Health Information System in North East India

Ch. Ibohal Singh

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The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being-thus proclaimed in the constitution of WHO. Sound health helps an individual to lead a socially and economically productive life. Keeping this in view, a number of programmes have been imitated and implemented in India and other countries of the world to achieve the much quoted slogan "Health for All", which is a challenge to the health authorities, planners, professionals, para-professionals and the general public. However, HFA programme cannot effective be implemented unless accurate information is made available to every individual.

Efficient health information raises the level of public health to a large extent, which will be evident only (a) if the healthy are professionals and para-professionals are better informed about their patients, diseases and treatments; (b) when there are improved and better system for epidemiology so that general public will be able to trace the causes of diseases easily; and (c) when people take care of their own health with the support of effective health information system (HIS). Any initiative taken up for health care programme need the support of information systems for their effective implementation.

Several studies are found to be conducted in India and abroad on HIS. However, there is hardly any study available on such system in a particular region like North East India, which will be a significant contribution in the field of Library and Information Science. Health Information System in North East India: A study emphasises on (a) the importance of health and HIS; (b) the heath information studies conducted in India; (c) the health care scenario in North East India, particularly of Manipur (d) the access to HIS by different categories of users; and (f) designing a model of an effective HIS.

The book is expected to contribute in serving the needs of the students, scholars and teachers of Library and Information Science, practicing library and information professionals, health care professionals, para-professionals and particularly medical library professionals.

Contents

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Content

Introduction

Dr. Hiroshi Nakajima, former Director General of WHO once said that **an indispensable factor for equity in health is timely and accurate information**. This accurate health information is needed not only by the health professionals but also by politicians, policy makers, planners and individuals and families in every work of life. The ultimate purpose for the same being overall improvement of the health care delivery system and healthy ways of living. As such access to the information resources is needed to get pin-pointed, relevant and timely information, because information has to play a vital role to make the much quoted slogan **Health For All** (HFA) into a reality. In fact, HFA is the goal of WHO.

Focus on World Summit

While presenting the plan **Natural Health for All by the Year 2020 is Possible**,[1] to the World Summit held in Johannesburg in August 2002, Dr. Matthias Rath had rightly emphasised the importance of health care and health information.

- Health is a basic human right. Every person is entitled to make use of this right without any restriction. Public institutions and private organisations are to be held accountable for providing life-saving health information to the people of the world. The obstruction of the right to essential health information for every one constitutes a crime against humanity.
- The eradication of today's most common health problems is dependent on one factor only: how fast the information about this breakthrough in natural health can be spread. Whilst the scientific knowledge to

combat these diseases effectively is available and the essential nutrients to prevent these health conditions can be produced at low costs, in any quantity, anywhere in the world, the dissemination of this life-saving information to the people of the world is being obstructed.

- The goal "Health for All by the Year 2020" is in sigh. What is needed immediately is a worldwide effort to promote the dissemination of natural health benefits in every country.

The strategic plan gives emphasis on the promotion of accurate and right health care information to every individual of the world. The dissemination of natural health on a worldwide scale would be possible only if the right kind of information is made available throughout the world.

Medical Science: A Historical Perspective

The history of medicine and health care has been considered as the account of man's efforts to deal with human sickness, injuries, illness, etc. from the primitive attempts of preliterate man to the present complex array of specialities and treatments. All known cultures of the past—Egyptian, Babylonian, Jewish, Greek, Indus-Valley, etc. have their own equally glorious and useful systems of medicine and health care.[2] The different medicine/health care system includes—Indigenous Systems of Medicine, Homeopathy, Non-Drug Therapy, Modern System/Allopathy, etc. As traced out by Dixit,[3] in the Orient, one could become a physician by intensive training such as— [i] learning theory and practice of medicine as an apprentice to a teacher by living and working with him in his house; [ii] joining a gurukula, a residential school situated in the forests, away from human habitations; [iii] joining one of the institutes of higher learning at Takshila, Kashi or Nalanda. The period 800 B.C. and 600 A.D. was the classical age of early Indian Medicine. The indigenous systems of medicine have been the part of the cultural heritage and have rendered cost effective and efficacious patient care through the centuries. India is also not an exception to this. The different indigenous systems include: (a) Ayurveda, which was fully developed between

700 B.C., and 1000 B.C.[4]; (b) Siddha; founded by Saints/ Maharishis like Pulastiar, Thirumovar, Chattamuni, Kapilar and Perinarkanar[5]; (c) Unani; (d) Amchi; (e) Tibetan; (f) Tibbi; etc. Homeopathy is the youngest medical science and it has been in the service of mankind for almost two centuries. The system was derived by the great German Physician, Christian Fraderick Samuel Hahnemann in late 18th Century. In this system, the main emphasis is on the remedial agents in illness and in health. There are also some systems of treatments in which no drugs are used for the ailment and curing of diseases. Naturopathy and Yoga are the major non-drug therapies, which are widely applied in many parts of the world. In India, the National Health Policy recognises the role of the Naturopathy and Yoga for promotion of health and prevention of diseases.

Modern system of medicine, also known as allopathy or western or scientific medicine of health care, which advocates therapy with remedies that produce effects differing from those of the disease treated. The origin of the modern allopathic system was found in the Vedic hymns written centuries before the Common Era by East India predecessors of today's Ayurvedic practitioners. Further growth of allopathy was occurred with the keen observations of a few giant figures, including Aretacus of Cappadocia, Hippocrates of Greece and Ibn Sina of Persia. These were aided by the establishment of the great universities at Padua and Paris and their offspring at Cambridge and Oxford. Much later, the universities patterned after these, which were established in the Colonies and in North America, particularly those in Pennsylvania and Massachusetts, aid the evolutionary process.[6] In India, modern allopathic system was first introduced by the Portuguese in the 16th century. According to a 17th century travel account, Albuquerque, founded the Royal Hospital in Goa after its conquest in 1510. In 1591, the hospital was handed over to the Jesuites. In 1703 a rudimentary form of medical training was introduced at the Royal Hospital with Cipriano Valadares as the Master. Well over a century later this resulted in the School of Medicine and Surgery in 1842.[7]

Development of Medical Science

Medical science is a diversified field of study and it has been developed through various stages. The development of medical science in various stages from 1850 to 2000, as depicted by W.L. Barton is being reproduced as in Table 1.1.

To quote Barton: "If this era is to have success there must be a move from the concept of health as being the responsibility of a professional service to a new emphasis on self-reliant health care ...."[8] But in this electronic information era of new millennium with the provision of **Telemedicine Service** healing by wire will certainly occupy a new scene in the health care delivery system (HCDS) breaking the geographical and communication barriers.

The health of a nation is considered as the sum total of the health of its citizens, communities and settlements as well as the overall climate within which the citizens and communities live. According to National Health Policy (NHP), 2002, "to increase utilisation of public health facilities from current level of less than 20 per cent to more than 75 per cent" is one of the goals to be achieved by 2010. Primary Health care is essential health care made universally accessible to individuals and acceptable to them, through their full participation and at a cost the community and the country can afford (The Alma Ata Declaration, 1978). **Any society will be judged by its ability to provide universal health care for its people. This does not merely entail the ability to treat diseases and aliments but also to prevent their onset by means of suitable systems and measures.**[9]

Sound health is a primary consideration for increasing the productivity of the individuals who are also the important contributors to the global development. To implement the much quoted slogan, HFA in reality, is therefore, a challenge to the health authorities, planners and professionals. The HFA programme cannot effectively be implemented unless information regarding health care is made available to every individual (*i.e.* authorities, planners, professionals and target groups) at the right time and at the right place.

Table 1.1: Development of Medical Science up to the year 2000 (From the empirical era to political health science)

Category	Empirical Health Era 1850	Basic Science Era 1900	Clinical Science Era 1950	Public Health Era 1975	Political Health Science Era 2000
Purpose & Philosophy	Symptom-Centred Empirical diagnoses & treatment of symptoms	Bacteria or Disease Centred Diagnoses and Treatment of disease.	Patient-centred diagnoses and treatment of the individual	Community centred diagnosis and treatment of the community	People-centred diagnosis and treatment of total body politic.
Education	Lectures Authoritarian Instruction	Laboratory instruction	Clinical instruction besides teaching	Clinical public health instruction, *community* side teaching	Social experience-learning social and economic understanding. Managerial acumen—political psychology and process. Country health programming, social and economic indices for health development. Subjective indices for quality of life.
Research	Historical	Basic Laboratory *Development of* new tools	Clinical development of clinical techniques	Community development of the community measurements and criteria planning techniques	Inter-sectoral activity process; Network process
Behavioural Science	Unknown	Not needed Individual activity	Ancillary Social Sciences—an adjunct to medicine speciality group necessary	Integrated social sciences sophisticated skill, Co-equal with public health science, Inter-disciplinary team	Inter-related social, health, economic and political sciences, Inter-sectoral team

Source: WHO: World Health, July 1979, p. 14.

The health system in India is centralised at the central government level. However, the state governments have been given autonomy in the 1919 Montague Chelmsford reforms. Each state has its own health care delivery policy. The public health investment in the country over the years has been comparatively low, and the percentage of GDP (Gross Domestic Product) has declined from 1.3 per cent in 1990 to 0.9 per cent in 1999. The aggregate expenditure in health sector is 5.2 per cent of GDP. Out of this, about 17 per cent of aggregate expenditure is public health spending, the balance being out of pocket expenditure. The current annual per capita public health expenditure in the country is not more than Rs. 200. Scarcity of funds affects all health care systems. India is currently spending about 3 per cent GNP on health care as compared to 6 to 12 per cent of developed countries. The annual cost of environmental degradation to the economy is nearly 5 per cent of GDP. Of this, 60 per cent is due to water pollution and nearly 15 per cent to air pollution.

The functioning of Primary Health Care System in the country is not doing well. Even the Ninth Five Year Plan (1997-2002) has admitted it and enlisted a number of factors responsible for inefficient function:

* Persistent gaps in manpower and infrastructure especially at the primary heal care level.
* Sub-optimal functioning of the infrastructure; poor referral services.
* Plethora of hospitals not having appropriate manpower, diagnostic and therapeutic services and drugs, in government voluntary and private sector.
* Massive interstate/interdistrict differences in performance as assessed by health and demography indices; availability and utilisation of services are poorest in the most needy states/districts.
* Sub-optimal inter-sectoral co-ordination.
* Increasing dual diseases because of ongoing demographic, lifestyle and environmental transitions.
* Technological advances which widen the spectrum of possible interventions.

* Increasing awareness and expectations of the population regarding health care services.
* Escalating costs of health care, ever widening gaps between what is possible and what the individual or the country can afford.

N.E. Region and Manipur

Considering the importance of health and its related information and the barriers for information and communication in the North Eastern Region (hereafter, NER) the present study has chosen the states of the region to have a thorough understanding. The region is comprised of eight states including Sikkim occupying nearly 2.56 lakhs sq. kms. areas of the country. It is located in between 90° E Longitude and 22°N-30°N Latitudes. There are about 4 crores of population in the region of which 3.50 crores people live in the rural areas. Manipur, the border state at the North Eastern corner has been taken into consideration to explore the detail about the existing health information system as a case study. Manipur having a long march in her process of nation building with two millennia of recorded history is a mountainous region lying in the eastern most part of India. It is isolated from the neighbouring state by chain of hill ranges. It is a composite state of blue mountains and green valleys. Historically Manipur is one of the oldest kingdoms in the South East Asia and has a recorded history of more than 2000 years supported by various documents and International treatises. Different multi-coloured groups of ethnic communities are inhabited in the state. It is the homeland of the Manipuris, which consist of Meities, Meitei Pangals (Muslims), 29 scheduled tribes, 7 scheduled castes and other unspecified tribes. A small percentage of other communities like Bengalis, Biharis, Jains, Nepalis, Sikhs, etc. are also residing in different pockets of the state. Thus, Manipur is often called a state of pluralistic society. Being the border and hilly state, Manipur has a number of communication and information barriers. The state has an area of 22,327 sq. km. with a small valley encircled by mountainous ranges. The hill area covers an area of 92 per cent of the total area of the state. As per 2001 census, the

total population of Manipur is 28,88,634 out of which 12,07,338 are male and 11,81,296 are female. The state lies between latitudes 23.83°N and 25.68°N and longitudes 93.03°E and 94.78°E. The hilly state of Manipur, being the north eastern corner of India having a number of communication and information barriers has been considered in the present work as a case study for the Health Information System (HIS). In this backdrop, the objectives of the present work are to examine the various health programmes/activities carried out by the Government/non-Government agencies and the requirements of the user communities (both professionals and general masses, the end users) and design a model of HIS, if the situation warrants.

Study on the health scenario of a particular state (as of the present one) is not found in any library and information science literature available. Earlier studies are mainly concentrated, as reviewed, on examining the services of libraries and information centres, information sources and services, collection development, users study, etc. related to health care. However, the investigators of almost all such studies have strongly felt the necessity for an effective HIS in respective field. At the present case study also, the preliminary investigation has directed to draw a hypothesis that the state badly needs the services of an efficient HIS.

Since it is very difficult to cover all the aspects of health information due to various factors, the scope of the present case study has been limited to the general health care information delivery system related to common people. However, an extensive survey has been carried out to ascertain about:

* how the policy makers, health professionals and paraprofessionals collect and use information for what purposes;
* how the information flow from different health care settings to the general masses; and
* how the masses have been benefited from the system.

The present work aims to cover the following aspects of HIS:

* General Health Care Scenario of the North Eastern States.
* Geographical area of the whole state of Manipur will be taken into consideration for the case study.
* The time period of collection of data covers from 1995 to 2003.

The present work mainly focuses on:

- health care scenario in N.E. India
- health information infrastructure in Manipur
- process of delivery of health care information
- access to HIS by various groups of user community
- the effectiveness of the present system to the health care planners, policy makers, professionals, paraprofessionals and especially to the general masses (target groups).

Agencies Under Consideration

The various existing agencies of Manipur like health care settings and other fringe agencies of health and its related areas as detailed below are taken into consideration in the present work:

- Directorate of Health Services: Various health care institutions such as—hospitals, health centres, sub-centres, dispensaries, clinics, laboratories, societies, training centres, etc.
- Department of Family Welfare: Various institutions such as family welfare bureau, centres, post-partum programme centres and other units.
- Public Health Engineering Department: Various district level units, branches and centres.
- Social Welfare Department: ICDS schemes, Anganwadi centres, etc.
- Department of Youth Affairs and Sports: Areas related to sports medicine, physical education, etc.
- Directorate of Panchayati Raj and Rual Development: Role of different blocks, Panchayats in health and related areas.

- District Autonomous Councils: Activities undertaken on health and its related areas.
- Municipal Councils: Activities rendered on health care.
- RIMS: Services rendered, hospital, library, etc.
- Department of Education: Health programmes, department of physical and health education, pharmacy, etc. under different schools, colleges including Government Polytechnic.
- Nehru Yuva Kendra : Role in rendering health care and its related activities.
- Professional Association: Various associations of the health and related issues.
- NGOs/Voluntary Organisations: Role in health care services.
- Lions Clubs: Role in delivering health care services.
- Military organisation: Health care services rendered by such organisation.
- Indian Association of Medical Transcription (IAMT): Activities related to medical transcription.
- Others: Other institutions dedicated in health matters in different sectors like private hospitals/ nursing homes, centres, pharmaceutical sectors, etc.

Information Infrastructure

Different information support system and infrastructures for health care services are being extensively surveyed to understand the situation. The available infrastructure as support system under the consideration include the following:

- Health Care Institutions: Considering such existing institutions as sources of health information.
- Health Libraries and Information Centres: Different health libraries, information centres/units/cells, etc. attached in different health care sectors such as—RIMS, Directorate of Health Services, Training centres, Hospitals, Health Centres, CMO offices, etc.

- Academic Library: Libraries in the University, colleges, schools which open subjects on health education, physical education, yoga, games and sports, etc.
- Public Libraries: Different public libraries under the Directorate of Art and Culture, run by voluntary organisations, RRRLF beneficiary libraries, etc. which indirectly help the public in educating and promoting health care.
- Community Information Centres: 33 numbers of CIC which also provide G2C (Govt. to Citizen) electronic information service on health care.
- NIC District Centres: Such centres in all the 9 districts which disseminate health care and related information to the Government requirements.
- Directorate of Information and Public Relations: District Information Offices which also provide information service on health matter.
- Electronic Media: DDK and AIR Imphal, ISTV, a local cable network.
- Manuscript and Publication: Manuscripts on health related matters available and publications such as—journals, books, folders, booklets etc. in health and related areas.
- Print Media: Dailies which help in educating the masses.
- Traditional Media: Songs, drama, music, etc. performed in health and related matters.
- Theses and Dissertations: Such works on different areas of health care, etc.
- Other Media Units: Different media units such as Field Publicity, video, cinema, etc.

After examining the prevailing situations and on the basis of the major findings, the present study aims to suggest a model for Health Information System of the State. The goal of the model, if implemented, is to provide a free flow of health information to the users engaged at different health care service centres and also to the general masses. The proposed network of HIS is also expected to support the state as well as the whole NER in implementing the much-publicised concept **HFA**.

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