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IMPACT OF ONLINE RESOURCES ON PRIMARY HEALTHCARE INFORMATION MANAGEMENT SYSTEM IN INDIA

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Abstract
Health information systems are made up of subsystems that contain information on demography, vital events, health status, environmental health statistics, health resources, health service utilization, health outcomes, and health development financial statistics. time, reporting of maternal and child health indicators, and thus immunisation, has been made possible by computerised information management systems, administration system, as well as to identify the shortcomings of the current system. The Pregnancy, Child Tracking, and Health Services Management System (PCTS) is extremely beneficial in ensuring women's health by reducing maternal and neonatal mortality. In an ever-changing world, technology is playing an increasingly important role in healthcare, and it has changed the way healthcare is delivered and monitored in India.

Keywords: Health information management, technology, maternal health, children's health, and primary care.

Introduction
The use of information technology in healthcare has grown significantly all over the world, particularly in developed countries. But developing countries are working to make technology more sustainable, especially in primary healthcare systems. The use of ICT could greatly improve health service efficiency, expand or scale up treatment delivery to thousands of patients in developing countries, and improve patient outcomes. Keeping a good health information management system in place is an important part of running a health system. Health information can be manually maintained, as is currently done in the majority of India. A computerized system can aid in the improvement of health-care systems by facilitating the collection, storage, analysis, and sharing of data. It also aids health workers in providing timely services to the community. Through the use of e-health, developed and developing countries have been able to save the lives of the most vulnerable women and their babies. E-resources are digital representations of information sources. Electronic resources are systems that store information electronically and make it accessible via electronic systems and computer networks. E-resources include OPAC, CD-ROMs, online databases, e-journals, ebooks, internet resources, and so on. E-resources are digital documents that are made available to library users via a computer-based information retrieval system. E-resources include everything from e-journals to e-newspapers, e-books, and CD-ROM databases. Sayee (2001) defines electronic resources as "resources generated through some electronic medium and made available both on-site and off-site via some electronic transfer machine."

Objectives of the Study

1. To determine the purpose for which ICT products and applications are used by primary health care
2. Determine the extent to which research scholars use e-resources.
3. To ascertain the relationship between ICT awareness and the extent to which primary health care providers use e-resources.

Limitations of the Study

There are some limitations to the current study. They are as follows: 1. The current study is limited to primary health care enrolled in India. 2. The study includes online resources in India.

Research Methodology

The study used qualitative data collection and analysis methods in this cross-sectional study. The identification of key informants began with a review of reference documents and a visit to the local district hospitals and community health centres. Further interviews were conducted with officials and health workers who had more than five years of experience handling health information and systems.

Results and Discussion

An important initiative to develop an e-governance project in India was undertaken to provide the ability to monitor every registered pregnant woman and child. The Pregnancy, Child Tracking, and Health Services Management System (PCTS) provides micro-level details of maternal and child healthcare indicators. This information is critical for ensuring better health for women and children, reducing maternal and neonatal mortality, and expanding universal health coverage. The Technology-Driven Health Information Management System NIC is a planning and management platform created by the NIC in India for the government. By 2021, the system will have covered 23,391 primary health care centres.

The system was designed in such a way that it covered even the most basic health institutions in the state. Data is generated and managed at the village health sub center level. District hospitals, hospitals affiliated with medical colleges, dispensaries, community health centres, and primary health care centres are among the other institutions in the network. The data on the central server is automatically and in real time updated. All users with role-based authentication will be able to view the reports. The regular review prioritises critical cases that require immediate attention. In the case of immunisation, the system generates an immunisation requirement and follow-up chart for each newborn registered. It also contributes to the availability of vaccine dosage at each institution. An online directory of government institutions, as well as an inventory of vaccines, medicines, and cold chain equipment, are efficiently maintained. A set of key daily and monthly performance indicators is maintained on a regular basis. An antenatal checkup chart for registered pregnant women; individual child immunisation schedules; vaccine requirements for each health institution; family planning and counselling requirements for sterilization; maternal death reports; and demographic information and contact numbers of doctors..

Human Resources Play an Important Role in the Management of the Health Information Management System

The National Information Centre NIC has a dedicated computer department at the district and state

levels. The centralised computer department is available to provide e-mail or phone support to all field units. Special staff from the Department of Medical, Health, and Family Welfare then monitor the process. The NIC maintains a dedicated data centre at the regional level, while the ANMs are the key personnel for data entry at the grassroots level. The National Institute of Standards and Technology (NIC) has instructed all locations on how to use the national health training system. Trainers train all operational staff below the district level, including primary health centres, subcenters, and community health centres. Workshops were also held for chief medical officers, reproductive and child health officers, and data managers. All users received sufficient exposure to hands-on system training. Modules and user manuals are available at each location, and training manuals are updated on an annual basis. Staff members who are newly hired in the department are also trained in a similar manner. Technical and operational support is available online and is built into the system.

Research Issues

How has technology aided in the improvement of maternal and child health in Rajasthan's rural healthcare settings?

High-quality prenatal and postnatal care is an important starting point in the continuum of care for mothers and children. Improving the timely reporting and monitoring of maternal and child healthcare services will help the World Health Organization achieve the Millennium Development Goals. Data from antenatal, postnatal, immunisation, newborn delivery, and conditional cash transfer programmes generate a large amount of data. Information technology has made government and private sector players more aware of how to address old problems in novel ways. A new ICT-based integrated system is being used in Kenya to track and update data on the number of pregnancies, abortions, stillbirths, and institutional newborn deliveries. The e-health solution for improving maternal and child health provides an efficient system that reduces documentation. Pregnant women and mothers who have registered are then informed about healthy pregnancies, safe deliveries, and improved maternal healthcare protection terms.. The emphasis is gradually shifting toward providing a continuum of care for mothers and children, beginning with protecting women during pregnancy and progressing to safe and institutional deliveries, newborn care, and promoting good nutrition.

The Indian government has implemented a hospital-based indicators system to improve health care in the state. The key benefits of the system include improved information on maternal health and newborn care, as well as improved health services. Previously, missed maternal care and health checkups resulted in a large number of maternal deaths each year due to lack of immunisation records. The Indian health system registered some pregnant women from remote areas within a year of its launch, demonstrating its effectiveness to the government. The information was gathered by hand at the primary health centre, community health centre, and block primary health center, district, and state levels.

There was no consistent use of information or cross-verification of data from the source and destination, resulting in inconsistencies between the data sets. There were data privacy and confidentiality issues that were not openly discussed by staff officials. There was a lack of evidence about the benefits of e-health systems, which made experts wary of developing focused policies for the efficient use of health information management systems. Because the system was newly implemented, there was a backlog of old data sets that needed to be updated on the systems. A comprehensive training strategy was used to address training challenges, and training was delivered at the state, district, and block levels.

The government, in the form of implementing and policymaking agencies, is critical in recognizing

the importance of ICT and developing key policies. The majority of higher-level officials were unaware of the system's direct benefits in terms of societal health and welfare. Beneficiaries' privacy and security concerns were also linked to the use of health data. In order to use the systems installed efficiently, healthcare institutions must install security checks.

Discussion

The government of India is well covered by the e-health system. It allows for better management of healthcare institutions located at the central grassroots levels. The E-health and tracking systems can improve maternal and child healthcare services, particularly antenatal care and immunisation. In India, they are introducing a computerised health management system. Health workers and data managers had massive workloads, which created a huge demand for significant investment in trained resources for the long-term use of systems. A well-designed system may have a significant impact on the quality of care and information management.

A study by the World Health Organization found that there is a need to streamline the flow of information at the village level, build capacity in terms of healthcare personnel, and promote information-seeking and information-sharing platforms. The study also revealed a plethora of potential applications for the installed application. For example, information can be exchanged with neighboring villages, and short-term online training courses can help health workers improve their skills.

Conclusion

Prior to the implementation of this system in Rajasthan, information was manually recorded on different sets of registers at each level. This configuration resulted in information duplication, and retrieval of information became difficult over time due to the degradation of the paper registers. The standard modules and templates that were developed were mostly appreciated by healthcare workers. A new information management system has been launched in the Republic of Ireland to ensure that all data on pregnant women and children can be accessed at any time. The most important aspect of this information management solution is that healthcare institutions now have access to previously unavailable information on women's health-seeking behavior. However, the sustainability of such a system is dependent on a combination of process planning, technology, and individual social behavior.

References

1. "Telemedicine in underdeveloped countries." 524–25 in British Medical Journal 323, no. 7312 (2001).

2. Krishnan, B. Nongkynrih, K. Yadav, S. Singh, and V. Gupta, "Evaluation of a Digital Health Management Information System for Primary Health Care in Rural India,". BMC Health Services Research, 10, 310 (2010).

3. "Millennium Development Goals 4 and 5," World Health Organization Partnership for Maternal, Newborn, and Child Health. http://www.who.int/pmnch/about/about mdgs/en/index.html (accessed August 30, 2014).

4. WHO is the World Health Organization (WHO). WHO Global Observatory for eHealth and Innovation in Women's and Children's Health: A Baseline Review Based on the Results of the WHO Global Observatory for eHealth's 2013 Survey of CoIA Countries WHO, Geneva, Switzerland, 2018

5. "Electronic Assistance to Rural Healthcare Workers." Information and Communication Technology in Development: Cases from India, edited by S. Bhatnagar and R. Schware. Sage, New Delhi, India, 2000, pp. 35–49.
6. Jaymangal, Chandra, Maternal Health Care Service Utilization in India's EAG States, IIPS, Mumbai, India, 2013.
7. Gupta and C. Sen. "Pregnancy and Child Health Services Management System," I. Informatics, vol. 19, no. 2 (2010), pp. 18–19. http://informatics.nic.in/uploads/pdfs/6e8363a7 October 2010.A pdf is available (accessed August 25, 2014).
8. "Impact of a Computer-based Information System on the Management and Delivery of Primary Health Care in India.".
9. Lucas, "Information and Communications Technology for Future Health Systems in Developing Countries,". The Journal of Social Science and Medicine, vol. 66, no. 10 (2008), pp. 2122–32.
10. "Rationalized and Digital Health Management Information Policy (HMIS) for Public Health Information, Himachal Pradesh," Davey, A. You can find it at http://cbhi-hsprod.nic.in/listdetails.asp?roid=95. (Accessed on the 31st of August, 2014).
11. WHO is the World Health Organization (WHO). Report of the 58th World Health Assembly WHO, Geneva, 2019.
12. https://uri.libguides.com
13. https://digitalcommons.unl.edu
14. https://socialsciences.mcmaster.ca
15. https://icssr.org
16. https://www.wikipedia.org/