Medical Information Retrieval for Healthcare: The Challenges

Irmawati S., Muh. Hidayat Cakrawijaya, E. Laxmi Lydia, K. Shankar, Phong Thanh Nguyen

Abstract: The Medical Information Retrieval (MIR) refers to collect datasets from research agencies, institutes, medical clinical or data from research organizations like hospitals etc and use this information for further experiments for the betterment to get new solutions for the complex health diseases. The purpose of such kind of information retrieval system is to improve the healthcare system, diagnose the disease in less time and try to provide better alternate treatment solutions to the patients. Today the internet has connected the whole world and it is very easy for the medical research organizations to exchange the medical data and exchange the test results. They are not required to do the same experiments again which has already done in any of the country. The research or healthcare research organizations can perform the next level of experiments with the help of collected medical information from the researchers of one country. Even the countries can share the medical information and they can combine do the medical experiments with the retrieved information. However in this research it is tried to study the importance of Medical Information Retrieval and its methods and it is also studied how it is useful in Healthcare. In this study it is noted that there are several challenges the research have to face. Because the different countries have different languages. The medical terms are different in different countries so that sometimes it is difficult to synchronies the retrieved information from different sources. One biggest challenge is that it is not possible to get the accuracy of the data.

Keywords: Medical Information, Information Retrieval Methods (IRM), Information for healthcare system.

I. INTRODUCTION

The one of the biggest issue with Medical Information Retrieval system for the researchers and the medical institutes is that they should have the proper knowledge to understand the data and should have capabilities to convert the data according to the information required for healthcare system. The Medical information retrieval is the process to improve the healthcare and get the required helpful information from the available explosive amount of available data for healthcare domain. The Medical Information Retrieval (MIR) alludes to gather datasets from research offices, establishments, therapeutic clinical or information from research associations like emergency clinics and so on and utilize this data for further tests for the improvement to get new answers for the intricate wellbeing maladies.

Figure 1. Medical Information Retrieval System Basis Model which acquired Agents, Clinical Data or Institutions Data and Stored in a Centralized Database.

The motivation behind such sort of data recovery framework is to improve the human services framework, analyze the infection in less time and attempt to give better substitute treatment answers for the patients. Today the web has associated the entire world and it is exceptionally simple for the therapeutic research associations to trade the medicinal information and trade the test outcomes. They are not required to do similar trials again which has just done in any of the nation. The examination or medicinal services look into associations can play out the following degree of trials with the assistance of gathered therapeutic data from the scientists of one nation. Indeed, even the nations can share the medicinal data and they can join do the therapeutic investigations with the recovered data. Anyway in this exploration it is attempted to think about the significance of Medical Information The patient data information retrieval example is shown in the figure below:

Revised Manuscript Received on September 22, 2019.

* Correspondence Author
Irmawati S., Universitas Megarezy, Indonesia.
Muh. Hidayat Cakrawijaya, Universitas Megarezy, Indonesia
E. Laxmi Lydia, Professor, Vignan’s Institute of Information Technology(A), Department of Computer Science and Engineering, Visakhapatnam, Andhra Pradesh, India.
K. Shankar, Department of Computer Applications, Alagappa University, India.
Phong Thanh Nguyen*, Department of Project Management, Ho Chi Minh City Open University, Vietnam. E-mail: phong.nt@ou.edu.vn

Published By: Blue Eyes Intelligence Engineering & Sciences Publication
II. CHALLENGES IN INFORMATION RETRIEVAL SYSTEM FOR HEALTHCARE

It is very important to check the authenticity of the information collected for healthcare system. Because the incorrect data may slow the process of research and even for future the serious results may seems. Even the rollback of research process is very difficult. In the figure given below it is shown that what problems the researchers may face while correcting the existing datasets.

Significant restorative information, for example, pathology reports, usable reports, release rundowns, and radiology reports are put away in literary structure. Databases containing free-content restorative stories regularly should be looked to discover applicable data for clinical and research purposes. The most common challenges in information retrieval for the healthcare systems are:

<table>
<thead>
<tr>
<th>Lack of Knowledge</th>
<th>The lack of knowledge in new researchers may not understand the format of the information. So that it is very difficult to process such datasets for further research.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correction in Medical Information Datasets</td>
<td>The rollback of process or correction is one of the biggest challenge as it may led the waste of many months or years of researches.</td>
</tr>
<tr>
<td>Understanding of Language</td>
<td>The researchers language is also the key challenge in combine research with the retrieved information on common research for a particular disease.</td>
</tr>
<tr>
<td>Accuracy of Information</td>
<td>It is very difficult to know weather the collected information is 100% accurate or not.</td>
</tr>
</tbody>
</table>

Terms that show up in these archives will in general show up in various settings. The con-content of refutation, a negative finding, is critical, since a significant number of the most much of the time portrayed discoveries are those denied by the patient or in this way "precluded."
Hence, when scanning free-content stories for patients with a specific ailment, if invalidation isn't considered, a large number of the recovered records will be insignificant. The reason for this work is to build up a strategy for robotized learning of negative setting designs in restorative accounts and test the impact of setting ID on the exhibition of therapeutic data recovery. The accessible data recovery techniques help to support the procedure of analyze the sickness. Yet, in this procedure a few difficulties confronted.

The one of the best issue with Medical Information Retrieval system for the examiners and the therapeutic foundations is that they should have the most ideal figuring out how to understand the data and should have abilities to change over the data as shown by the information required for social protection structure. The Medical information recuperation is the method to improve the social protection and get the essential obliging information from the available unstable proportion of open data for human administrations region.

The motivation driving such sort of data recovery structure is to improve the human organizations framework, explore the tainting in less time and try to offer better substitute treatment reactions for the patients. Today the web has related the entire world and it is remarkably clear for the remedial research relationship to trade the restorative information and trade the test outcomes. They are not required to do tantamount starters again which has as of late done in any of the nation.
in any of the country. The assessment or restorative administrations investigate affiliations can play out the accompanying level of preliminaries with the help of assembled remedial information from the researchers of one country. Undoubtedly, even the countries can share the restorative information and they can join do the remedial examinations with the recuperated information. In any case in this investigation it is endeavored to consider the importance of Medical Information Retrieval and its systems and it is also viewed as how it is significant in Healthcare. In this examination it is seen that there are a couple of troubles the investigation need to stand up to. Since the different countries have different tongues. The restorative terms are unmistakable in different countries so that every so often it is difficult to synchronize the recouped information from different sources. One biggest test is that it is past the domain of creative mind to hope to get the precision of the data. For such data recovery framework there are many review organizations or organizations are accessible who gather data by web structures, online interfaces, clinical or research establishment information and procedure them in an orderly manner.

REFERENCES