HOW HEALTH INFORMATION TECHNOLOGY (HIT) IS SLOWLY CHANGING HEALTH CARE IN CENTRAL GOVERNMENT HEALTH SERVICES(CGHS): PERSPECTIVE

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ABSTRACT :-

Health information technology (HIT) is now a day's part and parcel of health care system. By the increasing use IT in health system, it is providing giant leap in treating doctors/physicians in terms of beneficiaries/patient electronic health record (EHR) that adds in diagnosis. National Informatics Centre (NIC) has been playing pivotal role in implementing and maintaining its services at grassroots level. With the rapid increase in no of card holders and beneficiaries with limited resources, HIT was unmet need for Central Government Health Services (CGHS), but HIT is not embraced in broad way in CGHS system. All the wellness centers (WC),polyclinics and other system of medicines are not linked with NIC even after years of implementation of IT in health system. HIT has to play pivotal role in CGHS, so redesigning and its application to hasten the services of Central Government Health Services (CGHS) is necessary.

Key words: - HIT,EHR,CGHS, NIC and Wellness center

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INTRODUCTION :-

Health information technology (HIT) has a myriad role to play in health care system. It shows a glimpse of patient's lifelong history. Imagine a world where everything important about a patient is known to the physician, when the first time that patient presents. It is about sharing of important information with doctors who may not know your history. We know that the ability to make a diagnosis is based more on medical records and your history. Having your lifelong history right there will actually assure that the diagnosis is more accurate and chances of mistakes are low.

Central Government Health Scheme (CGHS) - is a health scheme for serving / retired Central Government employees and their families. The scheme was started in 1954 in Delhi. The scheme was intended to be only for serving Central Government employees who had difficulty in getting reimbursement on account of OPD medicines (today CGHS dispensaries are giving OPD medicines). The fact that there were not many private hospitals at that point of time was also one of the reasons for starting the scheme. This was not envisaged to be an all India scheme. In fact, the stretch of this scheme to 25 cities over the years has put a heavy strain on limited resources available for the purpose. The scheme was extended to Mumbai in 1963, Allahabad in 1969, Kanpur, Kolkata and Ranchi in 1972, Nagpur in 1973, Chennai in 1975, Patna, Bangalore and Hyderabad in 1976, Meerut in 1977, Jaipur, Lucknow and Pune in 1978, Ahmedabad in 1979, Bhubaneshwar in 1988, Jabalpur in 1991, Guwahati & Thiruvananthapuram in 1996, Bhopal, Chandigarh and Shillong in 2002, Dehradun in 2005 and Jammu in 2007. Ministry of Health and Family Welfare comprises the following two departments, each of which is headed by a Secretary to the Government of India:- Department of Health & Family Welfare and Department of Health Research (Ministry Of Health And Family Welfare (Swasthya Aur Parivar Kalyan Mantralaya) Directorate General of Health Services (DGHS) is attached office of the Department of Health & Family Welfare and has subordinate offices spread all over the country. The DGHS renders technical advice on all Medical and Public Health matters and is involved in the implementation of various Health services**.**[1]

National Informatics Centre (NIC) was established in 1976, and has since emerged as a "prime builder" of e-Government / e-Governance applications up to the grassroots level as well as a promoter of digital opportunities for sustainable development. NIC, through its ICT Network, "NICNET", has institutional linkages with all the Ministries /Departments of the

Central Government, 35 State Governments/ Union Territories, and about 625 District administrations of India. NIC has been instrumental in steering e-Government/e-Governance applications in government ministries/departments at the Centre, States, Districts and Blocks, facilitating improvement in government services, wider transparency, promoting decentralized planning and management, resulting in better efficiency and accountability to the people of India.[2] The HIT services to CGHS has been governed through leased lines/broad band, state informatics officer though national informatics center and the sites are http://cghs.nic.in, http://cghs1.nic.in, http://cghs.2nic.in and www.mohfw.nic.in,www.msotransparent.nic.in.[2]

Implementation of an EMR (electronic medical record)- means, the physicians has aware of patients, their test, diagnosis, drugs and follow up of hospitals and other physicians/specialist, which can communicate back and forth and share critical information on tests done and previous diagnoses, it means patient's medical history at their fingertips,[3] This will ultimately save money by reducing unnecessary, repeat tests, and cutting back on the time it takes to make diagnosis. Privacy issue is one important barrier, and cost is the other. Regarding confidentiality of medical records, there is always fear one could get access to information, and use it against you. HIT encompasses a broad array of technologies involved in managing and sharing patient information electronically, rather than through paper records. Health IT has improved patient safety, health care quality, efficiency and data collection and also rising costs. An electronic health record (EHR)and an electronic medical record (EMR) are interchangeable, though some health informatics experts make a distinction between EHRs and EMRs, [4.] Efforts are underway to develop consensus definitions for these terms and others. [5] For convenience, we will use the term ""EHR" to refer broadly to systems that collect and store patients' medical information in digital form. An EHR differs from a personal health record (PHR), which is a health record that is "owned" and maintained by an individual patient, rather than by payers or providers. Two common components of HIT are electronic medical records and computerized physician order entry.

Computerized physician prescription (CPP) - a component of electronic health record has been used by physician at wellnees center almost everyehere, but not in referred specialist CGHS recognised govt. as well as private empanelled center or hospital. One study concluded that CPP systems for prescriptions could reduce preventable medication errors by as much as 55 percent because they ensure, at a minimum, that orders are complete and legible. [5-7]

The cost of health IT is mostly paid by central govt.

According to RAND Corporation researchers, full implementation of health IT systems could produce efficiency savings as great as $77 billion per year after a 15-year adoption period. [8]

Electronic Medical Records -An electronic medical record is a digital and portable version of the current paper file system that would be accessible to all doctors. That means, your doctor could access everything about you on the computer.

Health IT covers following areas;

EMR/EHR/PHR (all are one and same with little difference), Telemedicine, Digital health knowledge resource e.g. Digital Medical Library ,Hospital Information management system, e-learning technologies and application in health Science, Biomedical informatics for biomedical research applications ,Artificial Intelligence in clinical medicine and health management ,Public health informatics ,Medical Internet ,Virtual Reality and Simulation for health .

Source; Presentation by Paolo Rosa, ITU Regional Director for the Americas a.i. Brasillia, State of the art of international standards in Telemedicine and e-Health.

HIT's role in private health sector include features like;

Medical and health records management, Patient admission and registration, Insurance claims, Medical and other billing process, Clinic to Lab data management, financial management, Automation and specialty systems

Paradigm of beneficiaries has been presented below as they approached to wellness center of CGHS, as shown in fig -1. Now a day it has been linked to AADHAR apart from beneficiaries mobile no.
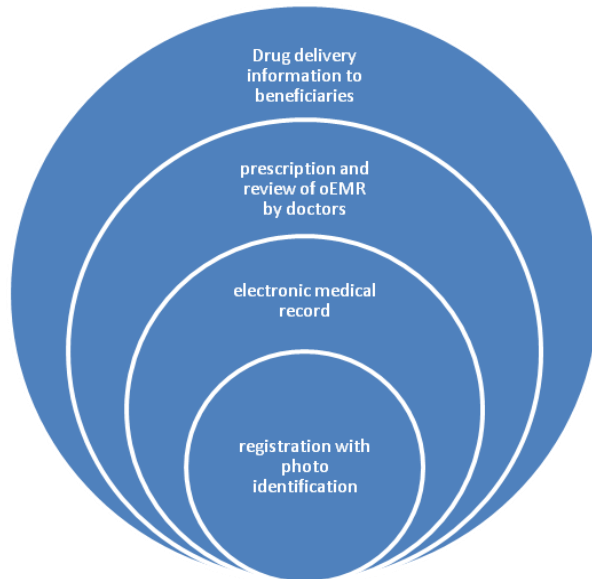
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110

Fig -1 Paradigm of beneficiaries in CGHS

It has been designed smartly to –

1. Maintains EHR and assessed by any physician of CGHS WC.

2. Provide drug delivery information from both store and LP counter to each beneficiaries

3. Verifies photo of beneficiaries during registration through Smart card

4. Total no. of visit can be noted by each beneficiaries

5. List of Life saving and CGHS formulary list as well counter/store medicine can be viewed.

6. Previous drug and medical history can be viewed.

7. All the data regarding prescription, drug delivery report, are maintained (paperless)

8. Provide prescription in printed format (Hindi and English both)

Effective use of HIT and EHRs is a must for everyone in CGHS for its future perspective and illustrated well in Fig-2.
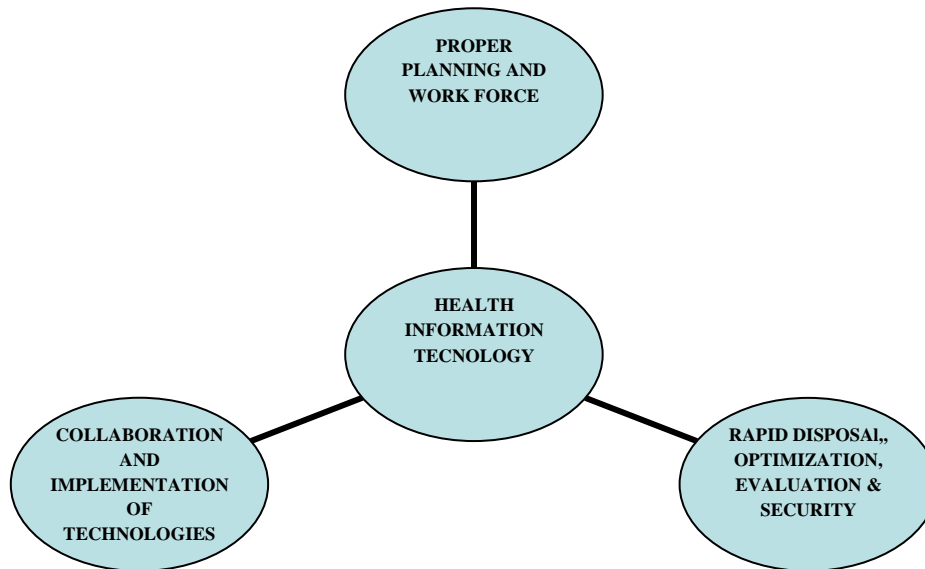
Fig -2 Effective use of HIT in CGHS

Demerits ;-

All the dispensaries are not computerized, Apart from WC ,others, dental, polyclinics under Allopathic, Ayurveda, Yoga, Unani, Sidha and Homeopathic systems of medicines has not been linked through NIC and It has not been upgrades as per need.

DISCUSSION-

HIT – not fully embraced in Broad way

These technologies have not been fully embraced in broadway due to certain variety of reasons. As expressed by some of experts in adopting/upgrading new technology in broadway is due to its high cost.[5] Other studies suggest that implementing health IT systems might even hinder patient care, at least initially.[5,7,11] **.** In either case, the question remains: how should policymakers help facilitate the adoption of health IT in broad way in every sphere of CGHS system.

India is one of the leading countries that tend to yield quality healthcare services. Even though, India being the hub of the IT and IT enabled services industry, the use and growth of Healthcare information technology is very low. Information Technology in healthcare industry is more often used by large pharmaceutical organizations, corporate hospitals and various other private healthcare sectors. Though most of the private sectors adopt and use health information

technology (HIT), India's public health sector is still far behind in adoption and utilization of HIT. Despite of this potential, adoption of health information technology has been slow and need attention to improve for betterment.

According to the rating agency Fitch, the current size of the Indian healthcare industry is $65 billion and is expected to reach to $100 billion by 2015, while India's healthcare information technology market is expected to hit $2.45 billion in 2018, while in 2012 it was $381.3 million. Despite having a lag in adoption and usage, HIT is providing good and promising results in CGHS, Ministry of health and FW should act accordingly to bring out a better future considering the facilities for all kind of beneficiaries.

CONCLUSION :-

HIT has to play a central role in the redesign of the health care system if a substantial improvement in quality is to be achieved over the coming decade, in a complexity of medicine and huge number of beneficiaries. For the significant progress to happen, a major re-engineering of the health care delivery system is required, which can be done by changing in technical, educational, financial, cultural and other important factors for the benefit of beneficiaries and health care providers.

Research is needed to rapid enhancement in service of CGHS scheme :-

- Evaluate the role of IT in improving communication, clinical decision making, information management, costs, and access to better care;
- Identification and evaluation of barriers and right strategies to overcome these barriers so that all beneficiaries could get quality of care.
- Generate solutions to eliminate the economic and social inequality with regard to access/ use of information and communication technologies (ICT).
- The costs and resources associated with adopting and maintaining proven IT applications should be documented.
- Evaluate transferability of IT solutions to CGHS and its linked health care settings.
- Looking at the health scenario of India, IT and IT-enabled services has lagged tremendously behind other countries in HIT adoption ,the GDP spend on health is 0.9%, whereas the WHO recommends a 5% of GDP for health.

The IT based CGHS system should be upgraded, programmed and operated in full fledge way. The challenges for reforming CGHS services to provide better quality of service is utmost necessary as it is the backbone of Indian Health services for central government employees (in-service or retired) as well as various agencies (government as well as private health Insurance sectorand CGHS like services). At present its service stands good and up gradation is necessary to provide excellent care.

Its adoption in health care sytem in Central government health services has been slow in India. Use of electronic health record is not operational in its fullest.

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Abbreviations

1. CGHS – central Government Health Services.

2. CPP – Computerised Physician Prescrption

3. DGHS - Directorate General of Health Services

4. EMR – Electronic Medical Record.

5. FW – family welfare

6. HER – Electronic Health Record

7. HER – Electronic Health Record

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115

8.　HIT- Health Information Technology

9.　ICT - information and communication technologies

10.　NIC - National Informatics Centre

11.　OPD' - Out Patient Department

12.　WC – Wellness Center