

12th October 2007

Dear Mr Prime Minister,

The National Knowledge Commission (NKC) is convinced that extensive use of IT in health care will promote the delivery of efficient health care in the country. However as the use of IT in the management of healthcare and medical knowledge will increase, the health care establishments will develop and use their own health IT systems. It has been the experience of western countries that these individually developed systems are often not interoperable with other establishments, which makes the health care system inefficient and expensive. We believe that India has a unique opportunity to learn from the world experience and adopt only the proven best practices in the field.

In this context NKC constituted a working group, under the chairmanship of Dr N K Ganguly, Chairman Indian Council for Medical Research (ICMR) to study the use of IT in future health care<sup>1</sup>. The working group studied the future need, conducted several meetings and deliberations, and held consultations with various national and international experts. We believe that the use of IT in health care needs a national direction for its proper implementation and make the following recommendations for developing a Health Information Network:

**1. Initiate development of Indian Health Information Network**

India needs to develop a web-based network, connecting all health care establishments, in both private and public sector. When fully functional, all health care transactions will be recorded electronically and this data will be available in the health data vault to authorized users when they need it and where they need it.

The proposed Knowledge Network with gigabit capabilities may provide the backbone and network infrastructure on which the Health Information Network may ride. The network will be a 'hub and spoke model.' All health care establishments in a district will connect to a central data repository at the district level. All the district nodal data repositories will connect with a state level data bank, which in turn will connect with a central data bank.

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<sup>1</sup> The names of the working group members are attached as ANNEXURE

There should be active involvement of private and public health entities to effectively address the creation of this network, portals, electronic health records, health data vault, security, privacy and other related issues in future, which will encourage the participation of the following:

- Citizens
- Health care providers and payers
- Education, research institutions and investigators
- Government departments and institutions
- Public health agencies and NGOs
- Pharmaceutical industry and medical device makers
- Telemedicine institutions
- Software and hardware developers

The ready availability of information will accrue enormous benefits to public health planning, medical education, cost control, medical research, drug development, prevention of fraud, disaster management and improved patient care.

## **2. Establish national standards for clinical terminology and health informatics**

For a web based interoperable national grid it is imperative to have common clinical nomenclature, or else disparate programs developed by the industry will not be interoperable. The clinical standards will establish a common lexicon to be used in electronic transactions. This will enable all geographically scattered entities to communicate in one common language and facilitate data transmission and collection. It is important to develop common nomenclature standards for the traditional medical systems, as large numbers of people depend on these systems for their medical needs. Besides the common clinical language, adoption of a common national standard in health informatics will facilitate the messaging, collation and analysis of data.

## **3. Create a common electronic health record (EHR)**

An electronic health record (EHR) is the record of a person from birth to death where all health care encounters are recorded. Health transactions are presently recorded in a paper format, like a hospital patient chart, prescriptions, laboratory tests etc. The technology to capture and store this information electronically already exists and has been developed by many private and public organizations in India. For uniform data capture, storage and subsequent use, it is recommended to create a common national EHR based on common clinical and IT standards. The record should be able to capture data generated by the 'traditional medicine' health providers. To promote the early adoption of the health IT, this EHR may be given free of cost or at subsidized rates to all users. The other IT tools and applications can be developed by the private industry and should be compatible with the national EHR.

#### **4. Frame policies to promote use of IT in health care.**

The use of IT in health care needs an impetus from the government; otherwise the development and penetration will be slow and arbitrary. These policies should be formed, not to hamper, but promote the health IT business in the country and generate employment in this sector. The central government should declare a time period after which all transactions in health care in the country will be in electronic format. Sufficient time should be given for the health establishments to adopt electronic transaction. NKC feels 7-10 years is an adequate time for all parties to evolve electronic transactions after which all health establishments should be able to comply.

#### **5. Create appropriate policy framework to protect health data of citizens.**

The integrity of data at the primary data collection site will determine the usefulness of this enterprise. To ensure that only correct patient and other health data is collected, it is of utmost importance to gain the confidence of the citizens that their health data will not be misused by the health providers, insurance companies, employers and the government. Both technological and legal framework is important to achieve this. While encryption, anonymity and other IT security measures should be in place; it is also important to have rules in place. It is important to maintain confidentiality and security of the personal health data and to govern the access and use of data.

#### **6. Medical Informatics to be part of medical and paramedical curriculum**

Medical education needs to take full advantage of the power of ICT. A well-structured health informatics curriculum needs to be made an integral part of medical education at all levels. Basic ICT facilities, such as good quality access to Internet and e-Journals, need to be made compulsory for all medical colleges in the country. For capacity building, ICT tools should be effectively deployed to train the large number of health workers. Short and medium term courses need to be developed and made available on the net to address training needs of all health workers in the field. It should be made affordable, accessible and easily available for small players. There is a need to evolve common formats for data reporting to facilitate IT enablement of medical manpower at all levels. Education related portals should also be set up for training of medical manpower.

#### **7. Create an institutional framework for implementation.**

An autonomous body with the Ministry of Health should be responsible for planning and implementing the project in a time bound manner. This body should be autonomous and a non-profit organization with representation from private, public and voluntary sectors<sup>2</sup>. All stakeholders should be represented in this body and it should have the resources to promote and implement the plan. It should also have the authority to ensure the smooth functioning of the Indian Health Information Network.

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<sup>2</sup> It may be modeled after the Canadian health Infoway, which is a non-profit autonomous body funded by the federal and provincial governments in Canada.

The objectives for this institutional body will be:

- To formulate an implementation plan
- To coordinate the participation of all stake holders
- To create linkages with e-governance, medical education network
- To ensure financial viability of the project
- To set up a comprehensive and interactive national health portal
- To suggest common national standards
- To protect confidentiality and security of data
- To facilitate the ownership, access and flow of data
- To maintain and upgrade the system in future

The next step in the development of Indian Health Information Network is to formalize the institutional body with appropriate professional people with domain expertise, adequate budget, time tables, and measurable milestones to implement these recommendations. The body may consider conducting pilot programmes before scaling at the national level.

A policy framework put in place now, and a focused organization to implement plans for the coming years will ensure enormous improvements in health care delivery in India. We urge you to take the necessary steps to create the organizational framework with human and financial resources to implement the health information network as proposed.

Thank you and warm personal regards,

Sam Pitroda  
Chairman, National Knowledge Commission

Copy to: Dr. Montek Singh Ahluwalia, Deputy Chairman, Planning Commission  
Dr. Anbumani Ramadoss, Minister for Health and Family Welfare  
Shri A. Raja, Minister for Communications and Information Technology

## **ANNEXURE**

The following were the Members of the Working Group on Health Information Network:

1. Prof. N.K Ganguly  
Chairman, Indian Council of Medical Research
2. Dr B.S Bedi  
Adviser, CDAC & Media Lab Asia,  
Former Senior Director & Head Med. Electronics and Telemedicine  
Dept. of IT, Govt. of India
3. Mr Partha Chattopadhyaya  
CD(DRS), Ministry of Health and Family Welfare
4. Dr Shiban Ganju  
Convener, I HIND
5. Dr Shiva Kumar  
Member, National Advisory Council
6. Dr Ramakrishnan  
Director General, CDAC
7. Prof. K Srinath Reddy  
President, Public Health Foundation of India
8. Mr Rajdeep Sahrawat  
Vice President, NASSCOM
9. Mr Raj Shah  
CEO, Capital Technology Information Services (CTIS)
10. Dr YK Sharma  
Deputy Director General, NIC