare-Government of India
Website Link: mohfw.nic.in/
Website category: other (.nic)

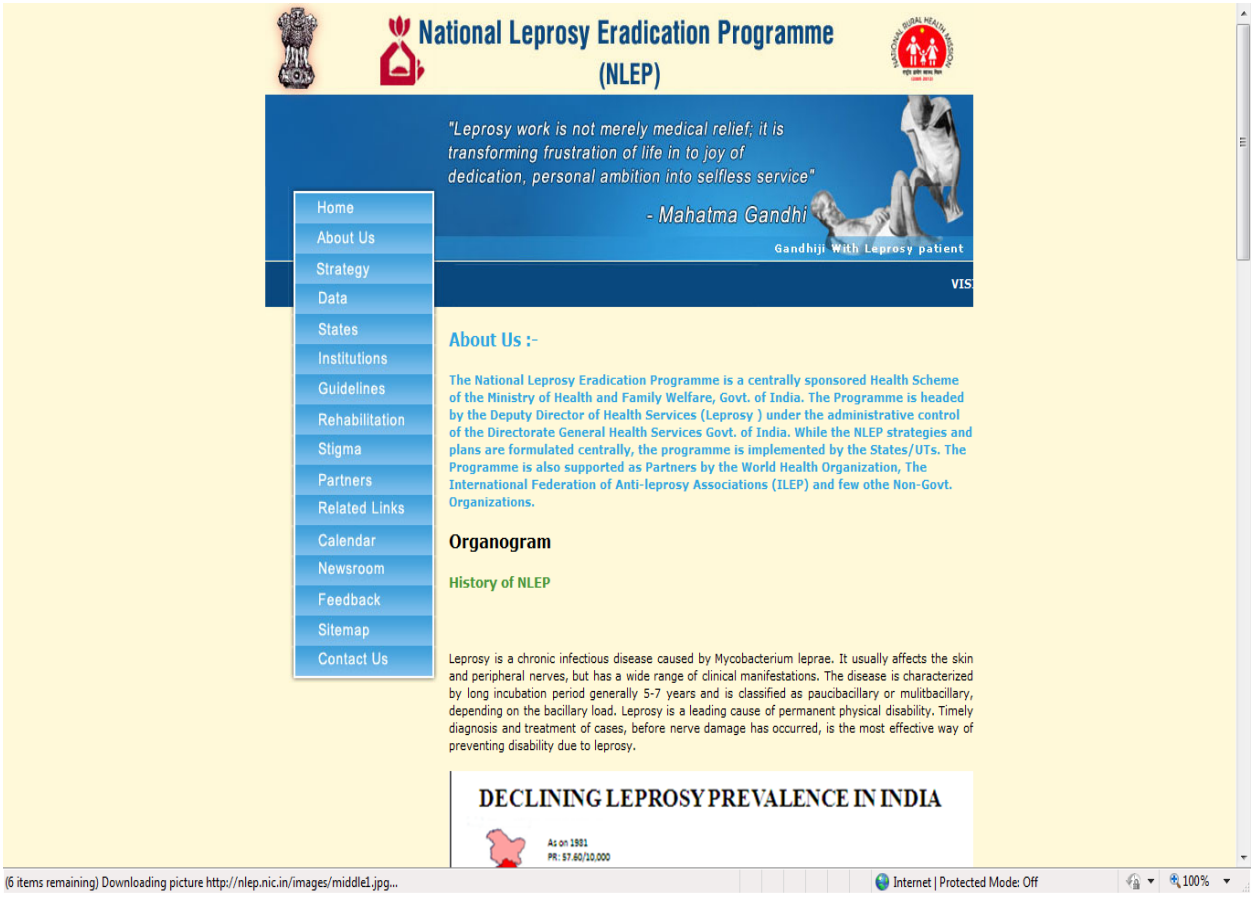
2. **Website name:** Health and Family Welfare: National Portal of India
   Website Link: http://india.gov.in/sectors/health_family/index.php
   Website category: .gov



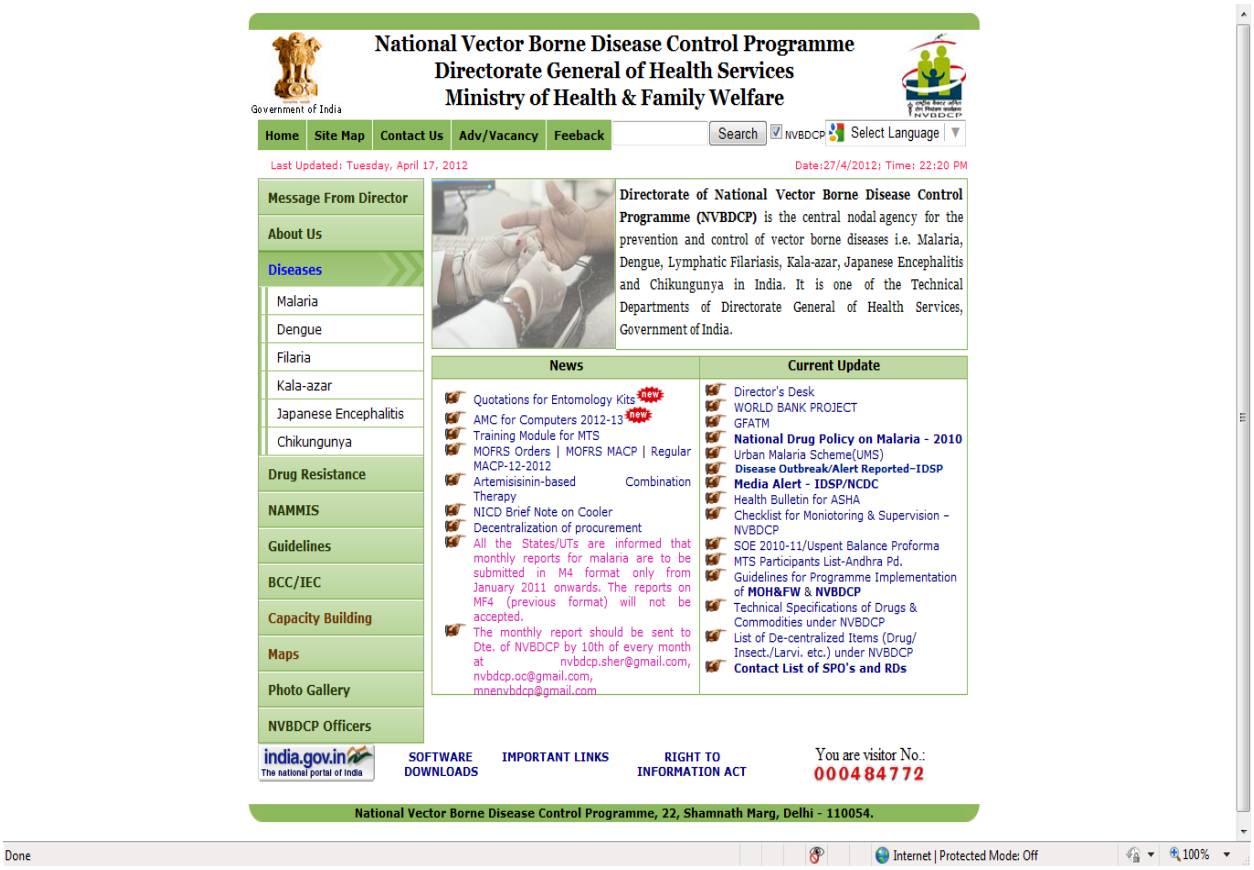
3. **Website name:** Health and Family Welfare: India Development Gateway
   Website Link: http://www.indg.in/health/national_health_programs/
   Website category: other



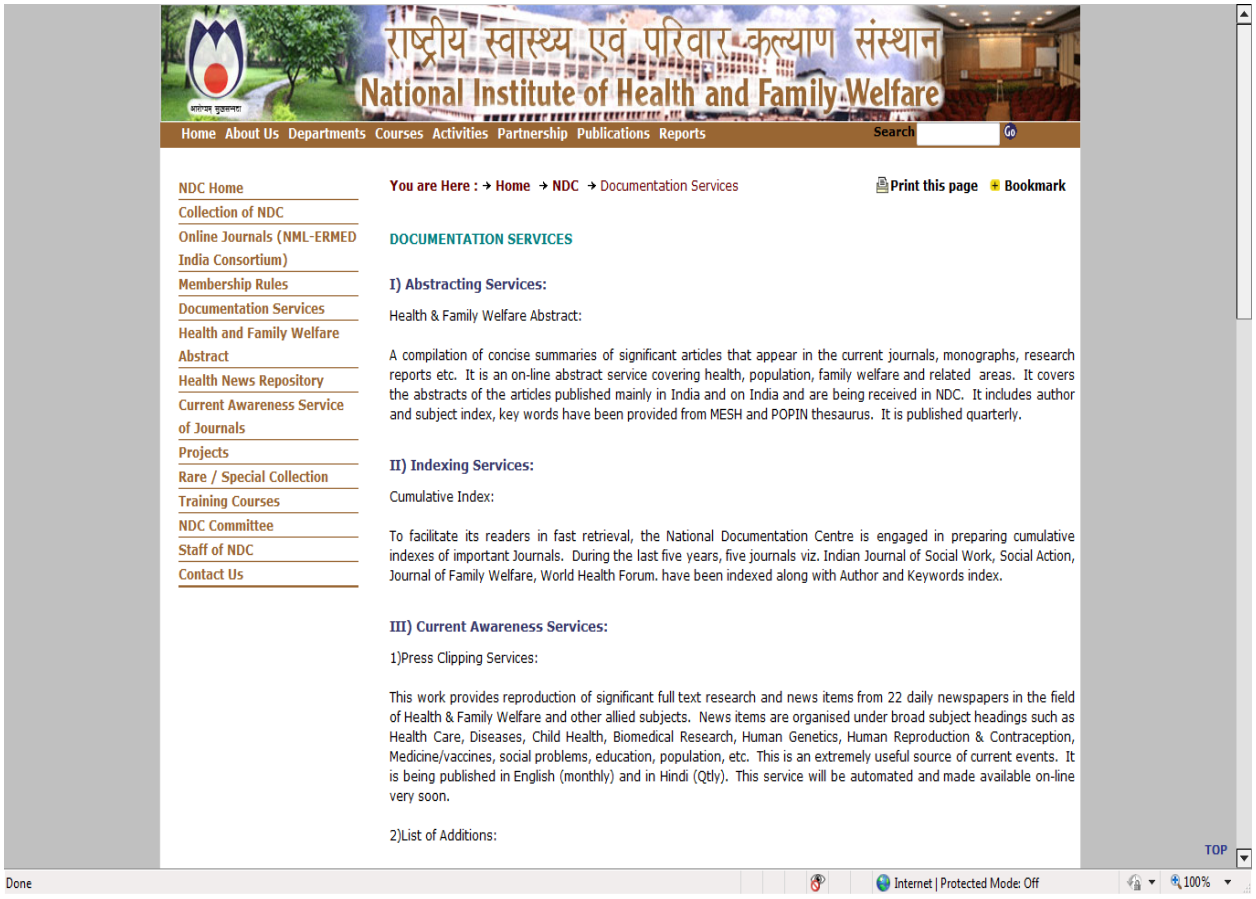
4. Website name: National Leprosy Eradication Program
Website Link: http://nlep.nic.in/about.html
Website category: .nic



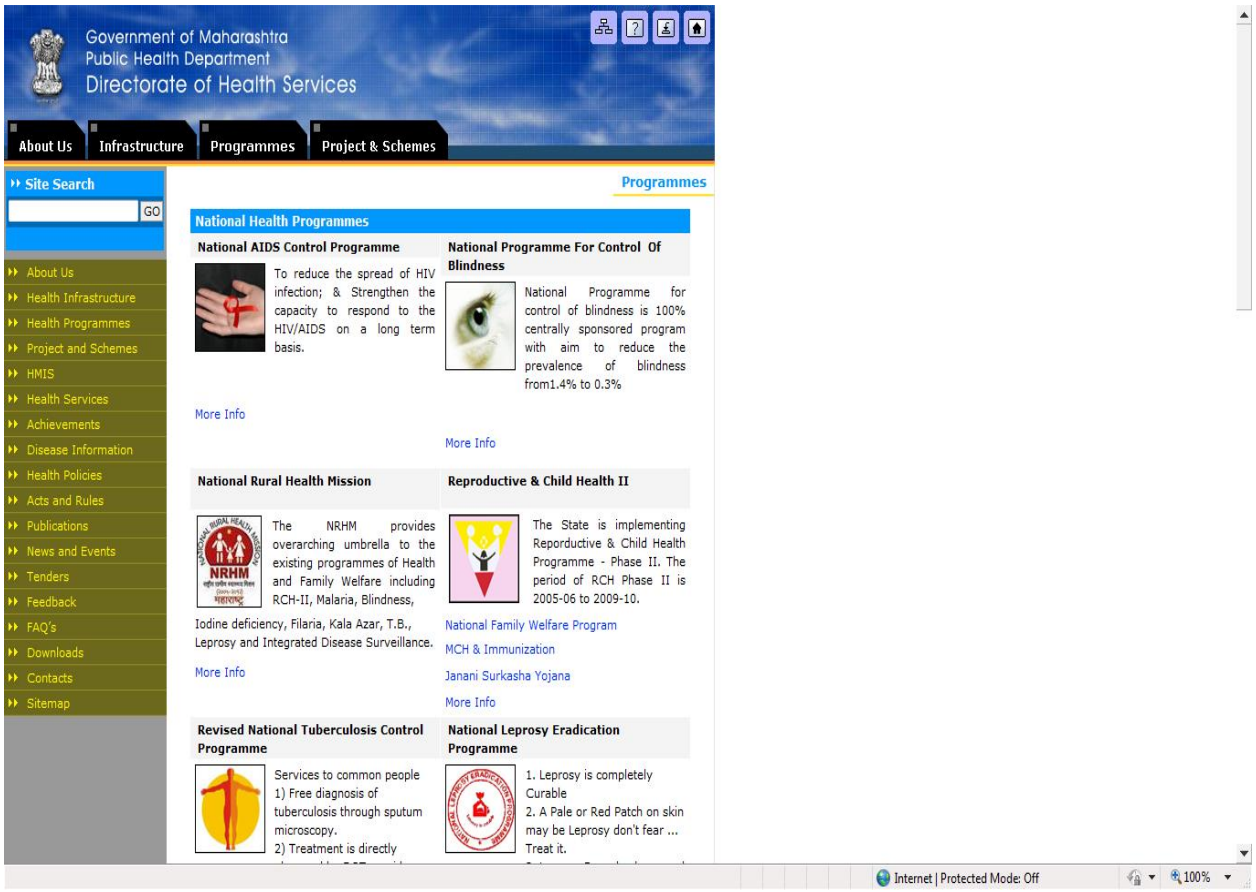
5. **Website name:** National Vector Borne Disease Control Programme
Website Link: http://nvbdcp.gov.in/
Website category: .gov



6. Website name: National Institute of Health and Family Welfare
Website Link: http://www.nihfw.org/NDC/Services.html
Website category: .org

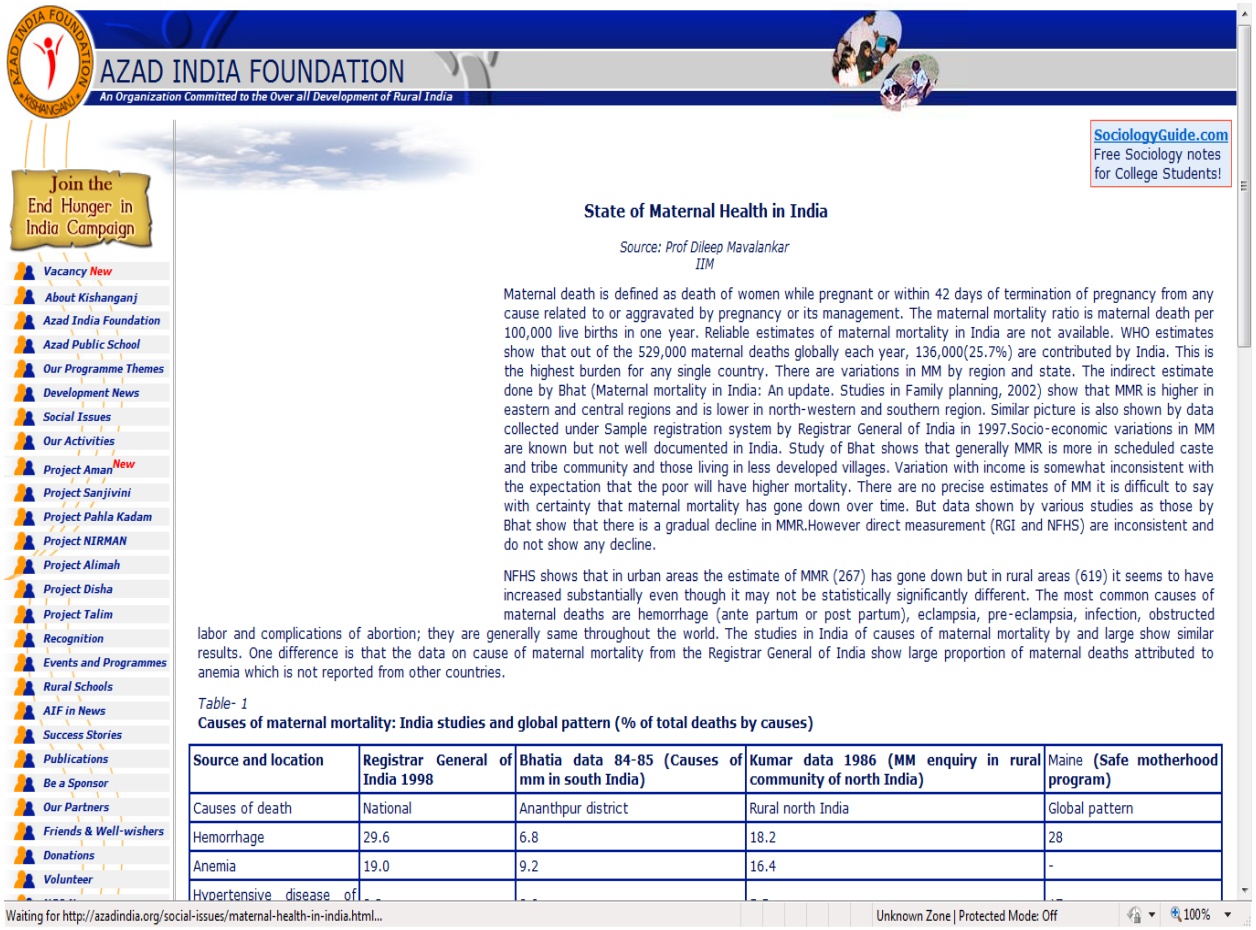


7. **Website name:** Government of Maharashtra - National Health Programs
Website Link: http://maha-arogya.gov.in/programs/default.htm
Website category: .gov



8. Website name: Maharashtra Online Health
Website Link: http://www.maharashtraonline.in/Health/Health-Programs.aspx
Website category: other

9. Website name: Azad India Foundation
Website Link: http://azadindia.org/social-issues/maternal-health-in-india.html
Website category: .org



AZAD INDIA FOUNDATION
An Organization Committed to the Over all Development of Rural India

SociologyGuide.com
Free Sociology notes for College Students!

Join the End Hunger in India Campaign

- Vacancy New
- About Kishanganj
- Azad India Foundation
- Azad Public School
- Our Programme Themes
- Development News
- Social Issues
- Our Activities
- Project Aman New
- Project Sanjivini
- Project Pahla Kadam
- Project NIRMAN
- Project Alimah
- Project Disha
- Project Talim
- Recognition
- Events and Programmes
- Rural Schools
- AIF in News
- Success Stories
- Publications
- Be a Sponsor
- Our Partners
- Friends & Well-wishers
- Donations
- Volunteer

State of Maternal Health in India

Source: Prof Dileep Mavalankar
IIM

Maternal death is defined as death of women while pregnant or within 42 days of termination of pregnancy from any cause related to or aggravated by pregnancy or its management. The maternal mortality ratio is maternal death per 100,000 live births in one year. Reliable estimates of maternal mortality in India are not available. WHO estimates show that out of the 529,000 maternal deaths globally each year, 136,000(25.7%) are contributed by India. This is the highest burden for any single country. There are variations in MM by region and state. The indirect estimate done by Bhat (Maternal mortality in India: An update. Studies in Family planning, 2002) show that MMR is higher in eastern and central regions and is lower in north-western and southern region. Similar picture is also shown by data collected under Sample registration system by Registrar General of India in 1997.Socio-economic variations in MM are known but not well documented in India. Study of Bhat shows that generally MMR is more in scheduled caste and tribe community and those living in less developed villages. Variation with income is somewhat inconsistent with the expectation that the poor will have higher mortality. There are no precise estimates of MM it is difficult to say with certainty that maternal mortality has gone down over time. But data shown by various studies as those by Bhat show that there is a gradual decline in MMR.However direct measurement (RGI and NFHS) are inconsistent and do not show any decline.

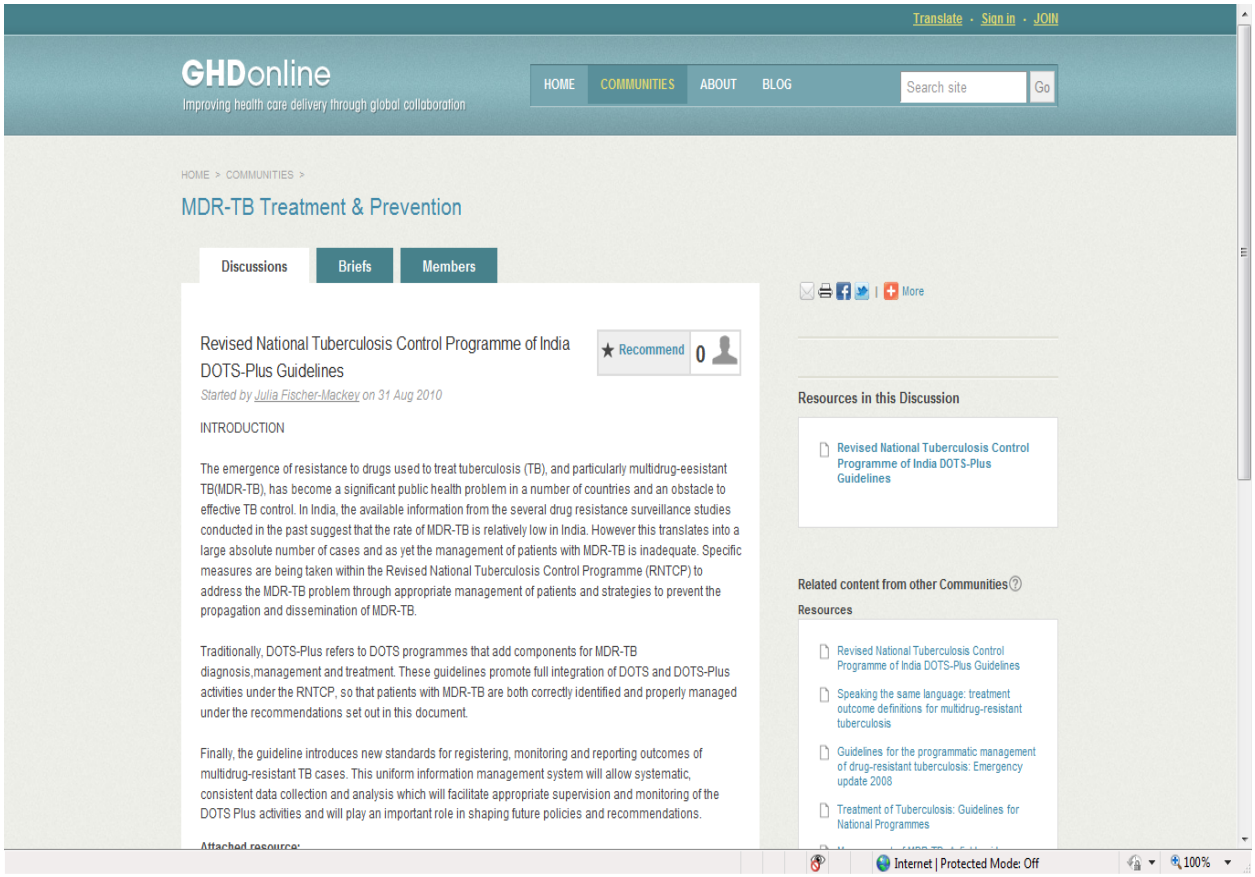
NFHS shows that in urban areas the estimate of MMR (267) has gone down but in rural areas (619) it seems to have increased substantially even though it may not be statistically significantly different. The most common causes of maternal deaths are hemorrhage (ante partum or post partum), eclampsia, pre-eclampsia, infection, obstructed labor and complications of abortion; they are generally same throughout the world. The studies in India of causes of maternal mortality by and large show similar results. One difference is that the data on cause of maternal mortality from the Registrar General of India show large proportion of maternal deaths attributed to anemia which is not reported from other countries.

Table- 1
Causes of maternal mortality: India studies and global pattern (% of total deaths by causes)

Source and location	Registrar General of India 1998	Bhatia data 84-85 (Causes of mm in south India)	Kumar data 1986 (MM enquiry in rural community of north India)	Maine (Safe motherhood program)
Causes of death	National	Ananthpur district	Rural north India	Global pattern
Hemorrhage	29.6	6.8	18.2	28
Anemia	19.0	9.2	16.4	-
Hypertensive disease of				

Waiting for http://azadindia.org/social-issues/maternal-health-in-india.html...
Unknown Zone | Protected Mode: Off
100%

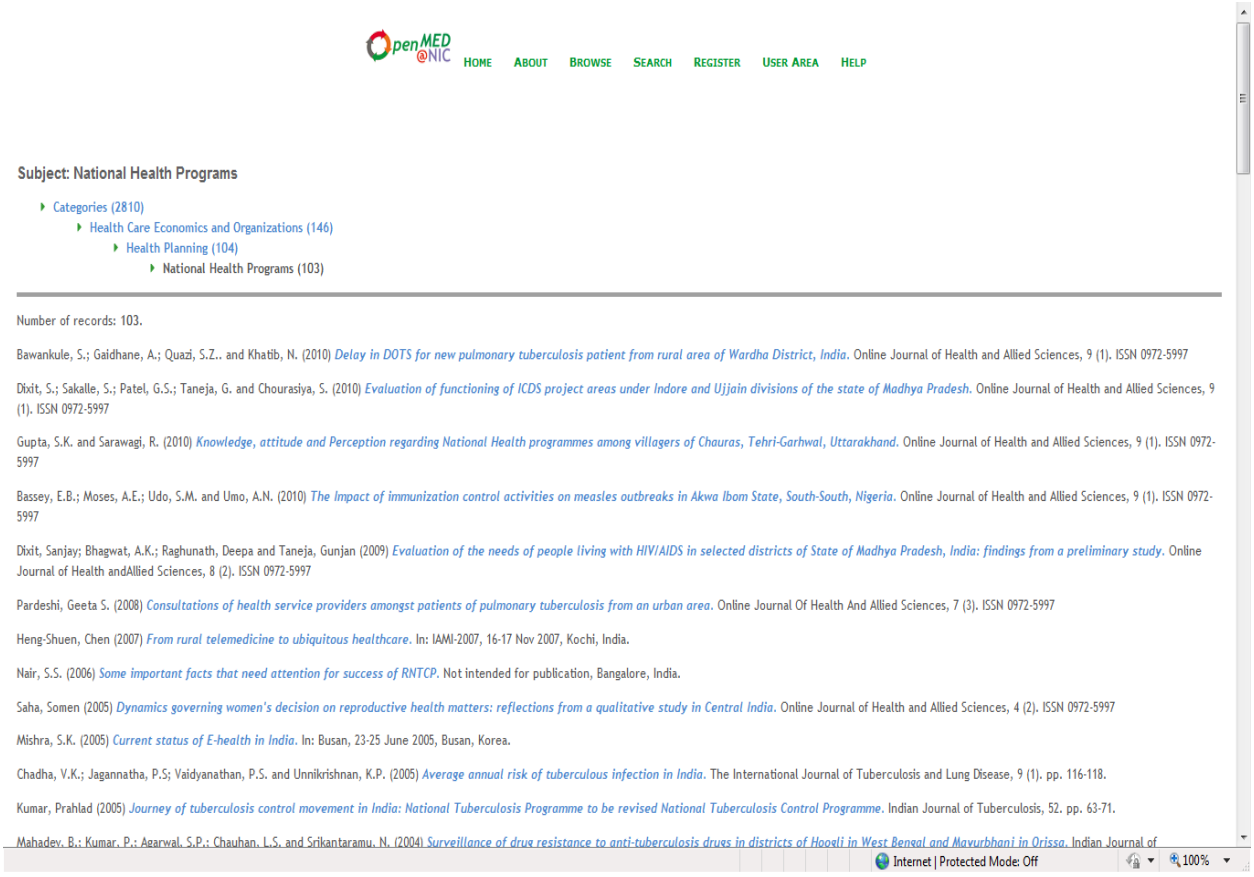
10. Website name: GHD online
Website Link: http://www.ghdonline.org/drtb/resource/revised-national-tuberculosis-control-programme-of/
Website category: .org



11. Website name: National health programs

Website Link: http://openmed.nic.in/view/subjects/N03.349.550.html

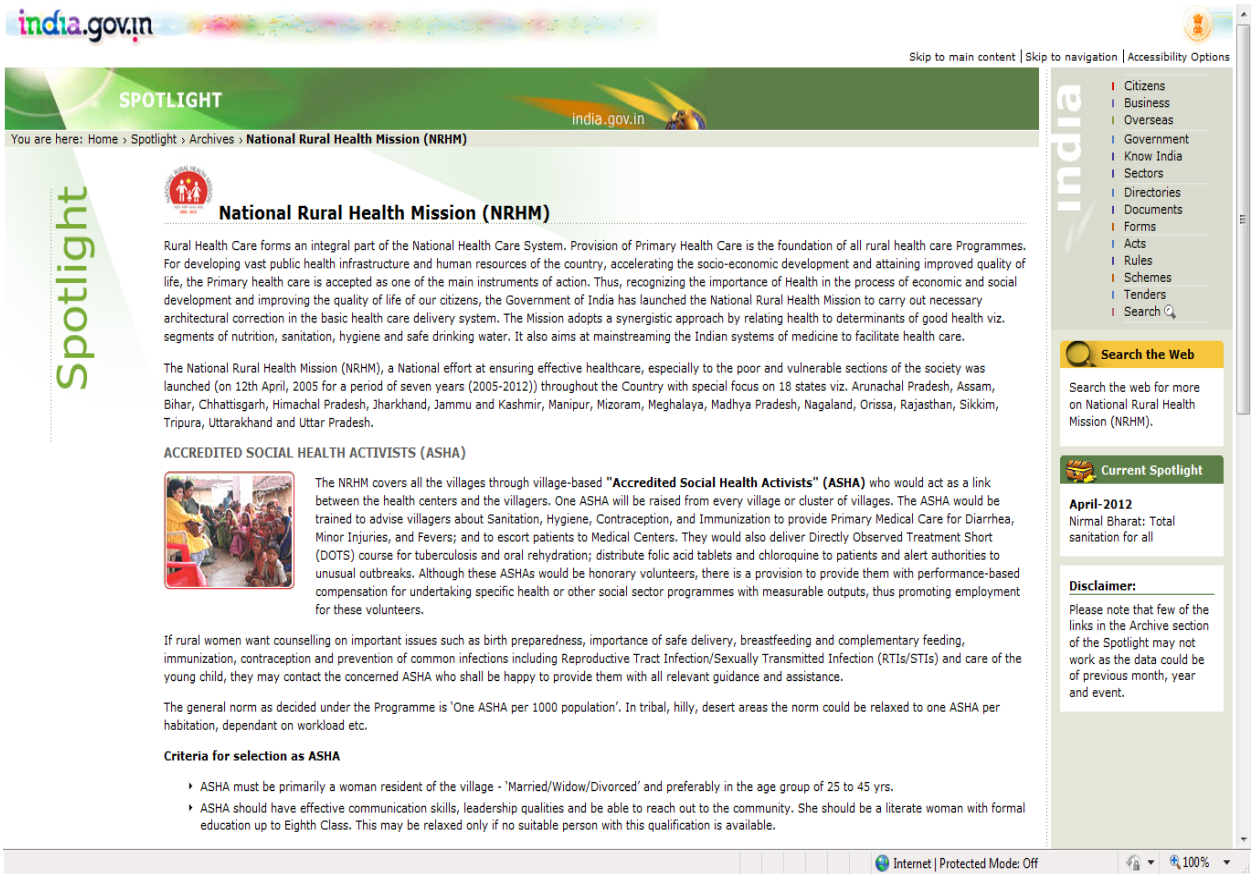
Website category: .nic



12. Website name: NRHM

Website Link: http://india.gov.in/spotlight/spotlight_archive.php?id=14

Website category: .gov

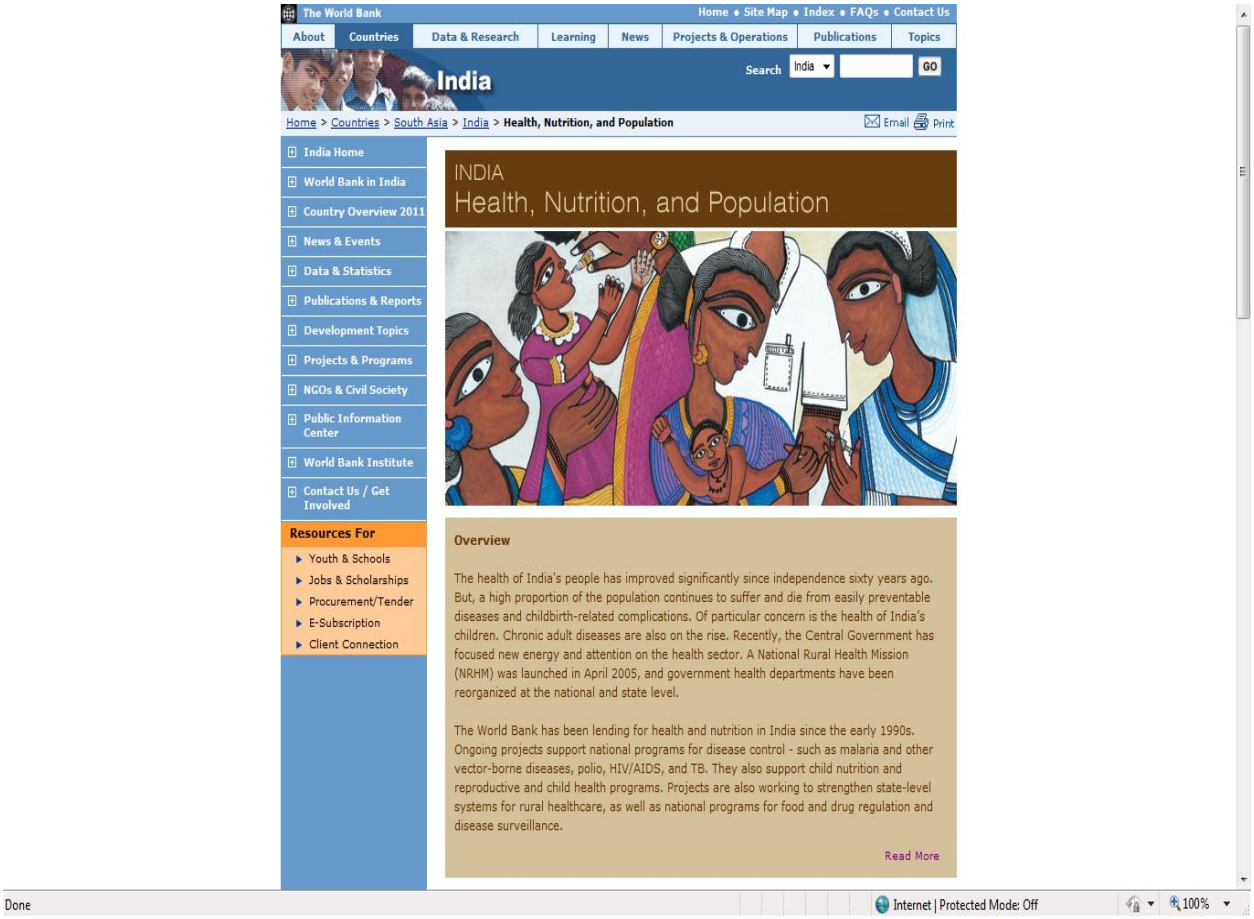


13. Website name: India - health, nutrition and population

Website Link:

http://www.worldbank.org.in/WBSITE/EXTERNAL/COUNTRIES/SOUTHASIAEXT/INDIAEXTN/0,,contentMDK:21461176~pagePK:141137~piPK:141127~theSitePK:295584,00.html

Website category: .org



14. Website name: The Hindu - repackaging mental health programs
Website Link: http://www.thehindu.com/opinion/lead/article867064.ece
Website category: .com

15. Website name: District Mental Health Program
Website Link: http://www.nimhans.kar.nic.in/dmhp/default.htm
Website category: .nic

16. Website name: Reproductive and child health programs
Website Link: http://healthmizoram.nic.in/rch.htm
Website category: .nic

f. Excel sheets

- excel analysis.xlsx

a. List of the 60 websites selected by using the selected Search terms:

releva	search term 2 - public health pro	website category (.com/.edu/.gov/.org/other)	website categ	relevant (yes/no/not	Search term 3 - Health programmes India	website category (.com/.edu/.go	website categ	relevant (yes/no/not sure)
yes	1Ministry of Health & Family We	other= mohfw.nic.in/ = .nic	other	yes	1Ministry of Health & Family Welfare-Gov	other= mohfw.nic.in/ = .nic	other	yes
yes	2Public Health Programs in India	other = .net = www.slideshare.net/drtonythomas/t	other	yes	2Health programmes in India - Wikipedia	.org = en.wikipedia.org/wiki/Cate	org	yes
yes	3India - Community Health Progr	.org = www.akdn.org/india_community.asp	org	no	3India - Community Health Programme	.org = www.akdn.org/india_comr	org	yes
yes	4Healthcare in India - Wikipedia	.org = en.wikipedia.org/wiki/Healthcare_in_India	org	yes	4Adolescent Health Programme in India	.org = http://azadindia.org/social	org	yes
yes	5Public Health & Community Me	.org = http://www.cfhi.org/web/index.php/progra	org	no	5 health programmes inIndia	.org = http://www.google.com/u	org	yes
yes	6 centre for communication prog	.org = http://www.jhuccp.org/	org	no	6 WHO	.org = http://www.searo.who.int	org	yes
yes	7 the alliance for global educatio	.org = http://www.allianceglobaled.org/india/pune	org	no	7Health Education to Villages	.org = http://hetv.org/india/inde	org	yes
yes	8 WHO - family and community h	.org = http://whoindia.org/en/section6.htm	org	yes	8Charitable Health Programme, Root Insti	.com = www.rootinstitute.com/h	com	no
yes	9Community Health and Nutritio	.org = files.dcp2.org/pdf/DCP/DCP56.pdf	org	yes	9India - health, nutrition and population	.org = http://www.worldbank.org	org	yes
yes	10Uttarakhand Cluster of Commu	.edu = www.ni.unimelb.edu.au › Regional Activity	edu	no	10 Indian Health Service	.gov = http://www.ihs.gov/nonm	gov	yes
yes	11 community health and nutriti	.org = http://files.dcp2.org/pdf/DCP/DCP56.pdf	org	yes	11 Health Information Systems Programm	.org = http://www.stockholmcha	org	no
yes	12Ministry of Health and Family	.org = http://en.wikipedia.org/wiki/Ministry_of_He	org	yes	12 Bill and Melinda Gates Foundation	.org = http://www.gatesfoundati	org	no
yes	13 institute of public health	.org = http://www.iphindia.org/	org	no	13 Centre for women ' development studi	other = ac.in = http://www.cwds	other	yes
yes	14 PPP in public health programs	.nic = http://medind.nic.in/haa/t08/i1/haat08i1p24	other	yes	14 National Family Health Survey	.org = http://www.nfhsindia.org/	org	yes
yes	15 community health insurance i	.org = http://www.srtt.org/downloads/community	org	no	15 NRHM = programme implementation p	.gov = http://mp.gov.in/health/n	gov	yes
yes	16 oral health care india	.org = http://www.trinitycarefoundation.org/servic	org	no	16 oxford journal paper - financing in volu	.org = http://heapol.oxfordjourna	org	yes
no	17 public health in india	.com = http://publichealth-india.blogspot.com/	com	no	17 The Hindu - repackaging mental health	.com = http://www.thehindu.com	com	yes
no	18 indian health service	.gov = http://www.ihs.gov/index.cfm?module=me	gov	yes	18 District Mental Health Program	.nic = http://www.nimhans.kar.n	other	yes
no	19Portal: Postgraduate educatio	http://www.communityhealth.in/~commun26/wik	other	no	19 Concern India Foundation	.org = http://concernindiafounda	org	no
no	20 NRHM	.gov = http://india.gov.in/spotlight/spotlight_archi	gov	no	20 reproductive and child health program	.nic = http://healthmizoram.nic.i	other	yes

b. Categories of the websites by using the search term -National Health programs India

	other	gov	org	com	edu
National Health programs India	8	4	6	2	
Relevant yes	6	3	6		
Not relevant	2			2	
Relevant not sure					

c. Categories of the websites by using the search term -Public Health programs India

public health programs India	4	2	12	1	1
Relevant yes	3	1	5		
Not relevant	1	1	7	1	1
Relevant not sure					

d. Categories of the websites by using the search term - Health programs India

Health programs India	4	2	12	2	
Relevant yes	4	2	9	1	
Not relevant			3	1	
Relevant not sure					