

Variables Impact Healthcare Outcome Measures and Data Management

Subjects: **Nursing**

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The rapid growth of technology, digitalization of health records, and unprecedented data management of healthcare information enable healthcare providers and researchers to assist in healthcare quality improvement and community health outcomes. Data management and potential variables affect the performance of healthcare measures. Data analytics enables healthcare providers and researchers to evaluate, monitor performance, and track healthcare quality across the continuum of patient care. The data type is an attribute of data that tells the aggregator or interpreter how the programmer intends to use the data.

Data Management

Variables

Health Outcomes Measures

1. Float Data Variables and the Significance of Healthcare Data File Protection

Data is a specific measurement of a variable and are two different types of numerical data Integers and floats. An Integer is a number without a decimal. A float is a floating-point with a decimal place. Boolean data types indicate whether a condition is true or false. (Islam et al.,2018).In research, the variable defined as an attribute of an object of study chooses to ensure the quality of experimental searching content(Bomheuer et al.,2020). Quantitative data are the records of the number that represent the total amount of the experiment variables that can be added, subtracted, or divided. Discrete variables are also integer variables as counts of people, individual items, or values. Continuous variables are ratio variables as a measurement of constant or non-finite values, the Age of the people involved in the study. Categorical represent groupings of the same kind in chosen research, and numbers represent categories rather than the actual number of people or objects. (Owens et al.,2021). Controlling variables using data files enables one to determine the effect of the variable, measure the dependent variable, and identify the cause variable's impact. An Independent variable is that you manipulate to affect the outcome of an experiment. Dependent variables are the variable that represents the outcome of the investigation. A control variable uses healthcare performance measures as a constant variable throughout the research to assess the relationship between multiple variables.

In addition, the control variables will allow the researcher to compare study results relatively without skew. (Owens et al.,2021). The rapid growth of technology and digitalization of health records and information made the interoperability, health information sharing, and quality healthcare delivery enormously efficient and faster. Healthcare data has value in its relevance in people's life. Essential to protect the health care data using appropriate and safe techniques for data integrity such as facilitating blockchain approach, masked authenticated

messaging extension, and secure cloud or cryptography technologies in advancing health information securing. Nurse leaders need to take a significant role in ensuring data protecting principles implementing fully as a responsible part of patient care delivery. (Terry,2017).

2. Variable Types and Storage of Healthcare Data

Data management variables are control, independent and dependent variables. Dependent variables are the variable that represents the outcome of the study, and independent variable can manipulate and study the impact. Researchers collecting data in a database require a unique identifier for each variable. The identifier is a variable because the data it contains can vary in every personal record. Essential to make the variable meaningful by defining the variable and what kind of data it has. (Islam et al.,2018). Health data management is the systematic organization of health data in digital form. The significance of data management lies in the ability to securely access and share clients' health records between healthcare providers, clients, and caregivers, guaranteeing prompt service and proper medical treatment. In addition, secure and efficient data management assist in lowering operational cost and ensure better data analysis and performance. The appropriate data management enhances the opportunity for healthcare providers to view the comprehensive view of patient health information, increasing the patient experience of the value of care. (Pandey et al.,2020).

3. Cost of tools used and Best Practices in Healthcare Data Management

The cost of tools used in data measurement varies on every bit of on-site code or app, affecting performance measures. For example, site speed can profoundly impact user online experience and customer satisfaction. Regardless of the analysis chosen, reliable interventions cost data forms of all economic evaluations. The key components of evaluation tools cost are intervention input cost of the dollar value of the resources consumed. Primarily the dollar value of net resources finished, health outcomes measured in natural units, health outcomes measured in quality-adjusted life years, and health outcomes measured in dollar value monetary terms. (Chapel & Wang, 2019). The best data management practices include proper data collection, storage, and management. Effective and secure use of technology is essential for appropriate data management and standardized data. Best data management practices enhance seamless information exchangeability, a comprehensive view of patient information, and health information protection. Healthcare data management includes usability, availability, consistency, integrity, and data security, used for interoperability and sharing to provide quality healthcare to the public. (Pandey et al.,2020).

Monitoring the health situations, trends, and performance measurements of the health system requires tools to manage healthcare data. Data management is a complex data governance process, integration, enrichment, and storage. AHRQ quality indicators are standardized, evidence-based measures of healthcare quality. Quality indicators measure the quality of health care performance, monitoring, and assessing adverse events related to patient safety. (Agency for Healthcare Research and Quality, n.d). The four levels of data measurement are

nominal level data, Ordinal level data, Interval level data, and ratio levels of data measurement. Little data can only be categorized, and ordinal data can be indexed and ranked. Interval data enable categorizing, and classes and evenly spaced. Finally, ratio data is organized, typed, evenly spaced, and has a natural zero. The different levels limit descriptive statistics to use the summary of your data and enhance inferential statistics perform on your data to support or refute the hypothesis. (Bomheuer et al.,2020).

4. Conclusion

In conclusion, the rapid growth of digitalization of health records and data management of healthcare information enhance more significant opportunities for nursing leaders to assist in healthcare quality improvement and community health outcomes. Data management and potential variables affect the performance of healthcare measures. Therefore, data management helps healthcare management optimize performance, leveraging data-driven insight to achieve specific goals and assist with cost-effective quality improvement and health outcome measures. (Bomheuer et al.,2020).^{[1][2][3][4][5][6][7]}

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