



“A STUDY ON HOSPITAL OPERATIONS, QUALITY MANAGEMENT AND CHALLENGES FACED BY THE ORGANISATIONS”

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Part-1

General Information

- **ABOUT THE HEALTHCARE INDUSTRY**

The healthcare sector consists of businesses that provide medical services, manufacture medical equipment or drugs, provide medical insurance, or otherwise facilitate the provision of healthcare to patients. The U.S. healthcare sector benefits from a strong system of medical research and development, in cooperation with the higher education system and the technology industry. The aging U.S. population and the advancing senescence of the Baby Boomer generation are driving ongoing strong demand in the healthcare sector.

Healthcare has become one of India’s largest sectors, both in terms of revenue and employment. Healthcare comprises hospitals, medical devices, clinical trials, outsourcing, telemedicine, medical tourism, health insurance and medical equipment. The Indian healthcare sector is growing at a brisk pace due to its strengthening coverage, services and increasing expenditure by public as well private players. The World Health Organization estimates there are 9.2 million physicians, 19.4 million nurses and midwives, 1.9 million dentists and other dentistry personnel, 2.6 million pharmacists and other pharmaceutical personnel, and over 1.3 million community health workers worldwide, making the health care industry one of the largest segments of the workforce.

In 2017, healthcare costs paid to hospitals, physicians, nursing homes, diagnostic laboratories, pharmacies, medical device manufacturers and other components of

the healthcare system, consumed 17.9 percent of the gross domestic product (GDP) of the United States, the largest of any country in the world. It is expected that the health share of the Gross domestic product (GDP) will continue its upward trend, reaching 19.9 percent of GDP by 2025.

In recent years, healthcare in India has grown rapidly, becoming one of the country's most lucrative and populous industries. Hospitals, medical tools, clinical trials, outsourcing, telemedicine, medical tourism, health insurance, and medical tools are all part of the healthcare system. As a result of rising governmental and private investment, coverage and services in the Indian healthcare industry are expanding rapidly.

Public and private sectors make up the bulk of India's healthcare delivery system. The government, in the form of the public healthcare system, provides primary healthcare services in the form of PHCs in rural regions and a small number of secondary and tertiary care institutions in major cities. Most secondary, tertiary, and quaternary care facilities are owned and operated by the private sector, with a heavy concentration in large cities, tier-I, and tier-II.

India has an edge in the global market because of its abundance of qualified medical personnel. Compared to its Asian and Western counterparts, India's prices are relatively low. Compared to the United States or Western Europe, the cost of surgery in India is far lower. Because of the relatively inexpensive cost of healthcare in the country, an increasing number of international patients are choosing to go there for treatment. With its cheap cost of clinical research, India has also become a centre for R&D for global businesses.

M&A activity in India's healthcare sector

At a compound annual growth rate (CAGR) of 22% between 2016 and 2022, the Indian healthcare market is projected to triple in size, from US\$ 110 billion in 2016 to US\$ 372 billion in 2022. By the end of the next fiscal year, in FY22, the value of India's healthcare infrastructure is projected to rise to US\$ 349.1 billion.

According to India's Economic Survey for 2022, the percentage of GDP spent by the government on healthcare increased to 2.1% in 2021-22 from 1.8% in 2020-21 and 1.3% in 2019-20.

To the tune of Rs. 73,582.13 cores (about \$9.21 billion), health insurance premiums sponsored by businesses increased in FY22. In terms of the country's overall gross

written premiums, the health sector accounts for 33.33 percent.

In 2020, the Indian medical tourism sector was worth \$2.89 billion, but experts predict that by 2026, it would be worth an astounding \$13.42 billion. Nearly 697,300 international visitors sought medical care in India in FY19, according to the India Tourism Statistics at a Glance 2020 report. The Medical Tourism Association has placed India at number ten on its Medical Tourism Index (MTI) for 2020-21, out of a total of 46 potential travel locations.

By 2025, the global e-health industry might be worth \$10.6 billion.

Minister of Health and Family Welfare Dr. Bharati Pravin Pawar told the Lok Sabha that there are 12.68 lakh registered allopathic physicians and 5.65 lakhs AYUSH doctors, for a doctor population ratio of 1:854.

Projects/ Investments

Using statistics from the Department for Promotion of Industry and Internal Trade, we can see that the medicines and medications industry received a total of US\$19.90 billion in FDI between April 2000 and June 2022. (DPIIT). The following are some examples of current trends in India's healthcare system:

The total number of COVID-19 vaccine doses given out in the nation as of November 24, 2022, is above 219.88 crore. As of the 16th of November 2022, India has sent out 28.13 billion doses of vaccination.

Working with the AmeriCorps India Foundation, a non-profit organization focused on health assistance and development, the multinational healthcare corporation Abbott has pledged to transform 75 Primary Health Centres (PHCs) into Health and Wellness Centres (HWCs) throughout nine Indian States. A total of 2.5 million individuals annually from low-income areas will benefit from this.

Beaton, a mobile app for managing diabetes, received US\$ 33 million in a Series B investment round in November 2022, with impact investor Light rock India serving as the round's lead investor. To facilitate the creation of Ayushman Bharat Health Account (ABHA) numbers for Indian citizens, Edelweiss General Insurance collaborated with the Ministry of Health, Government of India, in August 2022.

In the first six months of 2022, the healthcare and pharmaceutical industry in India saw merger and acquisition activity totalling \$4.32 billion. A total of 612 medical schools were operational in India as of July 2022. The Indian Council of Medical Research (ICMR) published uniform guidelines for the diagnosis and management

of 51 common diseases across 11 medical subspecialties in July 2022. These guidelines are intended to aid physicians, especially those practicing in underserved areas, in making timely diagnoses and treatment decisions for their patients.

Retail pricing for 84 prescription formulations, including those used to treat diabetes, headaches, and high blood pressure, were set by the National Pharmaceutical Pricing Authority (NPPA) in July 2022.

As of March 2022, Biological E, a pharmaceutical firm located in Hyderabad, has submitted an EUA application for their Covid-19 vaccine Corbevax for children aged 5 to 12 years old. Phase 3 trials of the first intranasal vaccine against COVID-19, produced by Bharat Biotech and the Washington University School of Medicine in St. Louis, United States, began in January 2022.

Healthily, a start-up with a total of 30 million members, adds half a million new users per month, and it exceeded US\$ 40 million ARR in January 2022. One in every three life insurance plans sold in FY21 was purchased by a woman, for a total of 93 lakh covers provided to women. Vaccination appointments, certificates, and Health IDs are all now available in India via Eka Care, the country's first CoWIN-approved company, which opened in December 2021.

There are 80,136 Ayushman Bharat-Health and Wellness Centres (AB-HWCs) open in India as of the 18th of November, 2021. As part of the national government's 'Digital India' project, 638 e-Hospitals have been set up throughout India as of November 18, 2021. With an eye on making India the source of 40% of total income by 2025, Aster DM Healthcare stated in November 2021 that it would be investing Rs. 900 crore (US\$120.97 million) in capital expenditures over the following three years to grow its footprint in the country.

The Sputnik Light COVID-19 vaccine developed in Russia was given approval for Phase 3 trials in India in September 2021. During the month of September 2021, Biocon Biologics Limited, a division of Biocon, and Serum Institute Life Sciences, a division of Serum Institute of India, announced their strategic agreement (SII). There is hope that this partnership would cement India's status as a leading manufacturer of biologics and vaccines on the international stage.

The government of India has made many important steps to advance the country's healthcare sector. Money of Rs. 86,200.65 crore (US\$11.28 billion) was allotted to the Ministry of Health and Family Welfare in the Union Budget 2022-23. (MoHFW).

Honourable Prime Minister of India The Prime Minister's Swasthya Suraksha Yojana (PMSSY) was given Rs. 10,000 crore (US\$1.31 billion).The Ministry of Health and Medical Education received Rs. 7,500 crore (US\$982.91m).Rs. 37,000 crore (\$4.84 billion) was granted to the National Health Mission.

Project Ayushman Bharat: The Vision of the Prime Minister The budget for the Ayushman Bharat-Prime Minister's Jan Arogya Yojana (AB-PMJAY) was Rs. 6,412 crore (US\$ 840.32 million).The Indian government has allocated Rs. 37,000 crore (about \$4.85 billion) to fund "National Health Mission" for another year.

The recently announced PM-ABHIM would invest Rs. 5,156 crore (\$675.72 million) to enhance India's basic, secondary, and tertiary healthcare systems.

The Pradhan Mantri-Ayushman Bharat Health Infrastructure Mission in India was awarded a \$1 billion loan from the World Bank in July of 2022.The Indian government is encouraging medical tourism by opening up the e-medical visa provision to people of 156 nations.

The Union Government granted funding for five new medical institutions in Gujarat in May 2022, at a cost of Rs. 190 crore (about \$23 million). Navsari, Porbandar, Rajpipla, Godhra, and Morbi are all set to have their own universities.

A US\$40 million health initiative for the state of Meghalaya was signed in November 2021 by the Government of India, the Government of Meghalaya, and the World Bank. The state's ability to respond to future health catastrophes, such as the COVID-19 pandemic, will be bolstered by this project, which will also increase the quality of health services now available.

PM Narendra Modi unveiled the Ayushman Bharat Digital Mission in September of 2021. Hospitals all throughout the nation will be linked together digitally thanks to this initiative. The law mandates that all residents be issued a digital health ID and that each resident's medical history be kept in a secure electronic format.

The 'Medicine from the Sky' project was launched by the governments of Telangana and the United Nations' World Economic Forum and the National Institution for Transforming India (NITI Aayog) and HealthNet Global (Apollo Hospitals) in September 2021. This work will allow for the eventual use of drones to transport essential medications and vaccines to underserved areas of the nation.

A government spokesman has said that India would be instituting a credit incentive scheme of Rs. 500 billion (US\$ 6.8 billion) to improve the country's healthcare facilities. Using the government as a guarantee, the scheme would let businesses

borrow money to improve health care facilities in rural areas hit hard by the spread of the deadly COVID-19 virus.

In order to promote medical and wellness tourism in India, the Ministry of Tourism formed the "National Medical & Wellness Tourism Board" in July 2021.

The Union Cabinet renewed the National Ayush Mission in July 2021 to ensure that traditional medicines in India continue to receive funding from the government through 2026.

The India–Denmark Memorandum of Understanding on Healthcare Cooperation was ratified by the Union Cabinet in July 2021. The goal of the agreement is to improve the public health of the populations of both nations via coordinated efforts and the creation of new health technologies.

To dispel myths about COVID-19 vaccines and vaccination and stress the significance of COVID-19 Appropriate Behaviour, the Ministry of Health and Family Welfare, in collaboration with UNICEF, hosted a capacity building workshop for media professionals and health correspondents in North eastern states in June 2021. (CAB).

Providers, payers, and medical technology are just few of the many subsectors that make up India's thriving healthcare industry. Businesses today, in the face of rising levels of competition, are actively seeking out new opportunities presented by emerging dynamics and trends. From Rs. 4 trillion (US\$ 61.79 billion) in FY17, the Indian hospital business is expected to grow at a CAGR of 16-17% to Rs. 8.6 trillion (US\$ 132.84 billion) by FY22.

The medical device market in India is ripe with potential for growth. As a result of massive investments in cutting-edge diagnostic facilities, the country is now a top destination for high-end diagnostic services, making them available to a wider range of citizens. Additionally, Indians who seek medical treatment have developed a heightened awareness of the need of preventative medicine. Forecasts indicate that demand for healthcare services will increase due to factors such as rising incomes, an aging population, more health awareness, and a shift in perspective towards the need of preventative treatment. Increases in the number of people with health insurance contributed to this upward trend in healthcare expenditure, which is projected to accelerate over the next decade.

In the last decades of the nineteenth century, a wide range of public and private hospital systems sprang up, laying the groundwork for what we now call the modern hospital. The average number of patients admitted to hospitals in the 1870s was more than three times that of the 1850s. New hospitals in continental Europe are often funded and operated by the government. In 1948, the United Kingdom established the National Health Service as its primary health care delivery system. In the nineteenth century, doctors like Carl Freiherr von Rokitansky, Josef koda, Ferdinand Ritter von Hebra, and Ignaz Philipp Semmel weis helped establish the Second Viennese Medical School.

The study of medicine's fundamentals progressed, while specialized practices also made strides. Furthermore, Vienna is often regarded as the birthplace of specialized medicine; the city was home to the world's first dermatology, ophthalmology, and ear, nose, and throat clinics.

This section's examples and viewpoint are predominantly American in scope and not necessarily reflective of a global perspective on the topic. This section may be expanded upon, the problem may be discussed on the discussion page, or a new part may be added. Towards the End of Time (August, 2020) (Discover the proper way to modify this message)

The advent of safer diagnostic tools like X-rays and anesthetics in the late 19th and early 20th century made hospitalization the preferred treatment setting for a variety of illnesses and injuries.

Hospitals in the modern period track a wide range of operational indicators, including but not limited to: occupancy rates, average length of stay, speed to service, patient satisfaction, physician performance, patient readmission rate, inpatient mortality rate, and case mix index.

By 1981, there were 171 admissions for every 1,000 residents in the United States, and 6,933 hospitals. Since then, however, the opposite has occurred, with hospitalization rates dropping by almost 10% and the total number of hospitals in the US dropping from 6,933 in 1981 to 5,534 in 2016. Additionally, occupancy rates have decreased from 77% in 1980 to 60% in 2013. This is due in part to the public's perception of hospitals as less therapeutic and more life-threatening, and in part to the increased availability of more complicated treatment elsewhere, such as at home or in the offices of doctors.

In the United States, a person may sleep in a hospital bed without being legally admitted, yet still be considered an outpatient and "under observation." Part A of

Medicare covers hospital stays in the United States, but hospitals may keep patients under observation under Part B, which requires the patient to pay a copayment. An growing number of long-term "observation" stays were being utilized for compensation until the Centers for Medicare and Medicaid Services (CMS) implemented a "two-midnight" restriction for inpatient admissions in 2013. Later in 2018, this regulation was rescinded.

Hospital-based healthcare systems in the United States fared badly financially in 2016 and 2017 due to healthcare reform and a continuous fall in admissions. There has been a rise in the number of "micro hospitals" in the United States. These facilities typically have between eight and fifty beds. In a similar vein, freestanding emergency rooms, which triage patients and transfer those who need inpatient treatment to hospitals, rose to prominence in the 1970s and have since proliferated fast throughout the United States.

Funding Zagreb, Croatia's Clinical Hospital Dubrava

These days, hospitals may get money from all sorts of places. Money for these services might come from a variety of sources, including individual payments, health insurance premiums, government spending, and charity contributions.

Care for those who are legally able to live in the United Kingdom is provided by the National Health Service at no cost to them, and emergency services are provided without regard to citizenship or immigration status. Because of the necessity to prioritize the use of scarce hospital resources, 'waiting lists' for less urgent medical care are common in nations with such systems, prompting the well-to-do to seek out private health insurance.

Private hospitals in the US often operate for profit, like HCA Healthcare. A charge master details the costs associated with a variety of medical treatments; however, patients who get care via their plan's preferred provider network may pay less. Hospitals must treat all patients in medical emergencies regardless of their capacity to pay, as mandated by law.

During catastrophic events like Hurricane Katrina's aftermath, private hospitals which were treated uninsured patients faced direct financial losses.

Excellence and security

As the quality of medical treatment becomes a concern on a global scale, hospitals have forced to devote more and more resources to improving it. Accreditation is one method through which hospitals are subjected to a rigorous and objective

external evaluation of their quality of treatment. Many nations' healthcare systems rely on international healthcare certification from organizations like Accreditation Canada (Canadian), the Joint Commission (American), the Trent Accreditation Scheme (British), and the Haute Autorité de santé (French). The Care Quality Commission inspects hospitals in England. Seven fatalities in 2019 were attributed to listeria in pre-packaged sandwiches and salads, prompting a focus on hospital food standards in 2020.

- **HEALTHCARE INDUSTRY CLASSIFICATION**

Healthcare industry is basically classified into 2 industry categories and then they are further classified into more sub categories:

1. **Healthcare Equipment & Services.**

- **Healthcare Equipment and Supplies**

Includes companies that manufacture equipment and supplies, ranging from the basics such as crutches and bandages to advanced equipment like MRI machines.

- **Healthcare Provider and Services**

Includes companies that own and operate healthcare facilities hospitals, rehabilitation centers, nursing homes, and animal shelters.

- **Healthcare Technology**

Includes companies that engage in research and development (R&D), as well as analyzing data to innovate current healthcare practices.

2. **Pharmaceuticals, Biotechnology & Life Sciences**

- **Biotechnology**

Includes companies that perform research and development or manufacturing that are generally derived from living organisms.

- **Pharmaceuticals**

Includes companies that develop and produce drugs and vaccines that are generally derived from a chemical basis.

- **Life Sciences Tools and Services**

Includes companies that study living things and provide analytical tools, clinical testing services, and general contract research services.

- **GROWTH OF HEALTHCARE SECTOR**

Medical tourism is a multi-billion dollar industry today and continues to grow. There is a current competition to see what countries will capitalize on this growing global industry. The phenomenon of the industry is the amount of resources countries around the world are putting into attracting the medical tourist by offering high quality, low cost, specialized care with concierge and hospitality benefits. Medical Tourism is an important part of a growing interest of health care providers in other countries around the world willing to attract and accommodate medical travelers.

A hospital is a medical facility that treats patients with the help of doctors, nurses, and other medical professionals that specialize in various medical fields. General hospitals are the most well-known, and they are equipped with an emergency room to handle patients with life-threatening conditions such as those who have been injured in fires or accidents or who have developed acute illnesses. A district hospital is often the largest medical institution in its area, with several critical care beds and extra long-term care beds. Trauma centers, rehabilitation facilities, children's hospitals, geriatric hospitals, and hospitals catering to patients in need of mental care (for more information, see psychiatric hospital) and certain disease types are all examples of specialized hospitals. When compared to ordinary hospitals, the price of health care may be reduced by choosing a facility that specializes in a certain area. General hospitals, specialty hospitals, and government hospitals all have different patient populations and revenue streams.

Together, patient care and education for future medical professionals are provided

in a teaching hospital. Clinics are usually defined as medical facilities that are less extensive than hospitals. There are many different types of departments and specialized units in hospitals, from surgery to emergency care to cardiology. Both acute care and long-term care services may be found in many hospital settings. Pharmacy, pathology, and radiography are all examples of common support units.

Public financing, health organizations (for-profit or not), health insurance companies, charities, and even direct philanthropic contributions are common sources of hospital funding. Historically, hospitals were often established and supported by religious communities and other philanthropic groups.

Medical professionals such as doctors, surgeons, nurses, and allied health practitioners now make up the bulk of hospital employees, replacing the early religious groups and volunteers. However, in the late 1990s, there were a number of Christian denominations, including the Methodists and the Lutherans, as well as a number of Catholic religious orders, such as the Alexians and the Bon Secours Sisters, that focused on hospital ministry. Some hospitals, like the Royal Hospital Chelsea, founded in 1681 as a retirement and nursing facility for veteran soldiers, retain the original definition of the term "hospital," which was "places of hospitality."

Etymology In the United States, a hospital is represented with a white on a blue backdrop. During times of peace, hospitals may be represented by a number of icons. In the United States, the letter "H" is often shown in white on a blue backdrop. In compliance with the Geneva Conventions, a hospital may display the red cross, red crescent, or red crystal during times of armed conflict.

Almshouses for the destitute, hostels for pilgrims, and hospital schools were some of the medieval hospital's many guises. The Latin root *hospes*, from which we get the term "hospital," means "stranger" or "foreigner," which is what a visitor often is. *Hospitium*, another derivative term, came to mean hospitality in general, the relationship between a host and a visitor, friendliness, and a warm welcome. Metonymy led to the Latin word's use to describe a bed and breakfast, hotel, or other establishment where visitors may rest their heads.

The English terms *host* (where the *p* was deleted for pronunciation), *hospitality*, *hospice*, *hostel*, and *hotel* all derive from the Latin word *hospes*. The later contemporary term comes from Latin via the Old French romance word *hostel*, which over time became silent and was dropped, represented in modern French by a

circumflex. Similar origins may be found in the German term "Spital."

Patients might be either "outpatients," who do not remain overnight but depart after receiving diagnosis, treatment, or therapy, or "admitted," who do stay overnight and often for numerous days, weeks, or months ("inpatients"). Medical institutions that can accommodate inpatients are often referred to as hospitals, whereas those that can't are typically referred to as clinics because of their smaller size.

Medicine, both routine and emergency

The term "general hospital" has been misplaced. Refer to General Hospital for information on the American daytime drama.

A general hospital, often called an acute-care hospital, is the most common form of hospital. Hospitals and other medical centers that treat a wide variety of conditions often feature an emergency room (sometimes called a "accident and emergency" department) or trauma center for dealing with life-threatening emergencies. Cities with a larger population tend to have more than one hospital option, and those options may range in size and services offered. In certain countries, including the USA and Canada, hospitals even operate their own ambulance service.

Medical tourism has seen a tremendous rise in recent years. At present, technologies are giving a stronger push to medical tourism and integrating its stakeholders under the smart healthcare system (SHS). This study determines the applications of the SHS for medical tourism and how the integration of networks is happening in SHS to benefit medical tourism. The results of this study explain that mobile health, tele-health, block-chain technology, cloud technology, internet of medical things (IoMT), virtual reality, and artificial intelligence are key technological applications in SHS enlarging medical tourism.

- **MAJOR MULTISPECIALITY HOSPITALS IN INDIA**

1. Apollo Group of Hospitals.
2. Fortis Group of Hospitals.
3. Nanavati Hospital.
4. Columbia Asia Referral Hospital.
5. Lilavati Hospital.
6. Shalby Multi Specialty Hospital.
7. AIMS Hospitals.
8. Medanta Medicity Hospital.
9. Aster Hospital.

10. Wockhardt Group of Hospitals.

• **HOSPITAL SERVICE PROFILE**

A hospital is a healthcare facility that provides specialized medical and nursing care as well as medical supplies to patients. The most well-known form of the hospital is the general hospital, which usually carries an emergency department to handle urgent health issues such as fire and accident victims, as well as medical emergencies. According to the hospital definition, a district hospital is usually the region's primary healthcare facility, with a large number of intensive-care beds and extra beds for patients who need long-term care. Trauma centers, children's hospitals, rehabilitation hospitals, hospitals, and seniors' (geriatric) hospitals for coping with particular medical conditions such as psychiatric care are also examples of specialized hospitals and several other disease categories. When opposed to general hospitals, specialized hospitals can help save money on health care. Based on the source of revenue, hospitals are categorized as general, specialized, or government.

✓ **WARD FACILITIES**

One of the distinguishing factors that marks hospitals unique, with respect to other health facilities; such as, clinics and care centers is that they provide both inpatient and outpatient care provisions. Every hospital needs to have ward allotment for patients suffering from severe illness and injuries. This enables care givers to monitor health conditions continuously and thereby, accurate treatment procedures can be opted for. In India, hospitals provide different types of wards for patients. Some of these are; general wards, private wards, semi private wards etc. Depending on choice and costs, patients can opt for any type of ward. Modern hospitals are sufficiently equipped to provide huge comfort to patients and are no less, or sometimes better than homes.

✓ **NURSING FACILITIES**

Nurses employed by hospitals function as connecting bridges between doctors and the patients they treat. Nurses look after the overall well being of patients. They ensure that all health related instructions given by doctors are implemented and followed by patients. Nurses are employed in different departments within hospitals. Specialized hospitals hire trained nurses who are technically sound to

perform advanced tasks relevant to diagnosis, treatment and care of sick ones. Every hospital therefore has a separate nursing department which forms a core segment of hospitalization.

✓ **OUT PATIENT DEPARTMENT (OPD)**

Every hospital needs to have an OPD (Outpatient Department) as one of the core services provided. A set of skilled doctors along with technicians must be available, who can assist patients in preliminary diagnosis and related treatments. Doctors prescribe medicines or diagnostic tests to know the patient's health condition. They are also required to be available for follow up visits to monitor conditions and treatment procedures. Depending on the response, patients are either asked for admission or specialized services such as surgeries. The outpatient department is an important part of the overall running of the hospital. It is normally integrated with the in-patient services and staffed by consultant physicians and surgeons who also attend inpatients in the wards. Many patients are examined and given treatment as outpatients before being admitted to the hospital at a later date as inpatients.

✓ **INTENSIVE CARE UNIT (ICU)**

Almost every hospital in India provides ICU facilities for patients suffering from adverse health conditions. ICUs need to be equipped with modern technical apparatus and skilled professionals who can render best services. Depending on the type of hospital and services they focus on, there can be different types of ICUs. Some of them are, Neuro ICU, Critical Care Unit, Neonatal ICU, Psychiatric ICU etc. Intensive care units cater to patients with severe or life-threatening illnesses and injuries, which require constant care, close supervision from life support equipment and medication in order to ensure normal bodily functions. They are staffed by highly trained physicians, nurses and respiratory therapists who specialize in caring for critically ill patients. ICUs are also distinguished from general hospital wards by a higher staff-to-patient ratio and access to advanced medical resources and equipment that is not routinely available elsewhere. Common conditions that are treated within ICUs include acute respiratory distress syndrome, septic shock, and other life-threatening conditions.

✓ **CRITICAL CARE UNIT (CCU)**

Critical care nurses are also known as CCU. They treat patients who are acutely ill and unstable requiring more frequent nursing assessments and the utilization of life sustaining technology and drugs. Although many ICU patients have chronic health

issues. ICU nurses apply their specialized knowledge base to care for and maintain the life support of critically ill patients who are often on the verge of death. On a day-to-day basis a critical care nurse will commonly, "perform assessments of critical conditions, give intensive and intervention, advocate for their patients, and operate/maintain life support systems which include mechanical ventilation via endotracheal, tracheal, or nasotracheal intubation, and titration of continuous vasoactive intravenous medications in order to maintain a mean arterial pressure that ensures adequate organ and tissue perfusion.

✓ **PHARMACY AND DIAGNOSIS**

Most hospitals in India do maintain a pharmacy and diagnostic department of their own. This is a very important segment as easy and quick availability of medicines and other equipment required for treatment procedure is vital to render best healing services. However, many a times, hospitals do not guarantee the availability of all medicines that are being prescribed and therefore independent pharmacies are equally important. Further, 9 out of 10 hospitals maintain a separate laboratory and diagnostic section where related tests can be carried out. Again, similar to pharmacies, these diagnostic departments do not offer wide variety of test and analysis for patients. The scope of pharmacy practice includes more traditional roles such as compounding and dispensing of medications, and it also includes more modern services related to health care, including clinical services, reviewing medications for safety and efficacy, and providing drug information. Pharmacists, therefore, are the experts on drug therapy and are the primary health professionals who optimize the use of medication for the benefit of the patients.

These were the five most common services related to hospitalization. The more advanced a hospital is in rendering services, the more popular and desirable it becomes. Indian hospitals are aiming at becoming more advanced in providing best and upgraded amenities to patients that can ultimately enhance their treatment procedures. Thus, with upgraded hospital features, health care system in India will be at the top of providing best medical solutions to the entire population.

As the quality of medical treatment becomes a concern on a global scale, hospitals have forced to devote more and more resources to improving it. Accreditation is one method through which hospitals are subjected to a rigorous and objective external evaluation of their quality of treatment. Many nations' healthcare systems rely on international healthcare certification from organizations like Accreditation Canada (Canadian), the Joint Commission (American), the Trent Accreditation

Scheme (British), and the Haute Autorité de santé (French). The Care Quality Commission inspects hospitals in England. Seven fatalities in 2019 were attributed to listeria in pre-packaged sandwiches and salads, prompting a focus on hospital food standards in 2020.

Going to the hospital is riskier than flying, according to the World Health Organization in 2011. According to Liam Donaldson, worldwide, the probability of a patient experiencing a mistake is about 10%, and the probability of mortality as a direct consequence of an error is around 1 in 300. Health care-associated infections affect around 7% of hospitalized patients in industrialized nations and 10% in poor ones. The United States has the worst hospital-acquired infection rates in the world, with 1.7 million cases and 100,000 deaths annually; Europe has 4.5 million cases and 37,000 fatalities annually.

Architecture. The UVA Health System's new medical facility is indicative of the widespread use of cutting-edge design in hospitals. Norfolk and Norwich University Hospital, part of the United Kingdom's National Health Service, is a good example of the functionalist design of many contemporary hospitals. Religious space at Fawcett Memorial Hospital (Port Charlotte, Florida)

The goal of today's hospital architecture is to maximise efficiency while reducing the workload of medical staff and the risk of infection. Within the hospital, patients may be transported quickly and easily between departments, and staff members can save time on their daily commutes. Space for specialized wiring, plumbing, and waste disposal must be included in the design as well as large, resource-intensive departments like radiology and surgery.

Unfortunately, many hospitals, even those that are often regarded as "modern," are the result of unchecked and poorly managed expansion over many decades or even centuries, with purely functional additions made when the requirements and budgets of the institution warranted. Cor Wagenaar, a Dutch architecture historian, has so dubbed several healthcare facilities: "Catastrophes in the making, faceless edifices of bureaucratic inertia that are hopelessly mismatched to the task for which they were constructed. They seldom work properly, increasing patients' worry and anxiety rather than helping them feel more at ease."

Some modern medical facilities are making an effort to return to a more patient-centered approach to hospital layout and architecture by using more windows, natural light, and soothing colors. These concepts date back to the late 18th century, when hospital builders first used the notion of incorporating natural light,

ventilation, and the "healing qualities of nature" into their designs.

The British Medical Association has conducted studies demonstrating that well-planned healthcare facilities hasten patients' recoveries. Depressive symptoms may be ameliorated by spending time outside in natural light. [65] Separate facilities for men and women guarantee that all patients get the utmost respect. Patients' health and well-being may benefit from simple things like spending time in the hospital's gardens or gazing out a window. There is some evidence that open windows in patient rooms improve outcomes by increasing ventilation and microbial diversity. Reducing the length of hallways is one way to ease nurses' exhaustion and anxiety.

The transition from a ward-based system (in which patients are housed in shared rooms divided by moveable walls) to one in which they are housed in private rooms is another continuing key development. It has been said that the ward-based approach is very efficient, particularly for the medical personnel, but that it is more stressful for patients and compromises their privacy. Some hospitals charge more for private rooms because they can't afford to provide them to all their patients.

PART-2

Primary Study

INTRODUCTION OF THE STUDY:

Managing hospital operations effectively is crucial to the facility's overall success. Everything from human resources to the supply chain is included in this broad category of healthcare management. You may help your hospital operate as smoothly and effectively as possible by gaining a grasp of the critical roles played by operations management To what extent does operations management play a role

in healthcare institutions?

Healthcare organizations may benefit from careful planning, organization, and control of their operations via operations management. Managing both clinical and administrative functions is part of it. An essential part of hospital administration is operations management, whose primary focus is on optimizing the effectiveness and efficiency of all clinical procedures.

It doesn't take into account important facets of hospital management including staffing, patient flow, resource allocation, or process improvement. In addition to facilitating efficient operations and achieving set objectives, hospital operations management is an essential function.

- ***The Role of Hospital Operations Management***

For a healthcare organization to be successful, it must have competent hospital operations management. It helps in making sure everything runs smoothly and successfully. The quality and security of patient treatment is enhanced through hospital operations management as well.

The financial health of a hospital also depends on effective operations management. Costs may be cut and productivity increased with well-managed operations. As a result, the healthcare facility may see more financial gain.

Managing hospital operations is a difficult and time-consuming task. Nonetheless, it's crucial for the development of any healthcare institution. The quality and security of patient treatment, as well as financial gains, may benefit from well-managed operations.

There can be no efficient medical care in hospitals without operations management. Managers in this field make sure hospitals function efficiently and achieve their objectives.

Is a job in hospital operations management something you could be considering? In any case, there are a plethora of fantastic options out there. Earning a bachelor's degree in operations management may set you on the path to a successful career in this essential industry. For those interested in a career as an operations manager, we offer Advanced Certificates in Operations, Supply Chain, and Project Management.

Present Problems and Worries

Health care is a rapidly expanding industry, and the present delivery system has to be reorganized to keep up with rising demand while also reducing waste and

maximizing efficiency. It's important to keep in mind that:

The well-being of the population must continue to be a top concern for governments and businesses. Adding more money to the health care system is not a guarantee of its efficiency or efficacy. All too frequently, medical treatment is administered when and how it is most convenient for the doctor or hospital, rather for the patient.

In order to make better use of scarce human resources, the health care business has to revamp its methods of producing human labor by introducing innovative approaches to education and certification. Agencies responsible for statewide and regional health planning should allocate resources.

Consumers need to have more say in healthcare decisions and have access to a wider variety of service options. With the ability to make informed decisions and access to sufficient data, consumers may be motivated to ask more in-depth questions about health care for the first time.

Troubles in Healthcare Operations Efficiency in operations is essential for the growth and survival of any business. The pressure is on healthcare businesses to maximize efficiency while both enhancing patient care and decreasing spending. Any company may succeed if its bottlenecks are eliminated and it adopts measures that will result in efficient answers to typical issues.

This is easier said than done, as any healthcare leader, particularly hospital leadership, would confirm. The ability to make sound decisions is essential for successful operations management, which is not a "one and done" endeavour. The first stage in reaching one's goals is to gather, evaluate, and optimize data. How can you make the most of the information at your disposal if you're entrusted with bettering treatment, enhancing clinical operations, and increasing financial returns?

Healthcare providers and patients alike are feeling the effects of the industry's growing costs, making it one of the sector's top issues. As a result, more and more attention is being paid to specific elements of patient care, including -Mode of therapy and justification

Facilities and medical supplies made available Price tag of medical care (can include consulting, prescriptions, medication, hospital care) Restoration Period Medical attention or monitoring after a course of therapy Cost sharing between insurance and the patient When and how claims are settled

Everyone from hospitals and manufacturers to physicians and patients to health insurers and people themselves is waiting for effective ways to improve healthcare.

To a greater or lesser extent, every organization has to deal with its own unique set of difficulties. Although there have been major breakthroughs in ancillary research, the overheads/bottlenecks do not seem to be diminishing. Contrarily, they are creating much more complex management challenges than before.

- **REVIEW OF LITERATURE**

The Journal for Healthcare Quality (JHQ) provides an overview of the state of healthcare quality and the elements that may be implemented to improve outcomes in the healthcare sector in an article by Maria R. Shirey et al. from 2019. All organizations in today's market are heavily invested in digital technology, thus all data is monitored and stored inside.

This includes but is not limited to the patient's name, address, phone number, date of birth, departments, samples, doctors' names, tests, appointment dates, and next appointment dates. It is recommended to utilize a tracking tool that graphs data such as the number of patients seen this week, the number of tests performed, staff productivity, the number of samples collected, etc. to enhance the operation and ensure quality. You may create a tracking tool that will get information from the lab's database, do an analysis, and then provide the results to the user in the form of dashboard metrics.

The report may be prepared and shared with the lab manager, providing insights into the present condition of the industry and any forthcoming trends, as well as the standard level of performance that can be used to gauge the lab's success. Data on test orders and outcomes may be imported from laboratory SIS for analysis of in-house processes. So, a lab may know every day which machines are being used most often to conduct tests, and thus know whether any of them are getting on in years and need to be replaced.

The term "informal organization" is used to describe the parts of systems that aren't predetermined but instead develop naturally as a result of the actions and interactions of individuals involved (Kast and Rosenzweig 2017). There are many moving parts and interactions inside a quality system, as we've discussed earlier. It's possible to include structural factors in quality systems analyses.

(Nelsen and Daniels, 2017). Organizational structure, as defined by the ISO QMSs, is the set-up of roles, responsibilities, and reporting connections inside an organization. In many companies, the organizational structure is laid out formally in a quality manual. Relevant interfaces to external organizations may be included into

an organization's structure.

- **ABSTRACT**

The goal of healthcare providers should be to provide better treatment at lower prices. It is essential for the leadership of these businesses to have a straightforward means of gaining rapid, actionable data to guarantee they are maintaining high standards of service in a viable economic climate. To enhance operations is to focus on doing things in a way that will help the company reach its objectives. Product development is at the center of operational enhancements. When it comes to satisfying customers, nothing is more important than product quality. In an article published in Volume 31 of The Journal for Healthcare Quality (JHQ) in 2019, Maria R. Shirey argues that practicing the art and science of healthcare quality preparation may boost health outcomes and move the field forward. Already, a number of things have been included to boost productivity and quality. However, insights into the performance of the healthcare organization can be gained through the development of a data analytics solution that provides series-related metrics and reports to clinical laboratory and hospital management, as well as insights into current industry conditions and emerging trends. It is possible to tailor the data-gathering capabilities of the core laboratory's operation metrics module to answer questions about that facility's efficiency and effectiveness.

Keywords: Operation, Quality, Improvements, data, hospital

- **Hospital Operations and Quality Management**

Although there is a wealth of research on operations management and strategic planning in hospitals, there has been little if any research on the integration of these two issues. Hospital administrators are being pressured to improve the quality of services and to curb costs - two primary themes within the field of operations management. This leads us to wonder to what extent operations are considered within the strategic planning process and what impact it may have. By surveying the literature, we identify a pattern in hospital management research, and identify articles which address the operations capabilities of quality, flexibility, delivery and cost control.

The practice of operations management in healthcare includes overseeing all practices established to monitor and manage the many processes occurring to drive the services produced, spanning financing, staffing, policy, and facilities. These practices can range from quality assurance, care coordination, staff certification and licensing, credentialing, overseeing health insurance and related claims risks, organizing medical review, legal, auditing, and compliance programs.

- **Challenges In Hospital Management**

- I. Patient Focus.

- II. Data.

- III. Communication.

- IV. Process Improvement.

- v. Housekeeping.

As hospital costs continue to rise, increasing attention is being paid to the way these organizations are and should be managed. This attention typically comes in the form of focus on costs of services, quality (often measured through mortality rates) and length of stay. Hospital management has a broad way of choices at their disposal to tackle these challenges. As service operations, hospitals present a significant opportunity to apply those tools and techniques from the field of operations strategy to this important industry. The objective is to use the operations strategy framework to assess the relationship between a set of operational elements and hospital performance in terms of average length of stay, so that hospital managers improve the effectiveness and efficiency of patient care of their hospitals.

{Mc Dermott, C. and Stock, G.N. (2007)}

Hospitals consume the largest share of government health resources until recently, they have not been a focus of health policy and research in developing countries, where the resources are in negative proportion to the demands placed on services of health care institutions, and where the possibility of resources being increased in the short run is very remote, the only hope for the increase in the efficiency of the health care system being the effective management of hospitals. A professional person with multiple training experiences would ensure the optimal use of resources. We live in the age of perfection at all levels. Hence, professional training

is the basic requirement for a person to function effectively in a hospital to meet the requirements of the institution.

{Amin Tabish, S. (1998)}

Biomedical waste (BMW) crucial on the part of the employees to know the hazards of the biomedical waste in the work environment and make its disposition effective and in a scientific manner. It is critical that the different professionals engaged in the healthcare sector have adequate Knowledge, Attitudes and Practices with respect to biomedical waste management. The study demonstrated gaps in the knowledge amongst all the cadres of the study respondents. The knowledge in relation to biomedical waste Management including the hospital protocols was more desirable among doctors, but practical facts were better in nurses and the lab technicians. Knowledge, Attitude and Practice amongst the different cadres of staff members were found to be significant statistically. To ascertain the levels of and the expanse of gaps in knowledge, attitudes and practices among doctors, post graduates, staff nurses, laboratory technicians and house-keeping staffs in a tertiary care teaching hospital.

{Rao D, Dhakshaini M. R, Kurthukoti A, Doddawad V. G.}

Health care is very complex sector and delivery of service is the fragmented care. Quality can be a common paradigm to address the need of all groups in health care. Quality improvement is the process approach to the organization's operational challenges. The initiative to address the quality in health care has become a global phenomenon. A quality revolution for delivery of service with patient at the center and services around it is the demand of the time. This article comprehensively reviews the quality management in health care service and aims to sensitize the health care professionals towards achieving total quality. Quality management in health care is a wide term. Initially it was perceived as directing the healthcare personnel to what to do.

{J Oral Biol Craniofacial Res. (2018 Jun 30)}

Medical and health data are often collected for studying a specific disease. For such same disease micro-data, a privacy disclosure occurs as long as an individual is known to be in the micro data. Individuals in same disease micro data are thus subject to higher disclosure risk than those in micro data with different diseases. This important problem has been overlooked in data-privacy research and practice,

and no prior study has addressed this problem. In this study, we analyze the disclosure risk for the individuals in same-disease micro data and propose a new metric that is appropriate for measuring disclosure risk in this situation. An efficient algorithm is designed and implemented for anonymizing same disease data to minimize the disclosure risk while keeping data utility as good as possible.

{Xiaoping Liu, Xiao-Bai Li, Luvai Motiwalla (October 2016)}

- **Background of the study**

The conventional view of quality management is that it is a universalistic management system, in which case there must be a single, optimal strategy for implementing quality management. Hospitals provide unique challenges since quality management was originally designed for manufacturing companies. It may be difficult to adopt a quality management system in Finland and many other countries where hospitals are also public non-profit enterprises. There has to be a quality management approach for hospitals that takes into account the context in which they work. This prompts us to consider quality management systems from a probabilistic point of view.

Methods for Establishing a Successful Healthcare Quality Management System It's easy to see why quality management systems would be beneficial in the industrial sector, but they can also be used in the public and private sectors. A Quality Management System (QMS) must be communicated in a manner appropriate to the setting in which it is used (Oakland 2017). Therefore, at a hospital, you should speak the language of the healthcare business, link the QMS to the other management systems, and see the system as a whole, made up of interconnected parts that are coordinated at every level of the organization.

Research Through Innovation

In certain cases, researchers have assessed the maturity of quality systems by looking at how often quality instruments are used. The second approach uses a maturity scale from 1 to 5 depending on a person's performance. In the first tier, there is no formal approach, in the second tier, a reactive approach, in the third tier, a stable formal system approach, in the fourth tier, continual improvement is emphasized, and in the fifth tier, best-in-class performance is present, which means a strongly integrated improvement process and that best-in-class benchmarked results are demonstrated (Sower et al., 2017). Accordingly, on average, a hospital

should use a quality management system.

According to the results of the investigation, there is a lot of uncertainty inside the company. Because of the lack of clarity, employees have to act in a manner that conflicts with their conceptions of their roles and the most efficient means of achieving their objectives. Increased sick days are likely to result from the current work environment. According to the results of the research, there is a pressing need for improved methods of handling ambiguous circumstances at work.

To eliminate the ambiguity, it would be helpful to have a quality system in place that is based on the sense-making process and can bring together the many interpretations in order to arrive at a collective interpretation that can be used to make sound judgments and successfully adapt to change (Lindberg and Rosenqvist, 2015). An organization's quality manual and self-assessment report of the award might become "image" materials if it uses quality awards or ISO 9000 standards for managing its quality.

The self-assessment, for example, loses its focus on progress in favor of a focus on receiving awards. However, there are examples of successful implementations of ISO 9000 quality standards (Van den Heuvel et al., 2005, p. 367) and quality awards in Europe (EFQMmodel) and the United States (Malcolm Baldrige framework). Successful QMS deployment has occurred in individual hospital departments rather than via an enterprise-wide approach.

Training and prior experience with the EFQM model were shown to be the two most critical factors affecting the effectiveness of EFQM adoption in Spain and elsewhere. Guidelines for the actual execution of the model were also developed and promoted by the government (S'anchez et al., 2006, p. 64). A study on the current state of QCI implementation in Korean hospitals found that while structural support and a culture compatible with CQI philosophy also play a significant role, the use of scientific QCI techniques and quality information systems are the most crucial elements that help the implementation.

- **STATEMENT OF PROBLEM**

The price of medical treatment is perhaps the biggest problem in the healthcare system today. According to a poll conducted by the Kaiser Family Foundation, over forty-five percent of American people have financial difficulties in paying for health care, and over forty percent are already carrying medical debt.

Due to the pandemic, hospitals are experiencing near-historic levels of inflation, prescription price hikes, supply chain disruptions, and acute staffing shortages, while one third of hospitals were already running at a loss before the outbreak.

“A STUDY ON HOSPITAL OPERATIONS, QUALITY MANAGEMENT AND CHALLENGES FACED BY THE ORGANISATIONS”

- **OBJECTIVES OF STUDY**

- i. To know the challenges faced by the organization for housekeeping and quality check.
- ii. To manage the biomedical waste on time.
- iii. Patient data management during the admission and discharge.
- iv. Cost analysis in hospital services for the patient.

- **HYPOTHESIS**

H1: Hospital operations and quality management have a thin line relation between them and can be used alternatively.

H01: Both Hospital operations and quality management have no relational difference between them as per the current investigation.

H2: Both Hospital operation and Quality department can exist without any relation to each other and without any type of leadership.

H02: There will be no change in the relationship of both the existing forms of research on Hospitals operations and Quality management.

RESEARCH METHODOLOGY

- ✓ **Research design:**

Research design performed will be descriptive research design.

- ✓ **Source data:**

Source of data will be the people admitted in the hospital and those who are seeking early discharge or satisfaction at the time of discharge.

- ✓ **Data collection method :**

Data collection method will be carried out in the form of survey and questionnaire method.

✓ **Population:**

The people admitted in the hospital.

✓ **Sampling method:**

Samples will be selected by the probability purposive sampling technique.

✓ **Sampling frame:**

The people admitted in the hospital and those who are seeking early discharge or satisfaction at the time of discharge.

QUESTIONNAIRE

➤ **To know the challenges faced by the organization for housekeeping and quality check.**

- 1) What will be the consequences to be faced by an organization for the poor maintenance of wards?
- 2) What are the types of quality checks done by the hospitals before purchasing of bulk goods?
- 3) Name the types of categories comes under the Housekeeping department?
- 4) What are the measures that should be taken to improve the quality dept. in the hospitals?
- 5) State the measures that how the term housekeeping is different from quality?

➤ **To manage the bio medical waste.**

- 1) What are the measures an organization takes to manage the biomedical waste?
- 2) How the waste is disposed off and what are the official precautions given to the organization by the government?
- 3) What are the 4 types of biomedical wastes?
- 4) How many categories are there in which the biomedical waste is being classified?
- 5) What is the methodology for the biomedical waste?

➤ **Patient data management during the admission and discharge**

- 1) What are the measures that should be taken care of while entering the patient data?

- 2) What are the main issues that arise after the data entry of patient is done?
 - 3) How to organize the patient data into the scheduled appointments?
 - 4) What are the responsibilities of the clinical data manager?
 - 5) Who are the key members involved in data management?
- **Cost allocation in hospital services for the patient**
- 1) What are the terms and conditions that should be taken care of while deciding the cost of treatment?
 - 2) What are the conditions which should be taken care of while financing the health?
 - 3) Which types of claims are fully funded by the insurance companies?
 - 4) Name any 3 biggest expenses by the hospitals?
 - 5) How the health costs can be managed?

4.3 PROBLEM STATEMENT

The price of medical treatment is perhaps the biggest problem in the healthcare system today. According to a poll conducted by the Kaiser Family Foundation, over forty-five percent of American people have financial difficulties in paying for health care, and over forty percent are already carrying medical debt. Due to the pandemic, hospitals are experiencing near-historic levels of inflation, prescription price hikes, supply chain disruptions, and acute staffing shortages, while one third of hospitals were already running at a loss before the outbreak.

4.4 OBJECTIVES OF THE STUDY

- Aligning care with what consumers need, reducing medical mistakes while increasing the utilization of appropriate treatment and boosting results, and
- To increase healthcare quality by bolstering the responsibility of medical professionals and administrators
- To provide its people top-notch, cost-free medical care

4.5 HYPOTHESIS

H0: There is a significant different between hospital operations, quality management and challenges faced by the organizations

H1: There is no significant different between hospital operations, quality

management and challenges faced by the organizations

$$\chi^2 = (38-36)^2 + (62-64)^2 = 0.174$$

36, 64

$$P\text{-value} = 1 - p(\chi^2(1) \leq 0.174).$$

k	2	Number of categories
n	100	Sample size
χ^2	0.173611	Chi square test statistic
DF	1	df = k-m-1 = 2-0-1 = 1
Phi effect (Φ)	0.0416667	$\Phi = \sqrt{\chi^2/n}$

Goodness of fit, using χ^2 distribution

1. H0 Hypothesis

P value >, hence hypothesis (H0) is accepted.

Observations are well described by the statistical model.

2. The P-value

$p(x^2) = 0.3231$ indicates a significance level of 0.6769. This indicates a high risk of making a type I mistake (i.e., incorrectly rejecting H0) of 0.6769 (67.69%).

For H0, a bigger p-value indicates stronger support.

The significance level indicated by the test statistic, 2, is 0.1736, which is within the 95% confidence interval ([-: 3.8415]).

Fourth, the magnitude of the impact

The magnitude of the observed effect, denoted by phi, is rather tiny. This suggests that the discrepancy between observed and predicted values is negligible.

5 RESEARCH METHODOLOGIES

METHODS FOR DATA COLLECTION & VARIABLES OF THE STUDY

5.1 RESEARCH DESIGN

Exploratory research aims to broaden our understanding of a topic rather than providing final, irrefutable solutions to existing issues. The objective of this kind of study is to provide a clearer explanation for a phenomenon that is poorly understood at the moment.

5.2 SOURCES OF DATA

Primary Data

For the most part, data was gathered via the use of questionnaires.

Secondary Data Secondary resources such as print publications, online databases were taken in used.

5.3 DATA COLLECTION METHOD

This kind of survey collects information in real time as it is being provided by asking respondents open-ended questions as they think

5.4 POPULATION

The sample population for this research is made up of input from one hundred event management clients. Customers from the car sector were chosen at random to participate in a survey and interview.

5.5 SAMPLING METHOD

One hundred participants were chosen at random to provide information for this study. We employed a random sampling strategy

6. DATA ANALYSIS AND INTERPRETATION

- **TECHNIQUES FOR DATA ANALYSIS**

Procedure for Taking Samples

Contrarily, non-probability sampling entails selecting samples from a population in a non-random fashion. Due to the fact that it does not require a complete survey frame, non-probability sampling can collect data quickly, easily, and inexpensively.

Software: SPSS and Microsoft Excel

The SPSS Program

SPSS can be used to perform statistical analyses such as descriptive and vicariate statistics, numerical result predictions, and group identification predictions. The package features tools for data transformation, direct marketing, and data visualization. The primary interface for the software is a spreadsheet-like representation of public data.

SPSS is an application for analyzing data that can be used in place of MS Excel. It provides descriptive and vicariate statistics, numerical result predictions, and group identification predictions.

The package incorporates data transformation, direct marketing, and data visualization tools. Open data is primarily displayed in a spreadsheet-like format within the software.

- **HYPOTHESES TESTING AND METHODS**

Thoughts on Hypothesis Testing Methodology Researchers use sample-based statistical tests to evaluate the validity of the null hypothesis. Statisticians use data collected from large samples of the population to evaluate hypotheses. All analysts employ a randomly selected subset of the population when comparing two hypotheses. All population parameters are equal is an example of a null hypothesis, as is the claim that all population mean returns are zero.

The current paradigm is challenged by a competing theory, or null hypothesis. Only one of these possibilities is valid. Always, one of the two options is correct.

Strategy for Examining Hypotheses:

- When trying to decide between multiple possible explanations, analysts must first present competing hypotheses.
- Having collected the necessary data, the next step is to formulate an analysis plan detailing the criteria that will be used to evaluate the results of the data collection.
- Third, you'll put into practice what you've learned in the first two steps by performing the required procedures and analyzing the sample data.
- The final step is to extrapolate from the data and decide whether or not the null hypothesis can be rejected.

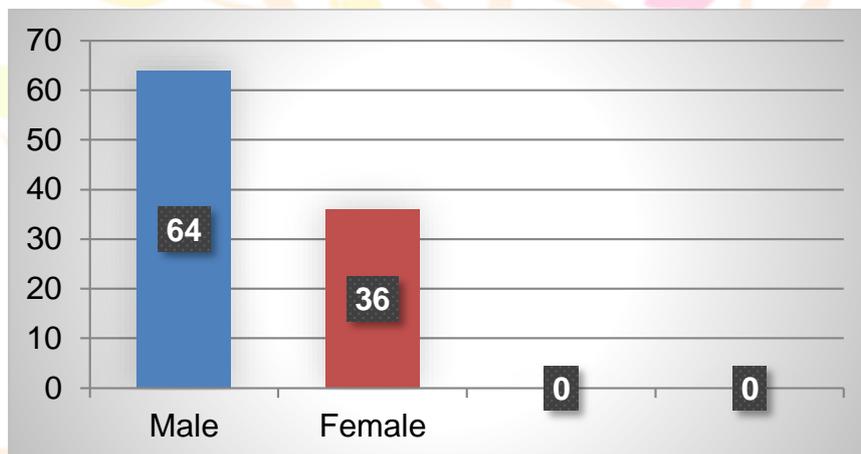
DATA ANALYSIS AND INTERPRETATION

1. Gender of the employees working in Hospital

Table 6.1

Gender Experience	No of Respondents	Percentage
Male 5-10 years	64	64.51
Female 10-15 years	36	36.40
Total	100	100

Graph 6.1

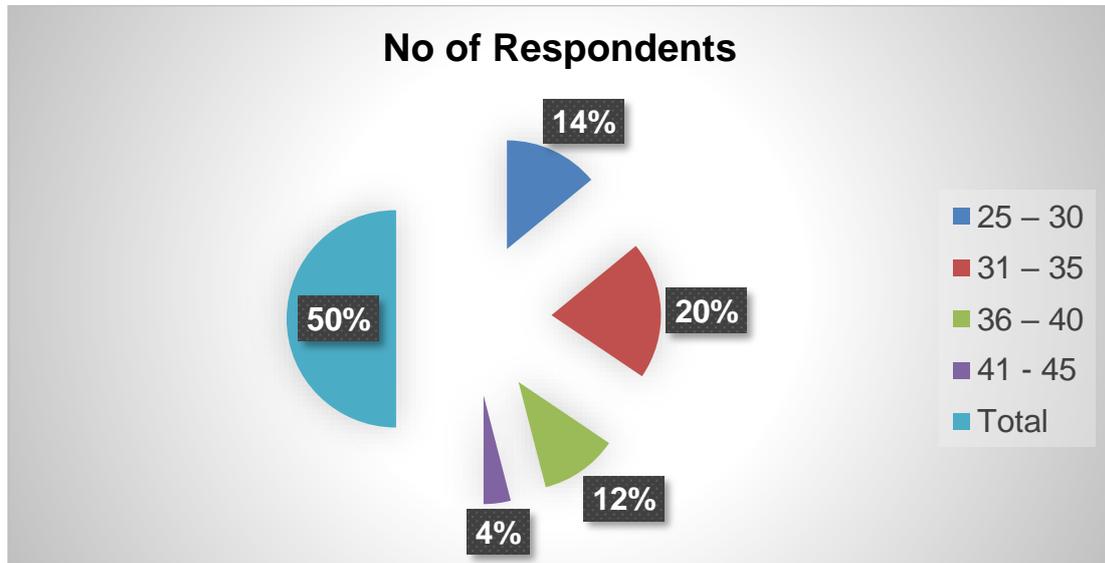


The list of Hospital workers, broken down by gender, is shown in the table above. There were 63 percent male workers and 36 percent Female employees at this company.

2. Age of the Employees working in Hospital

Table 6.2

15-20 years	6	6
20 and above	3	3
Total	100	100

Graph 6.2

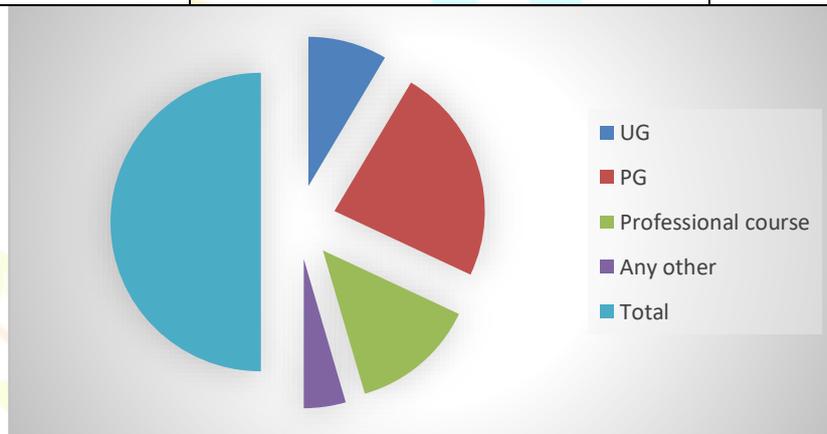
This chart shows that 27% of respondents are between the ages of 25 and 30; 41% are between the ages of 31 and 35; 23% are between the ages of 36 and 40; and 8% are between the ages of 41 and 45.

3. Educational Qualifications of the Employees in Hospital

Table 6.3

Graph 6.3

Experience	No of Respondents	Percentage
5–10years	51	51
10-15 years	40	40
15-20 years	6	6
20andabove	3	3
Total	100	100

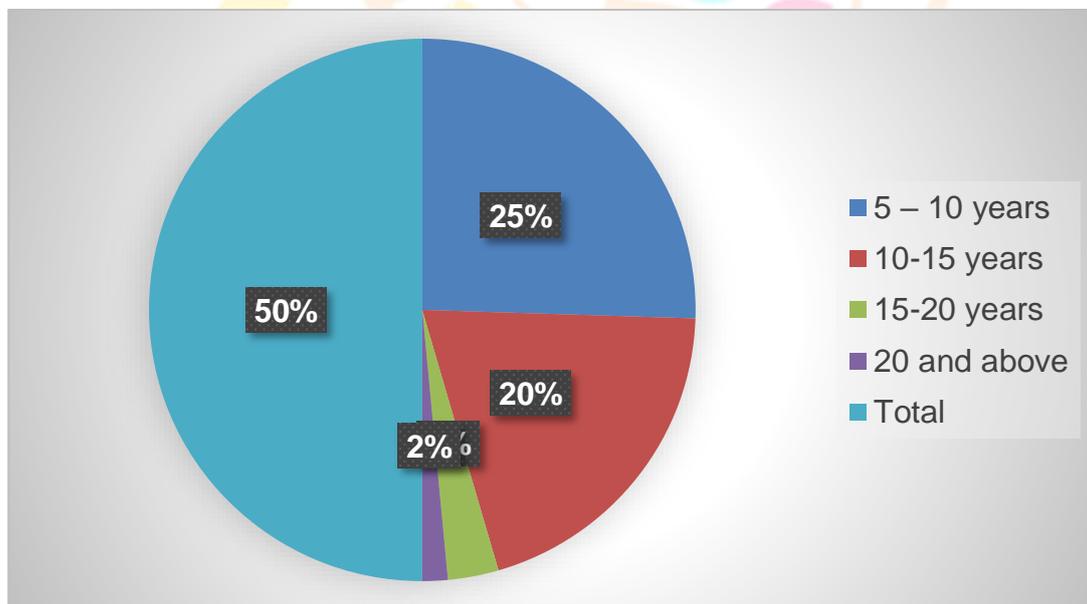


There were 17 percent of workers who were undergraduates, 46 percent of employees who were postgraduates, and 27 percent of respondents who had finished professional courses, according to this data.

4. Experience of the Employees working in Hospital

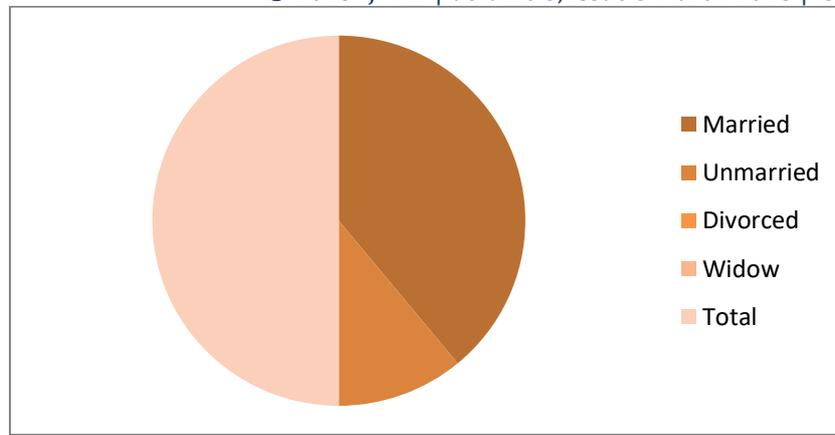
Table 6.4

Experience	No of Respondents	Percentage
5–10years	51	51
10-15 years	40	40
15-20 years	6	6
20andabove	3	3
Total	100	100

Graph 6.4

5. Marital status of the Employees working in Hospital

Graph 6.5



Interpretation

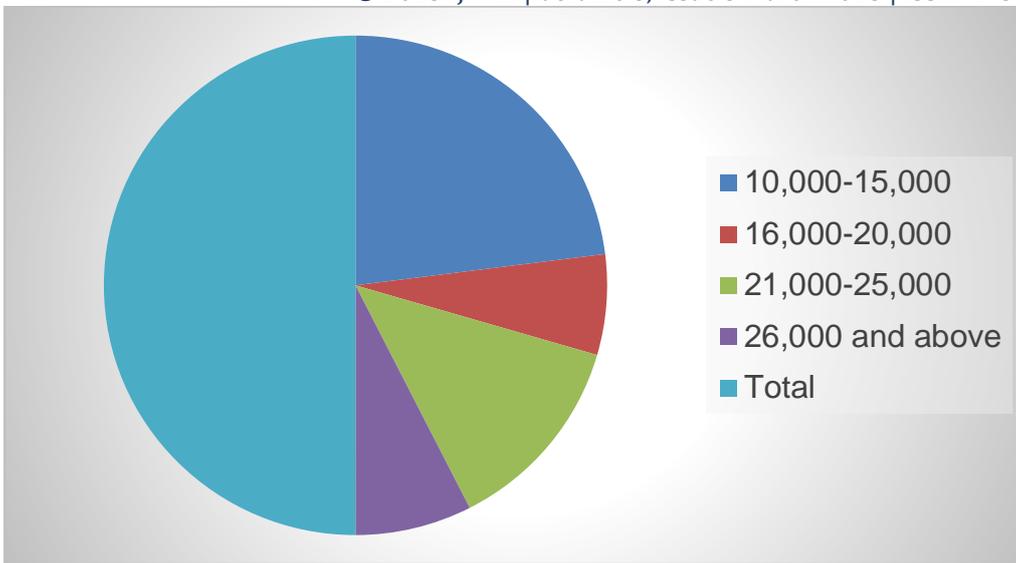
There are 77% of married workers and 22% of unmarried employees in the preceding table.

6. Hospitality Industry Workers' Monthly Pay

Table 6.6

Income	No of Respondents	Percentage
10,000-15,000	46	46
16,000-20,000	13	13
21,000-25,000	26	26
26,000 and above	15	15
Total	100	100

Graph 6.6



Interpretation

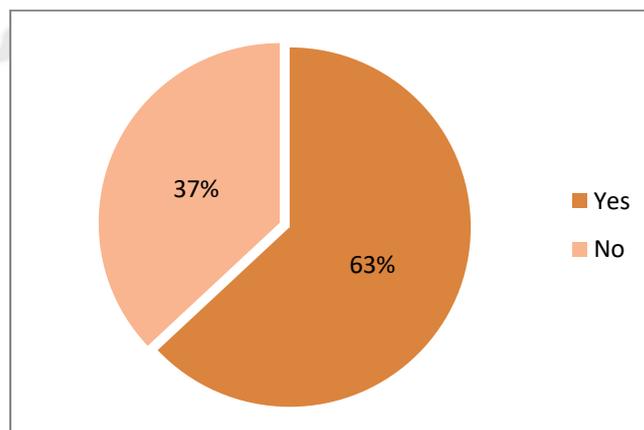
46 percent of telecom industry workers earn between \$10,000 and \$15,000; 13 percent earn between \$16,000 and \$20,000; 25 percent earn between \$21,000 and \$25,000, and the remaining 15 percent earn more than \$26,000, according to the above data.

6. In the healthcare industry, management is a key factor in success?

Table 6.7

Category	Respondents	Percentage
Yes	63	63%
No	37	37%

Graph 6.7



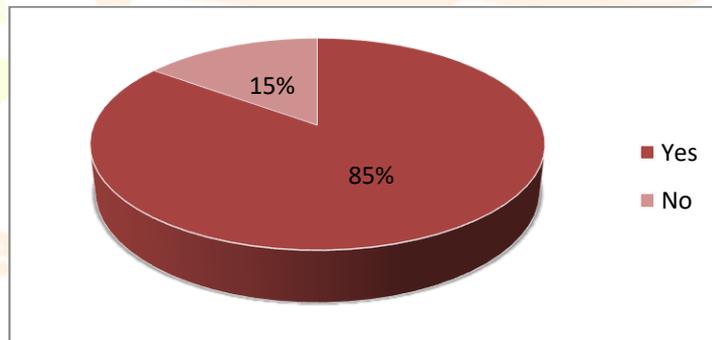
Interpretation:

In the healthcare industry, management is a key factor in success. The majority of responders (63%) are in agreement, while 37% are firmly against.

8. Whenever I encounter issues pertaining to quality management, my boss is there to back me up.?

Table 6.8

Category	Respondents	Percentage
Yes	85	85%
No	15	15%

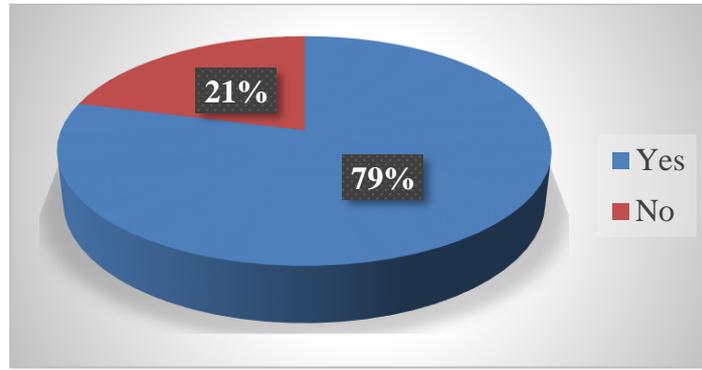
Graph 6.8

From the data in the table above, it seems that 85% of respondents whenever I encounter issues pertaining to quality management, my boss are there to back me up, while 15% disagree.

Table 6.9

Category	Respondents	Percentage
Yes	79	79%
No	21	21%

Graph 6.9



Interpretation:

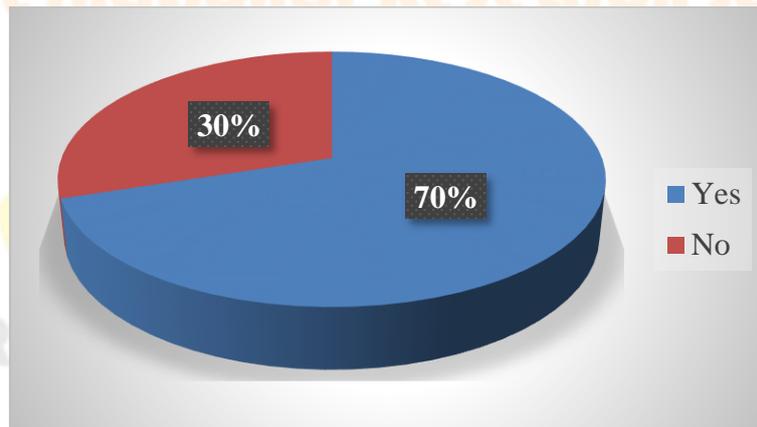
Quality management at this hospital seems like a waste of time to me. While 81% of people reply yes, just 18% say no.

10. Training for quality management is a priority for management?

Table 6.10

Category	Respondents	Percentage
Yes	70	70%
No	30	30%

Graph 6.10



Interpretation:

Seventy percent of respondents in the above table agree with the assertion. Seventy-percent of those who were polled said Training for quality management is a priority for management.

7. RESULTS AND FINDINGS

- The list of Hospital workers, broken down by gender, is shown in the table above. There were 63 percent male workers and 36 percent female employees at this company.
- This chart shows that 27% of respondents are between the ages of 25 and 30; 41% are between the ages of 31 and 35; 23% are between the ages of 36 and 40; and 8% are between the ages of 41 and 45.
- There were 17 percent of workers who were undergraduates, 46 percent of employees who were postgraduates, and 27 percent of respondents who had finished professional courses, according to this data.
- The following table indicates that 50% of hospital workers have 5-10 years of experience, 40% of telecom sector employees have 10-15 years of experience, and 6% of telecom sector employees have 15-20 years of experience or more.
- There are 77% of married workers and 22% of unmarried employees in the preceding table.
- 46 percent of telecom industry workers earn between \$10,000 and \$15,000; 13 percent earn between \$16,000 and \$20,000; 25 percent earn between \$21,000 and \$25,000, and the remaining 15 percent earn more than \$26,000, according to the above data.
- In the healthcare industry, management is a key factor in success. The majority of responders (63%) are in agreement, while 37% are firmly against.
- From the data in the table above, it seems that 85% of respondents whenever I encounter issues pertaining to quality management, my boss are there to back me up, while 15% disagree.
- Quality management at this hospital seems like a waste of time to me. While 81% of people reply yes, just 18% say no.
- Seventy percent of respondents in the above table agree with the assertion. Seventy-percent of those who were polled said Training for quality

management is a priority for management.

8. LIMITATIONS OF THE STUDY

The majority of hospitals still rely on manual processes, and those that have adopted a computerized system have had difficulty learning how to utilize it. One example is the high cost of creating new software, as well as the expenditures associated with implementing and upgrading existing programs.

The failure of a TQM program will have far-reaching consequences if it is not given enough time and money. Inadequate attempts to execute a TQM program will fail if management does not commit to doing so in full.

9. CONCLUSION/SUGGESTION

A quality management system (QMS) is a collection of related parts that work together to steer and regulate output quality. The research team hoped to learn more about hospital quality system development by conducting this investigation.

This is achieved by providing solutions to the following questions: what situational aspects should be considered when constructing a quality system, and what should be cared for throughout the development process? This research is unique in its emphasis on a public healthcare system; yet, the findings are not encouraging.

BIBLIOGRAPHY

- J. Beckford (2018). *An Analytical Primer on Quality*. It was published by Routledge in both London and New York. Van Der Bij, J. D., T. V. Olmstead, and M. C. D. P. Weggeman.
- Quality health care systems: a context-based strategy. *Health Care Quality Assurance: An International Journal*, 11(2), 65-70. V.J. Callan, C.Gallois, M.G. Mayhew, T.A. Grice, M. Tluchowska, and R. Boyce (2017).
- Modifying the public hospital's multidisciplinary team: Staff members' sense of self and their ability to adapt to new circumstances. 29(4), 448-477 in the *Journal of Health and Human Services Administration* (Harrisburg).

Symon, G., and C. Cassell (2017).

- Conducting qualitative research in the workplace. *Qualitative Methods in Organizational Research. Guide to Real-World Success*, 1–13 in C. Cassell and G. Symon (eds. SAGE Publications, Ltd., London. A Thousand Oaks in New Delhi
- Aspects of primary health care. Dennil, K., King, L., & Swane poel, T. (2017). *Rural and urban health services in Southern Africa*.
- "Oxford Handbook of Health Promotion and Disease Prevention," published by Oxford University Press. South Africa Department of Health White Paper on Health System Transformation, 26 October 2019, accessible at [http://doh.gov.za/docs/policy/white paper/healthsys97 01.html](http://doh.gov.za/docs/policy/white%20paper/healthsys97%2001.html).
- Obtainable online as of 4 December 2017 at <http://www.info.gov.za/view/DownloadFileAction?id=148470> is South Africa Department of Health's 2018 National Health Insurance Policy Paper.
- Quality evaluation and assurance: a unified goal with several methods (Donabedian, A. 1988). *Inquiry*, 25(1), 175-192. 2017 Field, A. Data mining using SPSS (IBM).
- Version 4.0, Sage Publications. The authors of this citation are: George, V., & Lovering, S. The global viewpoint of chief nursing officers on transforming the delivery of healthcare via collaborative leadership and teamwork.
- *The Journal of Nursing Administration*, 37(1), 52-59. Total Quality Management and Organizational Performance. Gharakhani, D., H. Rahmati, M.R. Farrokhi, and A. Barahmandian. 2017.
- *Journal of Industrial Engineering in the United States*, Vol. 1, Nos. 46–

50 (1946). Authors: Hair, J. F. Jr., R.E. Anderson, R.L.

- L., Downing, L., and Ridley, J. Renal nursing's next generation of professional practice models. *Journal of the CANNT*, 23(3), 14-19. Belief in Healthcare Systems.
- The State of Health in South Africa, 2014/2015. South Africa; Health Systems Trust; Durban. The Institute for Medical and Systems Informatics (IMS) or the field of healthcare informatics.
- J. Houser. Investigations in the field of nursing. Evidence-based reading, application, and production. 2nd ed. Publisher of educational materials.
- The Journal of Nursing Administration, 20, p. Factors incensing countrywide rollout of quality improvement techniques to public hospitals in Tanzania.
- Ishijima, H., E. Eliakimu, S. Takahashi, and M. Miyamoto. 2014. *Clinical Governance: An International Journal* 19(2):137-152.
- Healthcare satisfaction in South Africa: findings from the 2010 General Household Survey, by K.H. Jacobsen and T. Hasumi, 2017.
- This article may be found in the Pan African Medical Journal (DOI:10.11604/pamj.2014.18.172.4084). Relationships are highlighted via the lens of a professional practice paradigm (Johnson & Ezekielian, 2017).

ANNEXURES

1. Gender of the employees working in Hospital

- Male
- Female

2. Age of the Employees working in Hospital

- 25 – 30
- 31 – 35
- 36 – 40
- 41 - 45

3. Educational Qualifications of the Employees in Hospital

- UG
- PG
- Professional course
- Any other

4. Experience of the Employees working in Hospital

- 5–10 years
- 10-15 years
- 15-20 years
- 20 and above

5. Marital status of the Employees working in Hospital

- Married
- Unmarried
- Divorced
- Widow

6. Hospitality Industry Workers' Monthly Pay

- 10,000-15,000
- 16,000-20,000
- 21,000-25,000
- 26,000 and above

7. In the healthcare industry, management is a key factor in success?

- Yes
- No

8. Whenever I encounter issues pertaining to quality management, my boss is there to back me up.?

- Yes
- No

9. Quality management at this hospital seems like a waste of time to me?

- Yes
- No

10. Training for quality management is a priority for management?

- Yes
- No

