Improve The Decission Making Through Data Quality Information In Health Industry

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Abstract: Discussion in this paper is; to improve decision making through data quality information in Healthcare Industry. In every business industry or at workplace, decision making is considered an essential and critical process which is made on the behalf of quality of information that has been collected from different sources. In Healthcare Industry various important decisions are taken through management and these decisions are related to healthcare of patients, their better treatments and growth of the industry. These all are important decisions to make and here data quality information is very much required. Data quality information consists of characteristics such as accuracy, timeliness, usability, comparability, relevancy and privacy. There are various flaws found in decision making processes on the behalf of available data, so it is necessary to make improvements in process of decision making and it is main purpose of this paper to discuss about improvement of decision making process.

Key Words: Data quality, healthcare industry & management decisions

Introduction

In most of the business organizations, it is commonly analyzed that 5% of data is of poor quality and the average perceived cost of poor data quality is as high as 10% of organization's revenue. Therefore, poor quality of data is one of the main reasons for bad decision making in case of Healthcare Industry or in other industries. The main focus of this paper is on improvement of decision making in Healthcare Industry. According to analysis, lack of data quality in Healthcare sector has far-reaching effects. Whole planning process and delivery of services are mostly rely upon data that is collected from sources such as clinical, administrative and management (Guindo L, Wagner M, Baltussen, 2016). The higher quality of data will result in better outcome for the patients. The quality of data should be with regard to timeliness and accuracy, because this data is used for administrative purposes such as cost management and for making other essential decisions. There are various difficulties existing in data requirements, decisions making and this results in complex and demanding relationships. Information systems also play an important role in data quality and in health sector information management system is used as information-driven service (Cai LZhu Y, 2016). Most of the hospital records are stored into databases and in other electronic repositories. These repositories are easy to access, reliable and secured which is very much necessary to make quick decisions about well-being of patients and for the management of Healthcare organizations. In this way, a proper management or quality of data provide positive effects on decision making process and reduce level of uncertainty and it will become easy to get more timely and accurate decision outcomes (Huitfeldt BMiddleton M, 2001).

Background Study

In earlier days, Healthcare organizations were not much concern about the quality of data collected and decisions were made on behalf of this poor quality information and this was one of reason behind poor decisions and lack of effectiveness. But today, various efforts are made to obtain high quality information that can be used further for decision making.

Problem Statement

How improvement can be made in decision making through data quality information in Healthcare Industry.

Study Objectives

The main objectives of this study is to find out ways that can help to improve decision making in Healthcare Industry and to aware people that how an accurate and good quality information can be collected from different sources. Besides this, it is also essential to discuss that how advanced technologies will be helpful in this process of improvement.

Scope of Study

Improve decision making in Healthcare Industry describes importance of accurate and high quality data collected in Healthcare sector; it shows scope is limited to Healthcare Industry.

Justification/Importance of Research Study

The research will help management of Healthcare institutions to make right decisions at right time on behalf of right information that has taken from different sources.

Research Hypothesis

There is an impact of quality of information collected in Healthcare Industry in effective decision making.

Literature Review

Improvement is required in decision making in Healthcare Industry and use of latest technologies such as Information management systems and other ways to maintain quality of data will be helpful in this process of improvement (Ortiz D, 2016). One thing is cleared after

analysis about decision making in Healthcare Industry that appropriate collection of data from reliable sources, its long term maintenance and on-time availability of data are important ways to improve decision making in Healthcare industry, otherwise, both patients and Healthcare organizations will be in loss because of lack of accurate record (Ballou DPazer H, 2016). Now in this segment, researcher would emphasize on reviews of researchers that have analyzed Healthcare organizations for their improper decision making process and asked for improvement. In Healthcare Industry, data throws light on aspects such as requirements of patient, trends of disease, and outcomes of treatment and high risks of individuals. So if there is any deficiency in quality of data then it is necessary to improve that deficiency (Farner S, 2016). Here are some important aspects that are required to consider in improvement of Healthcare delivery (Chu Y, Yang S, Yang C, 2001).

Provide Proper Staff Training
For maintaining quality of data in Healthcare organizations, it is better to train staff for collecting and utilizing data. Staff members should have alternatives to collect and maintain information of patients if they are not able to contact them face to face. Telephonic conversation and availability of patients' records in hospitals' online databases are better options. Besides this, staff members must also have good communication skills to interact with patients and others.

Standardization of Collection of Data
This is another essential factor that can be used to improve quality of data. The standardization consists of some essential points that are listed as below:
- Information should be collected directly from patients
- No assumption should be there
- Upon admission of any patient into hospital, it is necessary to ensure that collected information about that patient is relevant
- The storage of data should be in standardized format

Use of Electronic Health Record
Electronic health record is documentation of individuals' health information that is stored electronically and this electronic information is used for clinical care settings. These records are basically used to improve the quality of care both in hospitals and clinics. Following information must be included in electronic health records:
- Patient's information should be up-to-date and accurate
- This a comprehensive view of patient's data and it is a better way to make future decisions regarding treatment of a patient.
- If important information will be available in an accurate and appropriate format then it will also be easy to diagnose actual problem of the patient.
- In enhancement of patients' safety is also possible by detecting dangerous drug interactions, verifying the medications and dosages. Problem and alerts for doctors are automatically checked by Electronic Health Records.

Use of Patient Registries

Patient registries are commonly used to capture clinical data that is based on physicians or patients. This data is collected from various important sources and these sources are required to meet with Healthcare needs. These important sources are listed as below:
- Proper tracking of patients those are suffering with certain chronic disease conditions and its proactive management allows staff of hospitals to collect information.
- Demographic details are also considered a good source of information. On the behalf of demographic details prevention services can be provided to patients in case of certain risky health conditions.
- Well-organized registries of patients facilitate regular communication with patient and also provide help for better treatment.

Patients' Feedback
A data survey is another effective source of information which is directly based on feedback of people. In case of Healthcare Industry, data can also be collected from patient's feedback and can be easily used for decision making. Data survey includes patient's experience survey, population survey, and forums of patients, focus groups and personnel interviews and this information provides help to observe health status, needs and outcomes of care plan. With the help of this collected information it will become easy to implement strategies that are required to overcome the major concerns of patients and improve Healthcare delivery. According to researchers, these above listed steps will help Healthcare organizations to improve their decision making process and it will be helpful for successive growth of their industry.

Research Methodology and Design
Different research methodologies and design are used by researchers and most commonly used research methodologies are qualitative and quantitative. The study about improvement of decision making in Healthcare Industry is qualitative approach and here researcher have discussed some important facts about this concept in detail. If we talk about design or framework of this research then we would like to discuss about data quality framework which is a tool for evaluating quality of data within an organization (Aronsky D, 2016). This type of framework evaluates areas where processes are of poor quality and due to inefficiencies performance of organization is reducing. Following are some activities that are included in development research design of data quality (Moskowitz H, 2016).
- Applicability of dimensions of data quality, characteristics and criteria those are required for evaluation (Aladwani APalvia P, 2016)
- Appropriate language should be selected for framework
- Time length should be decided to complete evaluation of framework

Through this qualitative research methodology researcher have also found that data quality dimensions that must be considered to enhance quality of data as whole, so that critical decision making can be done. These dimensions consist of accuracy, relevancy, timelines, usability, security and privacy. If Healthcare organizations will

follow these dimensions of data quality then it will become easy to make critical decisions without issues (Kogure M, 192).

Results and Discussions

On the behalf of increasing demand of data quality in different corporations, it has become essential to improve the quality of data for effective decision making. Above discussed solutions are latest and increase chances of quick improvement. Data quality frameworks and strategic approaches significantly contribute in overall data quality management and improvement programs (Chengalur-Smith I, Ballou D, Pazer H, 1999). Besides this, contextual metadata will improve the intelligence density of improvement of data quality. Advanced information management systems and artificial intelligence software and Total Data Quality Management programs are helpful approaches for Healthcare organizations to improve its data quality process. On the behalf of above research, it is also observed that there is lack of awareness in users regarding usage of data for handling various business activities (O'Leary D, 1991). This approach of data quality improvement is helpful for both large and small business organizations and management of these organizations must concentrate on this approach. It is also discussed among researchers that strategic approach of data quality improvement can derive and impose standards that will help to facilitate data and information transfer securely. In strategic approach of data quality, accountability of users and mechanism that must be followed by them, are discussed. Therefore, strategic approach, frameworks and tools can provide better outcomes for improving data quality (Dowling D, 2016).

Conclusion and Recommendations

We can say that for Healthcare Industry, data quality should be top priority and they should follow above discussed tools and techniques to achieve goal of quality of data. It is right to say that organized form of data is used at workplaces, but still some deficiencies are found. Therefore improvements are deemed necessary. There are some recommendations regarding improvement of data quality (Shah N, Irani Z, and Sharif A, 2016):

- Healthcare organizations should update management of data and decision making. This can be done by taking feedback of people who are directly impacted with these processes.
- Management should involve data users in decision making on the granularity of data quality information.
- Appropriate information systems and artificial intelligence software, Total Data Quality Management program to become an intelligent enterprise which will self-adapt self-heal and self-manage to meet the demands of environment and users.
- The policies of Healthcare organizations regarding process of collecting and management of data should be strict and must be followed by staff members.
- It is necessary for healthcare staff members to be updated about new techniques that can be used for collecting accurate data from different sources.

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