

**E-HEALTH AND PUBLIC COMMUNICATION BY ASHA WORKERS: A STUDY
ON UNDERSTANDING THE FEASIBILITY OF E-HEALTH SERVICES IN
NAIHATI MUNICIPALITY**

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ABSTRACT

This research paper is an attempt to explore the present scenario of the E-health system under Naihati Municipality and dissect the communication procedure adopted by healthcare functionaries. Word of mouth communication with the help of Accredited Social Health Activist (ASHA) workers goes a long way in the realization of the objectives of healthcare functionaries. There are Government as well as private healthcare providers under the Municipality. The National Health Mission (NHM) and the Integrated Child Development Scheme are some of the few programmes aimed at ensuring health and wellbeing to women and children of the country, is also operating in the Municipality where its frontline caregivers are none but womenfolk like ANMs, ASHAs, and *Anganwadi* workers. This study deals with the programmes that the Municipality has taken and how much they are ready for adopting of E-health schemes and what response the officials receive from the public. In fine, this research paper is a commentary on the public perception regarding the health communication system in Naihati Municipality.

Key Words: *E-Health, Public Communication, Naihati Municipality, ASHA Workers*

Introduction:

In the United Nations International Telecommunication Union's ICT (Information and Communication Technology) Index 2012¹, India is placed in a 134th position in the World. In both public and private sectors, India has introduced ICT for better, easier and clear transactions. Visible transformations are noticeable in all spheres of the society with the Digital India programme launched by the honorable Prime Minister of India. E-governance is one of the initiatives among them. E-health is a relatively recent healthcare practice supported

by electronic processes and communication whose genesis can be traced way back to 1999. To define e-health, Gunther Eysenbac (2001)² says:

“E-health is an emerging field in the intersection of medical informatics, public health, and business, referring to health services and information delivered or enhanced through the Internet and related technologies”

India is a country with vast unmet medical needs. E-health has the potential to improve the scenario and help render the quality of health care services and reach the unreachable at a cheaper cost. With the support of the government and the private individuals, it can make positive changes in the lives of teeming million population that reside in rural, semi-urban and urban areas of India. Jaroslawki and Saberwal (2014)² in their research article, ‘E-health in India Today, the Nature of Work, the Challenges and the Finances’, states:

“It is unlikely that e-health will have a widespread and sustainable impact without government involvement, especially in rural areas. Nevertheless, programmes run solely by the government are unlikely to be the most effective”.

The Government of India has adopted this beneficial method of medical science and technology so that all medical assistance can be provided to the common people at any time. The National Health Portal states that the Ministry of Health and Family Welfare has started various e-government initiatives in health care sectors in India. The E-health initiative has the vision to deliver better health outcomes in terms of;

- Access
- Quality
- Affordability
- Lowering of disease burden
- Efficient monitoring of health entitlement to citizens.

The scope of the initiative for the introduction of E-health in a vast country like India is to make all medical facilities available with the expert advice of doctors at all times, though situated remotely from any part of the world through web series, mobile services, and SMS to poor and needy in India. The emergence of telesurgery was well reported in mass media and

reported in medical journals. Published in the prestigious journal *Annals of Surgery*, the first transatlantic robotic surgery was made possible in 2001 by Dr. Marescaux and his assistant Dr. Gagner. The patient, a 68-year-old woman, was operated upon by remotely controlled robots for removal of her gall bladder in Manhattan and the doctors who dexterously accomplished this feat were in New York. Separated by the distance of thousands of miles, this robot-assisted 'telesurgery' was made possible using dedicated fiber optics technology by a combined team of 40 people like doctors, telecommunication engineers and computer specialists (Scott,2001)⁴.

Location of the study:

Naihati is a small town in the district of North 24 Parganas, West Bengal, India. Naihati Municipality is one of the oldest municipalities of India and was established in the year 1869. Famous personalities like Kesab Chandra Sen (founder of Brahma Samaj), Vidyadhar Bhattacharya (who designed the city of Jaipur), Haraprasad Shastri (a noted historian and linguist), Bankim Chandra Chattopadhyay (author of 'Vande Mataram'), Shyamal Mitra & Mrinal Kanti Ghosh (acclaimed Bengali singer), Samaresh Bose (modern Bengali author) and numerable others have been born in Naihati. According to the Census of 2011, Naihati has a population of 221,762. The female population is about 49.13%. Not only this, Naihati has an excellent literacy rate of 89.79% which is higher than the national literacy rate (75.06%)⁵. From these figures, it can be inferred that the Naihati Municipality has a platform to introduce E-health services on a big scale. The diffusion of any innovation⁶ needs a good communication network. This kind of communication flows through multi-steps, from mass media outlets to opinion leaders at the village level like the ANMs, ASHA workers and Anganwadi workers (Katz & Lasarsfeld, 1955)⁶. Effective flow of communication relies on word of mouth or interpersonal or group communication with all the associated stakeholders of society to achieve its goal. In the case of Naihati, the possibility of communication health care messages through the Internet can be one of the options at quality delivery of health care awareness in this age high mass consumption of mobile phones.

Literature review:

Bedeley and Palvia in their research work, *A study of the issues of E-Health Care in developing countries: the case of Ghana*, published in the twentieth American Conference on the information system, Savannah, 2014. Use interviews and surveys and data analysis as

their methodology basically captures general issues pertaining to the new e-healthcare system being implemented in Ghana. This study explores the current situation of the recently implemented e-health care system in Ghana, a developing country in West Africa. The research concludes that the top five issues are drawn from the analysis of data collected; lack of information and technology infrastructure is ranked the highest and most pressing issue from both the perspective of providers and consumers.

Ms. Kaharade.J and Dr. Sharma.G in their paper E-Health in INDIA: Opportunities and Challenges. This is a conceptual paper based on secondary data collected from books, papers from national and International Journals and conferences, Government and private websites. It concludes that Information and Communication Technology (ICT) can support improvements in the quality of health care by helping to increase the qualifications and skills of health and medical professionals and thereby improve the delivery of health services. Finally, Information and Communication Technologies can play a powerful role in improving the efficiency of health services.

A paper presented by Srivastavan, Pant, Abraham and Agarwal is 'The Technological Growth in e-Health Services' in the year 2015 in Computational and Mathematical Methods in Medicine volume 2015. This research paper does an analytical survey of the role of important technologies, namely, satellite, internet, mobile, and cloud for providing health services.

The conclusion that can be drawn from this research is, the best way to get the maximum benefit of e-Health services is to integrate different technologies like mobile internet, cloud internet, satellite internet or mobile cloud and so forth so that the common is benefited the most.

Aims of the study:

This study has been taken to explore the following areas:

1. To study the present status of healthcare services of Naihati Municipality.

2. To study the Naihati Municipality's communication process with its community about various healthcare facilities and awareness campaigns.
3. To see the challenges faced by Naihati Municipality in the case of introducing e-health services.

Methodology:

In this qualitative study, primary data have been collected from an interview of Health care functionaries of Naihati Municipality. Besides, purposive sampling technique was adopted to conduct the survey that. A convenient sample size of 50 respondents was interviewed. The criteria of inclusion were that they should be residents of Naihati Township and all among college students. After that, a simple statistical analysis has been done. The researcher selected college students deliberately because they are supposed to have a particular level of understanding and educational exposure. They are those youths who are internet savvy as well.

E-Health & India at a glance:

In Compendium of Innovative Health Technologies for Low-resource Settings (2013), a report published by WHO, it is found that 70% of the rural population in India has very poor access to health services and main healthcare services are being concentrated in urban areas mainly. Only 28% of the total Indian population can access healthcare facilities. Every year near about one million Indians, die due to the unavailability of proper healthcare services. In their proclaimed solution WHO has prescribed,⁴

“Decision support systems, Diagnosis and treatment, Electronic Health Record/ Electronic Medical Record, eLearning/mLearning, Health research, mHealth, Patient monitoring, Telemedicine.”

India has taken several initiatives in this sector like,

- Electronic mail records and hospital automation
- Telemedicine initiatives
- E-learning in the health sector
- Education and training in e-health towards capacity building.
- E-Governance health sector under the Statewide e-governance network.
- Village resource centers.

In 1983, the Parliament of India has introduced the National Health Policy and upgraded it in 2002 to encourage the electronic communication system in health services. Ministry of Health & Family Welfare and the Ministry of Information & Communication Technology are jointly making infrastructure for easy access to information regarding health by the public. More than 165 telemedicine platforms are being run by the Indian Space Research Organisation (ISRO) and 76 telemedicine platforms are being run by the Ministry of Information & Communication Technology.⁵ A telemedicine taskforce had been formed and ICDS programmes are taken by the Ministry of Health. Though the Government of India has taken several attempts, there is much delay in the implementation of E- Healthcare services in India due to following reasons,⁶

- The absence of competition in the health sector for a long time healthcare is handled by Public Health System (PHS) with no competition.
- The weak customer with low bargaining power.
- The non-existence of funding systems like insurance or social security agency.
- The strong professional culture among doctors hostile to new ICT applications.
- Doctors and nurses believe in their skill than on the computer.
- Lack of computer-aid in medical and nursing education

Naihati Municipality & Health Communication:

Naihati Municipality is one of the most culturally enriched Municipalities among other Municipalities in India since 1869. In recent times the total population of Naihati Municipality is 2, 18,492. There are 31 wards in this town. The total geographical area of Naihati Municipality is 12 k.m² and the 9th most populated Municipality in India. According to the Census 2011, The population of Naihati Municipality has increased 1.2 percentage from 2001-2011. Overall literacy rate also has increased 7 percent by 2011. Sri Ashoke Chatterjee is the Chairman of Naihati Municipality who has been elected as a representative of the ruling political party of West Bengal, All India Trinamul Congress. Naihati Municipality has introduced its website (<http://www.naihatimunicipality.in>). It signifies that this Municipality is moving towards e-governance to serve better to the people. According to Sri Sanat Dey, CIC, Health of Naihati Municipality the Naihati Municipality follow the conventional medium to communicate people, like: Cable T.V, Flex/ Banner, Poster, Handbill, Verbal communication, like – group meeting, door to door communication.

Sri Sanat Dey has said that they have not introduced e-health services, as not all the people are the same. As for example, the people of Ward no. 3 of Naihati Municipality, have some belief that vaccination for children does not give any kind of safeguard from diseases. So that health workers have to knock door to door to make them understood about various Government level health programmes. Recent awareness programmes that have been conducted by Naihati Municipalities are:

- Project Indradhanush
- Dengue awareness programme.
- Pulse polio awareness programme.
- Hand-wash campaign.
- Nirmal Bangla Prakalpa.

In Naihati, there are mainly four types of Health Centres. In these Health Centers, people can access treatment and different types of health services, like, medical check-ups, immunization, medication for pregnant women etc. According to Sri Sanat Dey, health worker usually go door to door for public awareness. For *Nirmal Bangla Prakalpa*, Municipality conducted a survey to find out those households, which do not have any hygienic latrine. The government of West Bengal allotted rupees nine thousand for those households for one latrine and each household had to bear one thousand rupees only. Now every household has a good sanitation system. Now the Municipality is giving effort for project '*Indradhanush*', a project of Union Government. The sole aim of this project is to immunize children below 2 years and pregnant women to protect from seven kinds of diseases. The Municipality also arrange '*outreach camps*' in different words. In these camps, general physician and specialist doctors usually check – up public health and hygiene. Naihati Municipality also arranges '*Hand Washing*' programme to aware people about its significance.

Table 1: Types of Health Centres under Naihati Municipality.

Type of Public Health Care Organisation	Numbers of Health Care Organisation
State General Hospital	1
Naihati Municipality Matrisadan	1
Urban Primary Health Center (UPHC)	4
Local Healthcare Centers	20

Table 2: Some data, which have been collected from the Annual report of 2017-18 of the Health Department of Naihati Municipality.

Nature of Work	Numbers of work
Special out-reach camp	111
Total patient admitted in health centers including Matri Sadan	23,432
Delivery cases at Matrisadan	658
Immunization done at 16 centers	6739
A mother meeting with public	235
Word level meeting with public	37
UPHC level meeting with the worker	42

Table 3: Total Population & sex ratio of Naihati Municipality.

Total population	218194
Male	110908
Female	107240
Others	46

Naihati Municipality and it's public:

A purposive sampling survey has been taken during this study among college students of Naihati with the sample size of 50. Among them, female representation is 23 and male representation is 27. These students are from Naihati Municipality. The sole aim of the survey is to get few data about their family, like, numbers of family members, number of

adult members, educational background, family income, computer have or have not, number of smartphones per family, accessibility of e-health care services and communication medium. Information is given in a table form.

Table 4: Survey data

Average members in a household	5					
Average numbers of adult members /household	4					
Average educational qualification of family members (%)	8 th (%)	10 th (%)	12 th (%)	U.G (%)	P.G (%)	Others (%)
	0.44	0.46	1.56	1.06	0.06	0.48
Average monthly income of each family	Rupees 20,000/- to 40.000/-					
Each family has at least one computer/laptop	Yes			22	44%	
	No			28	56%	
Average number of the smartphone that each family has	3					
First choice for health service (%)	Local health Centre		40	80%		
	Municipality Hospital		1	2%		
	Private Nursing Home		9	18%		
The medium of communication-related to health issues	Verbal communication		2	4%		
	Poster/ banner		1	2%		
	Newspaper/ Radio/ T.V		14	28%		
	Meeting/ Camp		3	6%		
	Local cable T.V		21	42%		
	Internet		9	18%		

Discussion:

Thought, size of the sample was small, however, amazingly the ratio of male-female representation (54:46) is very near to the original population of Naihati Municipality (51:49). On average, each family of the respondent has five members. It reflects the nuclear family practices. Thought indeed two respondents have large family members. In each family, there are four adult members (average). That means family planning programmes are going well in this town. In each family, one or two members are Under Graduate qualified. Therefore, it can be said that the literacy rate is not bad but quite satisfactory and they can explore e-health communication. On average, each family has an income of INR 20,000/- to 40,000/- and belongs to Lower Income Group to Middle Income Group. Therefore, expensive medical treatment might be tough to avail. Here lies the importance of public healthcare services that are provided by the government. This assumption has been proved in the study where we can see 80% of respondents go to local health centers in an emergency and 18% of them go to private nursing homes. 2% of respondents have opted for Municipality Hospital. From this information, it can be assumed that local health has that many facilities to manage primary health care in an emergency case. In the study, it has been seen that 44% of the respondent's family has own computer. Therefore, the interesting information is that each family has at least three smartphones on average. That means each family has access to the internet and they have the opportunity to get e-health services. In the question of communication medium on health awareness issues, most of the respondents (42%) have voted for Local Cable Service that was also told by Sri Sanat Dey, CIC, Health, Naihati Municipality. 28% of total respondents have told that they get information from Daily Newspaper or Television. These communications are the part of National – level awareness programme. Communication through the Internet is not far behind, 18% of the total population has voted for the Internet. As it is already told that Naihati Municipality has a website and information, regarding Naihati Municipality Hospital (Matrisadan) is available on National Health Portal under the Ministry of Health & Family Welfare. By clicking the link, (https://www.nhp.gov.in/hospital/naihati-municipality-maternity-hospital-north_twenty_four_parganas-west_bengal) people can access information. Only six percentages of respondents have chosen public meetings for communication. The present survey has been done among college goers, if the survey would be done among homemakers, the number might be increased in public meetings.

Conclusion:

However, Naihati Municipality does not introduce e-health services officially but has a well-organized health service and is stepping forward with the help of e-governance and computers and health activist like ASHA. During this study, it has been observed that the municipality has ICT enabled office rooms and data has been saved in their computers. The employees are very helpful and they took the time to be participants in the interview process and gave valuable data from the annual reports. Naihati Municipality is making the best use of oral and digital means of communication processes through mobile services. The role of ASHA workers is well supplemented by printed materials, posters and group communication. The popularity of e-health service is on the rise, though it may not be adopted by all categories of people at the same time, nevertheless, its diffusion with the public is on the dawn with smartphones and internet packages becoming cheaper. Likewise, public communication through meetings like mother meetings, village health and sanitation committee meetings with the help of a dedicated team of ANM, doctors, Anganwadi workers, and ASHAs can create an informed citizenry in the municipality. In fact, door-to-door information activism adopted by ASHA workers is more effective in the ground. Here we can see the theory of multi-step – communication, and the role of opinion leaders as a source of information is commendable and has a great impact in the town and villages of a developing country like India. In this age of internet and Smartphones, people get immensely benefitted in terms of e-health messages, doctors' advice, timely consultation or seeking doctors' appointments is a click away. The information haves of a vast country like India may search for information on e-health and become information-rich by ensuring good health care awareness through e-health services if implemented in the earnest.

A time and resource constraints have a bearing on the expansion of the limitations of the study. It has a high possibility of sampling error, as a small sample of students was considered by way of the purposive sampling method. Nevertheless, this study can be replicated in other areas with a larger sample size to arrive at generalizations that have been done within a very short time span with the small size of the sample. The population does not reflect different category of people. However, the study offers scope for expansion in future and will reveal newer insights to future researchers.

This study may help shed new light on the role of the opinion leaders like ASHA who were recruited in all villages of the country way back in 2005 when the ambitious National Rural Health Mission was launched by the government of India. It may also furnish a blueprint regarding the expansion of e-health services in rural India with the help of a vast network of ASHA workers if trained properly. Naihati is just a case in hand, it may be expanded to other municipalities of India.

Photographs of health awareness activities and channels of communication with public and ASHA workers of Naihati Municipality during the field visit by the researchers:

	
<p>Bridge training at UPHC 1, Laldighi for IMI</p>	<p>IMI session in semi-urban areas of Naihati</p>
	
<p>IMI site and ASHA involvement in the</p>	<p>ASHA involvement in mobilization of</p>

<p>ensuing visit of doctors</p>	<p>community members for the IMI programme.</p>
	
<p>Mother's meeting at Laldighi, Garifa, Naihati, under NHUM where AHSA is a channel of communication and motivation.</p>	<p>Communication, through Public address system for the IMI programme under Naihati Municipality.</p>

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