



Case Report

Comprehensive Health evaluation at a Tertiary care facility in West Bengal, India - A report

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Abstract

A healthcare checkup, often referred to as a preventive health examination or health screening, is a thorough evaluation of an individual's health status. This process can assist in detecting potential health concerns and risk factors before they escalate into more serious conditions. Regular checkups with your healthcare provider differ from visits made due to illness or injury. These assessments encompass physical examinations along with preventive care measures. Preventive care may involve screening tests, which are medical evaluations designed to identify diseases at an early stage when treatment is typically more effective. The goal of healthcare is to enhance health through the prevention, diagnosis, treatment, management, or resolution of diseases, illnesses, injuries, and various physical and mental impairments. Healthcare services are provided by medical professionals and those in related health fields. The relationship between health care services and health economics is a critical area of study that examines how resources are allocated within the health care system. The interplay between health care services and health economics is evident in the assessment of health care policies and their implications for public health. By examining factors such as insurance coverage, pricing strategies, and the economic burden of diseases, stakeholders can better understand how to improve health care systems and enhance patient outcomes. Ultimately, a thorough understanding of this connection is essential for developing sustainable health care solutions that meet the needs of populations while ensuring economic viability. This short survey promises to make a significant contribution to the field of effective healthcare management and healthcare economics by providing valuable insights and evidence-based strategies that can enhance the efficiency and effectiveness of healthcare delivery systems.

Keywords: Healthcare, check-ups, health-economics, survey, evidence based.

Introduction

Regular health check-ups play a crucial role in the early identification of various conditions and diseases, including diabetes, cardiovascular issues, and cancer. These assessments allow healthcare professionals to evaluate an individual's overall health and pinpoint potential risk factors. Health check-ups are vital as they facilitate the early detection of health issues, which can significantly enhance health outcomes¹.

Objective of a Health Check-up: The primary aim of a health check-up is to encourage the early identification and prevention of diseases, ultimately leading to improved health results.

A comprehensive physical examination encompasses a range of tests tailored to the individual's age, gender, and health status.

A standard set of investigations typically includes a complete blood count, fasting blood glucose, blood pressure measurement, occult blood testing, lipid profile analysis, liver and kidney function assessments, lung function tests, thyroid-stimulating hormone (TSH) evaluation, uric acid measurement,

chest X-ray, electrocardiogram (ECG), heart rate monitoring, treadmill exercise test (TMT), as well as routine urine and stool analyses, Hepatitis B screening, and ultrasound imaging.

The most significant risk factor for many age-related diseases is simply advancing age. Once individuals reach their 40s and 50s, it becomes essential to monitor their status regarding diabetes, cholesterol levels, liver health, and other indicators that can be positively influenced through lifestyle modifications before they lead to irreversible consequences^{2,3}.

Significance of health check-ups

Regular health check-ups play a crucial role in the early identification of various conditions and diseases, including diabetes, cardiovascular issues, and cancer. They offer healthcare professionals the chance to evaluate an individual's overall health and pinpoint potential risk factors¹. Health check-ups are vital as they facilitate the early detection of health concerns, which can lead to improved health outcomes. Below are several reasons highlighting the importance of health check-ups:

i. Early Detection: Health check-ups enable the timely identification of health issues such as diabetes, cardiovascular diseases, and cancer. ii. Risk Assessment: These check-ups assist in recognizing risk factors and lifestyle habits that may lead to health complications. iii. Personalized Care: Health check-ups allow healthcare providers to customize their recommendations and treatment strategies according to an individual's specific needs. iv. Peace of Mind: Regular check-ups can alleviate anxiety and foster a sense of control over one's health. v. Cost-Efficiency: Addressing and managing health issues at an early stage is generally more economical than treating advanced conditions. vi. Lifestyle Changes: Check-ups can reveal risk factors and lifestyle choices that may be affecting health, empowering individuals to make informed decisions regarding their diet, exercise, and other lifestyle modifications⁴.

Goals: i. Early detection of health issues: Regular check-ups can help detect potential health issues early, which can improve the chances of successful treatment and reduce the financial burden of reactive healthcare⁵. ii. Identification of risk factors: Healthcare providers can assess an individual's overall health status and identify potential risk factors⁶. iii. Prevention of diseases: Regular check-ups can help prevent diseases from developing and reduce their impact on health⁷. iv. Personalized health advice: A health check-up can provide personalized health advice⁸. v. Referrals for health education: A health check-up can provide referrals for health education and preventive counselling⁹. vi. Updates to medical history: A health check-up can include updates to your medical and family history¹⁰. vii. Routine measurements: A health check-up can include routine measurements of weight, blood pressure (Table-1), smoking habits and more^{11,12}.

Updates to medical provider list: A health check-up can include updates to your list of medical providers¹². Multi-specialty hospitals unite healthcare professionals who possess significant expertise in delivering top-tier medical services and post-operative tertiary care, utilizing advanced technologies while ensuring affordability for all demographics. Motivated by passion and compassion, the healthcare team is dedicated to

providing a diverse array of practitioners with relevant and robust experience. By leveraging world-class health solutions and technology, the goal is to foster patient-centered holistic healthcare that emphasizes wellness promotion and illness prevention, making these services accessible to everyone. The ongoing commitment is to address diseases through a culture of continuous collaboration, learning, and innovation¹³.

Literature review

A literature review on health check-ups offers a comprehensive examination of current research regarding the importance, results, and obstacles associated with preventive health assessments. Below is a summary of the primary themes commonly identified in such reviews:

General Health Assessments¹⁴: An analysis of general health assessments for adults indicates that they can assist in the following areas: i. Chronic Disease: General health assessments can aid in the identification and management of chronic illnesses. ii. Risk Factors: These assessments can help in the regulation of risk factors. iii. Preventive Services: General health assessments can encourage greater utilization of preventive services. iv. Patient Outcomes: They can enhance outcomes reported by patients. v. Health Behaviors: General health assessments may contribute to improvements in health-related behaviors, such as diet and physical activity.

Purpose of Health Assessments: i. Preventive Health Assessments¹⁵: A review of preventive health assessments reveals that factors such as a desire to understand risks, personal responsibility, and health concerns can motivate individuals to engage in these assessments. Conversely, barriers to participation may include age, smoking habits, educational background, and attitudes toward health screenings. ii. Health Promotion: Regular assessments provide valuable opportunities for health education, lifestyle counseling, and management of risk factors (e.g., smoking cessation and dietary guidance). iii. Monitoring Chronic Conditions: These assessments are essential for patients with existing chronic conditions, allowing for the tracking of progress and necessary adjustments in medication or therapy.

Table-1: Blood Pressure Readings for early detection.

Blood Pressure Category	Systolic mm Hg (upper number)		Diastolic mm Hg (lower number)
Normal	Less than 120	and	Less than 80
Elevated	120 – 129	and	Less than 80
High Blood Pressure (Hypertension) Stage 1	130 – 139	or	80 – 89
High Blood Pressure (Hypertension) Stage 2	140 or Higher	or	90 or Higher
Hypertensive Crisis (consult doctor immediately)	Higher than 180	and/ or	Higher than 120

Effectiveness of Health Assessments: i. Mixed Evidence: Certain studies indicate favorable outcomes, including decreased mortality rates from cardiovascular diseases and cancers, early identification of chronic conditions, and enhanced health literacy. ii. Debate on Utility: Conversely, some researchers challenge the cost-effectiveness of routine assessments, suggesting that they do not significantly lower overall mortality rates and may result in unnecessary testing and overtreatment. iii. Health Economics: Research indicates that health assessments can lead to reduced long-term healthcare expenses by preventing costly treatments.

Factors Affecting Participation in Health Check-Ups: i. Socioeconomic and Demographic Influences: Individuals from higher socioeconomic strata, as well as women and older populations, tend to participate more frequently in regular health check-ups. ii. Cultural and Geographic Variations: Cultural attitudes, healthcare accessibility, and geographic factors play a crucial role in determining involvement in preventive health assessments. iii. Health Literacy and Awareness: Understanding the significance of preventive care is a key determinant of individuals' health-seeking behaviours^{16,17}.

Systematic Reviews: An analysis of systematic reviews regarding health check-ups indicated that they do not significantly impact morbidity and mortality rates¹⁸. Nonetheless, some reviews reported positive effects on surrogate measures such as cholesterol levels and blood pressure.

Challenges in Implementing Health Check-Ups^{19,20}: i. Healthcare Accessibility: Insufficient healthcare infrastructure, particularly in low- and middle-income nations, restricts the availability of health check-up services. ii. Over diagnosis and Overtreatment: Excessive screening may result in the identification of clinically insignificant conditions, leading to patient distress and unnecessary medical interventions. iii. Financial Barriers and Insurance Coverage: The expense associated with preventive health check-ups poses a challenge, particularly in regions where healthcare is not universally insured. iv. Patient Compliance: Even when check-up services are accessible, the rate of adherence to follow-up appointments or recommended lifestyle modifications remains low.

Specialties expected in a tertiary care hospital

The following specialties should be available 24/7: Anaesthesiology, Cardiac Electrophysiology, Cardiothoracic and Vascular Surgery, Biochemistry, Cardiology, Child Psychology, Clinical Pathology, Cosmetic Dentistry, Cosmetic and Reconstructive Surgery, Dentistry and Dental Surgery, Dermatology, Developmental Paediatrics, Dietetics and Nutrition, Endocrinology, Ear, Nose, and Throat (ENT), Fatal Medicine, Gastroenterology, General Surgery, Gynaecology and Obstetrics, Haematology, Histopathology, Interventional Cardiology, Internal Medicine, Radiology, Microbiology,

Nephrology, Neonatology, Neurology, Neurophysiology, Neuroradiology, Neurosurgery, Ophthalmology, Oral and Maxillofacial Surgery, Orthopaedics, Orthodontics, Paediatric Cardiology, Paediatric Endocrinology, Paediatric Haematology²¹⁻²³.

Study design of a short survey

This brief survey, conducted over a period of three months at a multispecialty tertiary care hospital in West Bengal, India, with 100 patients provides an insightful examination of the collaborative operations between the industry and the health check-up department, highlighting their alignment within a compatible health economics framework.

The feedback questionnaire was distributed to patients and the informations collected with proper consent from each and every patient under the statutes of the Government of West Bengal Health sector laid norms:

Availability of Adequate Information at the Registration Desk: The research indicated that patients expressed high levels of satisfaction with the Health Checkup Desk, suggesting they received adequate information. None of the respondents reported dissatisfaction, with 45% rating their experience as satisfactory and 55% as very good.

Waiting Time at the Health Checkup Counter: The project examines the waiting times at the hospital registration, which is a significant concern for patients. A pie chart effectively illustrates the distribution of wait times. Further investigation can uncover underlying issues and enhance efficiency, leading to a better patient experience.

Staff Behavior and Attitude at the Health Checkup Counter: The courtesy and efficiency of the staff can be evaluated by monitoring their greetings, explanations of wait times, and the overall flow of the process. Positive interactions, clear communication, and a willingness to assist patients are essential. Feedback surveys can gauge patient perceptions of staff empathy, patience, and professionalism. Identifying areas for improvement, such as reducing any perceived coldness or dismissive behavior, is crucial, as a friendly and informative approach from staff greatly influences the patient experience.

Attitude and Communication of Doctors: The bedside manner of doctors varied; some provided clear explanations while others appeared rushed. Enhancing friendliness and empathy would significantly improve the patient experience. Active listening and addressing patient concerns are vital. It may be beneficial to provide written summaries of diagnoses and subsequent steps. Overall, communication could be more focused on the needs of the patient.

Attitude and Communication of Nursing staffs: Nurses generally exhibited a caring attitude, which is positive.

However, the clarity of communication could be improved for some patients. It may be helpful to offer additional information or emotional support. Overall, promoting a more open and informative approach would enhance the patient experience.

Availability of Laboratory and Radiology Tests: At present, specific feedback on test availability is not accessible. To determine the availability of particular tests, it is necessary to reach out to a laboratory or radiology center directly. Additionally, consider utilizing online services, as many facilities provide options for scheduling appointments online. It is important to note that some tests may require a physician's referral.

Availability of Medications at the Hospital Pharmacy: Current information does not ensure the availability of specific medications. For the most accurate details, it is advisable to contact the pharmacy directly or inquire at the hospital regarding their medication inventory practices.

Overall Satisfaction During the Hospital Visit: To accurately assess satisfaction, as a multi-faceted experience one should take into account several factors: the friendliness and courtesy of the staff, the clarity and helpfulness of communication, the efficiency in addressing any concerns, the cleanliness and comfort of the facilities, and the overall impression of being treated with respect and care.

Data collection and Analysis

Ethical approval for this study was granted by the Institutional Ethical Committee under Government of West Bengal and informed consent was secured from all participants before the commencement of data collection.

Data were recorded on specially designed pre-tested schedule and managed in Microsoft Excel spreadsheet (Software: Microsoft Office 10.0). All entries were double checked for any possible error. Analysis was done in Graph Pad Prism version 5.

Discussion

The health industry has undergone significant advancements over the years, leading to the establishment of a tertiary care hospital focused on the study of "Patient Care Coordination. This initiative serves as a benchmark for evaluating the quality and performance of primary care in West Bengal, aiming to enhance the safety and effectiveness of healthcare services and foster the growth of the health sector in the region²⁴.

The primary objective of patient care coordination is to address the needs and preferences of patients in the provision of high-quality, value-driven healthcare. This entails ensuring that patients' requirements and preferences are accurately communicated to the appropriate individuals at the right time,

allowing this information to inform the delivery of safe, suitable, and proactive care²⁵.

Statistics of deceased patients in the state of west Bengal

Although it is not feasible to specify the exact number of fatalities in West Bengal, in 2020, the death rate in rural West Bengal was recorded at 5.300 per 1,000 individuals, according to data from the Office of the Registrar General & Census Commissioner, India, which is accessible through CEIC Data. This death rate has experienced variations over the years, peaking at 7.700 in 1998 and reaching a low of 5.200 in 2019. Notably, in 2019, only 14.1% of the total registered deaths in West Bengal were medically certified, in contrast to the national average of 20.7% for India²⁶.

Table-2: Summary of distribution of Health packages in 100 patients spanning over 3 months.

Hospital Package	Oct. 2024	Nov. 2024	Dec. 2024
Pre-employee health checkup	14	12	13
Health assessment	6	9	5
Essential health assessment	2	3	1
Health assessment	4	3	2
Comprehensive health assessment	7	6	7
Primary heart assessment	1	0	1
Advance heart assessment	2	0	0
Diabetic assessment basic	0	0	1
Diabetic assessment advance	0	0	0
Geriatric advanced health assessment	0	0	0
Well woman assessment	0	1	0

Conclusion

In the state of West Bengal, where healthcare resources may be limited, the implementation of effective care coordination can optimize the use of available resources. This can result in a more equitable distribution of healthcare services, ensuring that patients receive timely and appropriate care. Furthermore, improved patient management can lead to better chronic disease control, which is crucial in a region where non-communicable diseases are on the rise²⁷.

Effective patient care management can foster preventive care initiatives, encouraging patients to engage in health-promoting

behaviors and regular screenings. This proactive approach not only enhances individual health but also contributes to the overall economic stability of the healthcare system by reducing the financial burden associated with advanced disease treatment. In summary, the influence of effective continuity of care on the health economics of West Bengal is profound, as it enhances health outcomes, optimizes resource utilization, and promotes a sustainable healthcare environment^{28,29}.

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