

Current Status of E-Governance in Hospitals

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Abstract: *Advances in ICT have forced the government all over the world for innovation in their traditional structure and to consider e-enabled approaches for the implementation of effective public service delivery and implementing perfection in public administration. E-governance is the use of ICT (Information and Communication technology) by the government to deliver faster and better services to the masses. The need for the study was in the context of massive investment made in ICT and healthcare. 168 respondents (including 63 healthcare professionals and 105 patients) were surveyed. Questionnaire formed on the basis of the benchmarking of ICT index by the European Union (2004) was administered to the patients and the HCPs (Health Care Professionals). Major finding indicated that there is a lack of ICT awareness in the general public and as a result most of the people pay a personal visit to the hospitals for collection of reports etc. It also indicates lack of training and awareness among the doctors about use of ICT. The results are discussed in terms of implications for higher learning institutes and future research.*

Keywords: Healthcare, e-governance, ICT, Telehealthcare

1 Current Status of Healthcare

Healthcare industry is seeing a lot of transformation and innovation. It has grown leaps and bounds and seen a lot of changes. It is growing at a steady pace and is expected to be US \$ 280 billion by 2020. Growing incomes and rise in elderly population are some of the factors for this rapid growth. It is moving ahead and is a recognized sector just like software and pharmaceutical industry. Indian hospitals are gaining reputation globally as “quality” service providers and many Indian hospitals have secured accreditation in this regard. India has become a preferred medical destination by people from other countries. Private players play a major role in this regard as this sector is financially stronger and well managed. The various forces of globalization and ICT especially internet are said to have facilitated the formation of coalitions networks from the bottom up, thereby linking the global and local processes and effectively blurring the traditional assignment of roles of the actors in the network (UNCHS-Habitat,2001)

1.1 The Indian healthcare scenario

In spite of much stated growth in this sector there is a lot to be done. The key statistical indicators as Infant mortality, longevity, infectious disease rates and provision of health services indicate that there is a lot to be done in this sector. India’s healthcare infrastructure has not kept pace with the economies and sectorial growth. The number of healthcare facilities is inadequate. For instance India needs 74,150 community health centers per million populations but has less than half that number. More than 8 states do not have labs for testing drugs and more than half of existing labs are not properly equipped or staffed.

Thus there is total uncertainty in processes, results and thus the impact on the patients. There are administrative, diagnostic and therapeutic delays or errors to add to patient’s trauma. Due to the aforesaid problems there is lack of proactive information and thus lack of adequate counseling. There are tie-ups with foreign medical institutes which are leading to a better quality of healthcare being provided. But most of the investment which is done in the healthcare

industry is concentrated in the metropolitan areas thus leaving the tier 2 cities non-benefited with this development. The per capita spend on the healthcare is less than 1% which is very-very low for a country like India with a booming population.

2 E-Governance

The national academy for public administration defines e-governance as “the transformation of processes (resulting from) the continual and exponential introduction into the society of more advanced digital technologies”. Thus it is the usage of Information and Communication Technology (ICT) in the public sector to improve its services and operations. It is considered as a solution to a plethora of problems in serving the constituencies in a faster and efficient manner. It fosters the partnership and collaboration of those who have stake in enriching the processes. It includes all levels of government (country, municipal state, and regional, tribal, federal), private sector, academic community and foundation.

The need of the hour is the effective transformation of the government services. This is possible only with grass-root level changes in the way services are perceived and delivered. Thus ICT offers an opportunity for improvement in public service delivery and most administrative best practices build upon the process redesign and convergence which is brought about by ICT. It enables transformational changes rather than a technical change. ICT enabled e-governance enables integration of government processes and communication with a real time status tracking feature. It also needs integration within departments for interoperable standards to avoid the duplication of data and metadata and thereby promoting the integrated view rather than a departmental view of information.

E-governance makes information available on the government operations and public services, facilitates public feedback or reaction and allows more direct participation by the ordinary citizen in decision making (Heeks, 2001b, Norris, 2001). The e-governance movement not only promises higher quality and better delivery of services and a

greater realization of entitlements, it also claims to offer stronger bonds between public servants and citizens based on transparency and accountability (Heeks, 2001a).

E-governance got popular initially in developed countries and later on many developing countries attempted it through the introduction of models and practices from business management (Heeks, 1999; Fountain, 2001).

2.1 E- Governance in Healthcare

In spite of much talk and hyped concept there is very little which is done and which can be quoted as achievement in this area by the government bodies. Enormous amount of resources have been spent but very little change on actual health status of people have been noticed. Thus despite the availability of technical skills the gains from information technology usage has been apparent. Effective usage of technology is not purely technical. It has socio-cultural and organizational aspects which need to be recognized and carefully implemented. IT applications such as computers, networks, databases will be of very little help if they are used to just automate the existing infrastructure. To benefit from the potential of IT corresponding organizational changes should be anticipated, planned and brought about in the health departments in a systematic way.

Table 1: Readiness of Indian Government in ICT

<i>Government Program</i>	<i>Ranks out of</i>
Government's program promoting the use of ICT	134
Government's success in ICT promotion	23
ICT use and government efficiency	33
Presence of ICT in Government office	33
e- participation Index	47
Availability of government services	49

Source: World Economic Forum, Executive survey, 2008

3 Need and Rationale

As can be seen from the above that healthcare sector is a sector which can change the economic condition of any country as it is directly linked to the health of the masses. There are a lot of studies done in the e-governance domain but very little study has need done in the area of e-governance and healthcare and there is a gap which exists between implementation of this in the hospitals. The success of any implementation depends on the awareness and accessibility of an initiative. Thus it is important to understand the status of e-governance to make a roadmap ahead for its implementation and sustenance.

4 Objective

The objective of the study was

1. To find the usage of ICT by the patients and the healthcare professionals
2. To find the awareness of e-governance among the patients and healthcare professional

5 Sampling Technique

The judgmental sampling was adopted for selecting the healthcare professionals and random sampling was adopted to select the patients.

5.1 Tools adopted for the study

Questionnaire formed on the basis of the benchmarking of ICT index by the European Union (2004) was administered to the patients and the doctors. Sample consisted of 105 patients and 63 HCPs. Total population survey was conducted which consisted of hospitals in urban Bangalore with more than 200 beds.

5.2 Statistical techniques and analysis

The following statistical techniques were used for analyzing the data as per the objectives of the study.

1. Descriptive statistics- Frequency, Mean, S.D and percentages.
2. Differential statistics for hypotheses testing.

5.3 Profile of the respondents

The respondents were drawn from 16 major hospitals of Bangalore city. The gender distribution among the patients was women (55%) and men (45%) and among HCPs women (25%) and men (75%). Three categories of patients were interviewed in the age group 20-29, 30-39 and 40 and above. It was found that 73% people above 30 years of age are more frequent visitors to the hospitals.

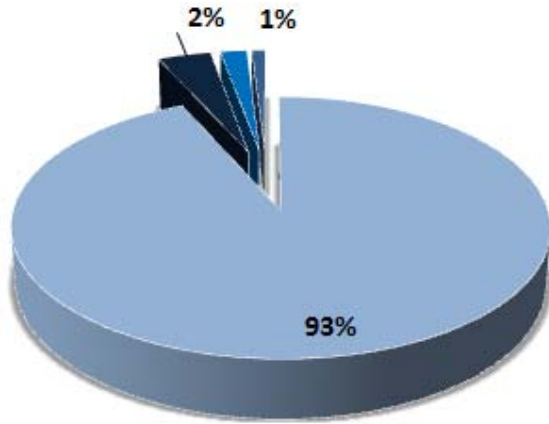
Patients surveyed belonged to four categories of income groups. There were 30 % people in the range of 5-10 lac per annum, 25% belonged to the categories more than 10 lac per annum, 18% belonged to 2-5 lac income and 28% belonged to less than a lac income group.

Table 2: Annual Income of the Respondents

<i>Income</i>	<i>Frequency</i>	<i>Percentage</i>
Less than 1lac pa	29	27.6
2-5 lac pa	19	18.1
5-10 lac pa	31	29.5
more than 10 lac pa	26	24.8
Total	105	100.0

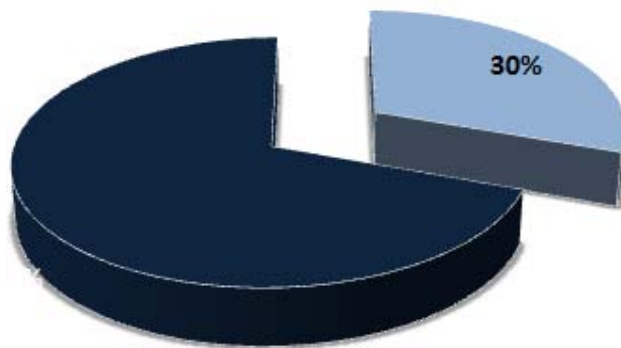
Table 3: Collection of reports

How do you collect Diagnostic Reports	Frequency	Percentage
Personal visit	92	87.6%
Mail	32	30.5%
Fax	1	1.0%
Total	105	100.0%



■ Daily
■ < 3 days a week

Figure 1: Internet usage in a week



■ No ■ Yes

Figure 2: Used Internet for medical information

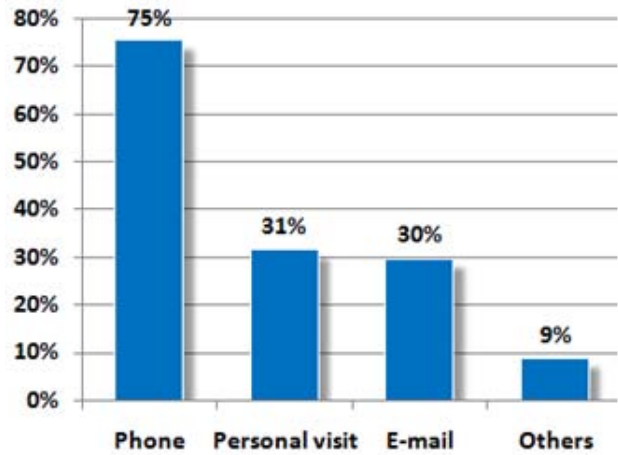
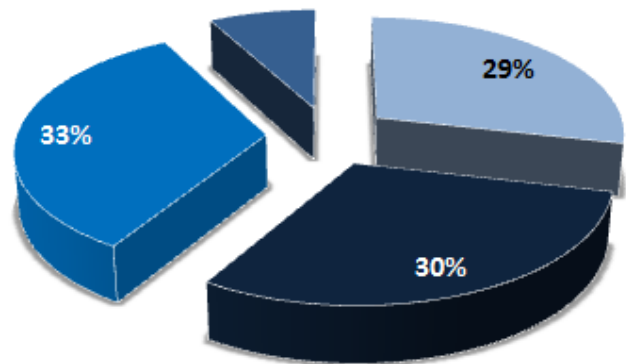
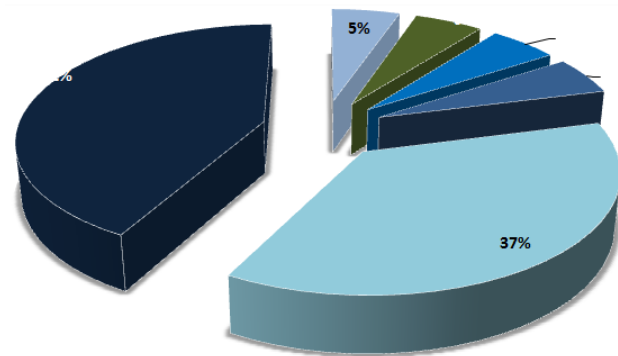


Figure 3: Fixing appointment with doctor



■ Unheard of
■ Heard it once

Figure 4: Level of e-governance Awareness



■ Cancer knives ■ Discharge summaries
■ Record Building ■ Remote therapy
■ Teleoptometry ■ Audio visual / telemedicine

Figure 5: Current Computerization and e-

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Life saving in emergency situations	No	13	2.92	0.760	13.35	0.00
	Yes	57	3.68	0.659		
	Total	70	3.54	0.74		
Beneficial for doctors	No	13	2.69	0.751	34.16	0.00
	Yes	57	3.82	0.601		
	Total	70	3.61	0.77		
Beneficial for patients	No	13	3.77	0.439	0.52	0.47
	Yes	57	3.89	0.588		
	Total	70	3.87	0.56		

Figure 6: ANOVA – Internet for Medical Information

6 Governance Initiatives of the Department

6.1 Major Findings

1. Most of the people still pay a visit to collect the reports. This calls for increasing the awareness to use methods like e-mail.(Refer to Table 3)
2. For making ICT effective in healthcare there should be an increase in the use of EMR and EHR so that these tools are used for drawing inferences using various information systems. (Refer to Table 3)
3. To develop awareness among people to use ICT more promotions should be done both by the government and the hospitals.

7 Conclusion

1. To conclude e-governance in healthcare in its infancy in majority of the hospitals and efforts have to be taken to increase the accessibility to the patients.
2. It calls for the attitudinal changes in the mindset of general people and healthcare professionals to make it more effective.
3. Very few hospitals maintain EMR and the doctors there take it as an additional burden to fill up the data in the systems.
4. There is very less awareness of the importance of electronic health record management.

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