

Application of Statistics in Health Care

Posted on October 7, 2022

Introduction

In the modern world, statistical knowledge plays a significant role in every paradigm of societal institutions. Statistical knowledge and the interpretation of data have immense significance in the field of health care. The application of statistics in the medical field is also called biostatistics. This research essay intends to unveil the significance of statistical knowledge in the medical field by analyzing its significance and application in the intensive care unit.

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The application of statistics in the medical field is also called biostatistics. Healthcare organizations use statistical knowledge to increase the level of efficiency of their performance results. The statistical knowledge includes empirical data obtained from surveys, research, hospitals, and international organizations. Technology is playing a significant role in providing rapid access to vast online statistical resources with one click. These online resources provide validated statistical information related to medical practices, different diseases, and infections. The data comes from viral diseases, accidents, cure rates, drug effects, medical instruments, and medical treatments (Bartkowiak & Finnegan, 2004).

The healthcare system uses statistical knowledge to enhance its quality, safety, health promotion, and leadership. Healthcare systems use statistical data to scrutinize their decisions by evaluating the risk factors of different diseases in patients with different age groups. Furthermore, these healthcare organizations use statistical knowledge to evaluate the results of different medicines on different health issues. The healthcare sector uses statistical data to develop healthcare policies. The Statisticians and health care providers collaborate and develop healthcare policies to enhance the quality, competence, and efficiency of the healthcare system. (Rice, 1977)

Healthcare organizations use statistical data to decrease the risk factors that are prevalent in healthcare procedures. Healthcare professionals use “statistical process control charts” to analyze their decisions and increase safety protocols while performing medical procedures on patients (Hagan, n.d.). Healthcare professionals use the statistical data collected from clinical trials to ensure the safety of their patients. Furthermore, these healthcare professionals use statistical data to ensure the health promotion and safety of the general population in the whole society. Statistical information has a great hand in the rapid health promotion found in the contemporary healthcare system. The healthcare system has improved massively by analyzing the statistical data collected from the state, national, and international levels. The healthcare system uses the empirical data from these

statistical developments to organize healthcare policies to allocate fund distribution. It includes the distribution of private and public funds to facilitate healthcare research and quality medical care. The paradigm of leadership in the healthcare system always faces crucial circumstances in terms of decision-making. Healthcare professionals use statistical knowledge to analyze their decisions to enhance their patient's welfare. Decision-making becomes more efficient and risk-free by analyzing the statistics of the effectiveness of different drugs on different diseases.

Significance of Statistical Knowledge

Statistical knowledge plays a significant role in the health care system. The statistical data is used to assess and provide guidance to the health care professionals in delivering proper health care interventions for patient care. The statistical information guides healthcare professions in terms of prevention, diagnosis, and treatment. Healthcare professionals use statistics to exercise their leadership attributes to analyze their accurate resources for decision-making and medical treatment. Healthcare institutions use statistical knowledge to improve their competence in terms of prevention, diagnosis, and treatment. Healthcare organizations can analyze their input decisions and their outcomes to enhance their quality, safety, and leadership qualities.

Statistical knowledge in Day-to-Day Operations

As a part of a healthcare institution, statistical knowledge has always been in use in daily tasks in all paradigms. The statistical knowledge is obtained from patients' demographics and national and international resources regarding medical health care. The patient's demographics (age, gender, weight, etc.) play a significant role in forming the direction of our statistical analysis. The statistical data is important for us to carry out efficient, personalized medical care. Statistical knowledge is used during decision-making in recommending appropriate medical procedures for patients. We use such knowledge while prescribing different drugs for effective medical interventions.

Statistical knowledge in Intensive Care Unit (ICU)

As a part of the intensive care unit (ICU), statistical knowledge is always used while providing medical care to patients. The first information that is used in ICU is the patient's demographics and his or her ICU stay time. The statistics of a patient's record are used to analyze the patient's disease outcome. Patients having multiple co-morbidities have a poor prognosis when they are admitted to ICU. Therefore, the patient's record of comorbidities facilitates in assessing the outcome and its severity. The record-keeping of ICU procedures and ventilator support is important for disease surveillance. The statistics of disease-related mortality rates are significant for future record keeping. ICUs are the notorious place to contract resistant infections. Therefore, we use statistics of records to control these infection rates in the ICU.

Conclusion

In a nutshell, healthcare providers require statistical knowledge and analysis of empirical data in their daily operations of professional lives. Healthcare organizations require statistical data to provide effective medical interventions and their predictable outcomes. All healthcare professionals must have access to vast statistical knowledge to enhance the quality, safety, efficient leadership, and health promotion of their patients in healthcare organizations.

References

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