
A Comprehensive Review on Improving the Quality of Health Care in Developing Countries

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Abstract

Health standards significantly impact economic performance and quality of life. In developing nations, maternal morbidity and mortality are prevented mainly by the provision of high-quality care. In underdeveloped nations, medical research has advanced significantly during the last 60 years. The epidemiological data, however, paint a contrasting picture. Improvements in sanitation, nutrition, medicine, and vaccinations have led to a decline in many infectious diseases, and life expectancy is increasing. If urbanization increases access to clean water and improves sewage systems, it may reduce the prevalence of parasite and water-borne diseases. Significant strides have been made in the fight against the most serious communicable illnesses, improving millions of people's health, extending life expectancy, lowering maternal and infant mortality, and raising life expectancy. A significant priority that must be alive is the transformation of primary healthcare. More work needs to be done if we are to see meaningful improvements in the health of all Indians, including those who need it the most. For the public health system to be effective, the public must learn to trust it. Indians continue to pay out of pocket for healthcare, which has led to a rise in the number of struggling households' debt and poverty levels. People want better government services and anticipate that health care will improve in the upcoming years. Health insurance, private healthcare providers, and the general public—whether they reside in cities or in remote areas—need to be better connected. As a result, this study aims to evaluate health care factors that affect the standard of care in emerging nations. Our research involves fact analysis and prediction analysis performed on pertinent records and data connected to our research purpose, which has assisted us in concluding the future, potential for growth, and potential challenges.

Keywords: Developing Countries, Health Care, Health Transformation, Quality of Care, Health Policy.

Introduction

Reproductive health professionals are paying more attention to the quality of care, and there have been significant attempts to define criteria and develop procedures to evaluate the quality of health services. Important factors included in the definition of quality are the technical proficiency of the providers, their interpersonal abilities, the accessibility of fundamental supplies and equipment, the standard of the physical facilities and infrastructure, connections to other health services, and the presence of an effective referral system.[1]

Health standards have a significant impact on both economic performance and quality of life. In the last 60 years, medical research has advanced significantly in developing nations. The epidemiology data, however, provide a complex picture. Because of advancements in sanitation, diet, medicine, and vaccinations, as well as increased life expectancies, the number of infectious diseases is on the decline. If access to clean water and better sewage systems are improved, urbanization may reduce the prevalence of parasite and water-borne diseases. Furthermore, specific insect vectors continue to find the urban environment hostile. However, the virulence of old infectious diseases like tuberculosis and malaria has defied the advances of modern science. In recent years, AIDS has become a significant source of mortality and disability among adults in developed countries aged 15–59. The cost of non-communicable diseases like cancer, injuries, and neuropsychiatric problems is also eclipsing the toll imposed by infectious diseases. Success on these fronts will determine how much health will continue contributing to sustainable development. [2][3]

Although historically, the focus in developing nations has been on the number rather than the quality of healthcare services, a growing body of research argues that any conversation about better health must place the quality of care (or the lack thereof) at the forefront. These instances provide illustrations: In research examining paediatric treatment in Papua New Guinea, 69 percent of health facility personnel, only two of the four examination criteria for instances of pneumonia were evaluated, according to the report. Of these employees, just 24% could correctly identify the appropriate malaria therapy. Only 1% of providers at assistance stations who had clinical contacts were found to meet the minimal assessment standards.[4] Only 56% of healthcare professionals in Pakistani research were able to diagnose viral diarrhoea in an acceptable way, and only 35% were able to treat it.[5]

Significant strides have been made in enhancing the health of millions of people, extending life expectancy, lowering maternity and infant mortality, and battling the most severe communicable diseases. Despite these advancements, the majority of these deaths—303,000—occurred in sub-

Saharan Africa, where difficulties during pregnancy and childbirth account for the majority of the world's pregnancy-related deaths. Major diseases like malaria and tuberculosis have halted in their efforts to be eradicated or are not moving forward quickly enough, and 3.5 billion people, or at least half of the world's population, lack access to primary healthcare.

Injuries account for 16% of all disability-adjusted life years (DALYs), which quantifies years of life lost to premature death and years lived with a handicap. Injuries are followed by mental illnesses (10%), non-communicable diseases (10%), HIV/AIDS, TB, and maternal problems (7%). Another significant portion of DALYs is produced by severe paediatric illnesses such as malaria and respiratory and diarrheal infections.

“Injury-related DALYs account for 16% of all DALYs, followed by psychiatric conditions 10%, non-communicable diseases 10%, HIV/AIDS, TB, and maternal conditions (7%), according to the concept of disability-adjusted life years (DALYs), which expresses years of life lost to premature death and years lived with a disability. Another significant contributor to DALYs is malaria, which causes severe paediatric illnesses such as diarrhoea and respiratory infections.”

Since road traffic accidents are already the ninth-leading cause of DALYs globally and the fifth highest in developed nations, the chances of injury are anticipated to rise. In many middle-income and low-income countries, chronic diseases and mental illness will become more common due to higher life expectancies and older populations. Diagnosis and curative care costs will go up due to this.

Injury, HIV, and tuberculosis might reduce the number of adults in their prime in many emerging nations, knocking several percentage points off the GDP growth rate. These illnesses can significantly increase health care costs in addition to increased spending on those with chronic and mental conditions. According to estimates of the impact of AIDS on African countries, this one illness alone might cause a 10-year reduction in potential GDP of 10-15%.

Furthermore, certain places are losing ground due to the introduction of multi-drug resistant (MDR) strains of the tuberculin bacillus, the plague, and Streptococcus and Staphylococcus germs that are starting to resist even the most potent antibiotics. This feature of globalisation is demonstrated by the speed with which new strains of influenza and cholera have spread over the globe.

It will take greater effort to combat infectious diseases like tuberculosis, including housing and health services infrastructure. It will involve cooperation between sub-national institutions in a decentralised environment, with some control over location and money.[2][3]

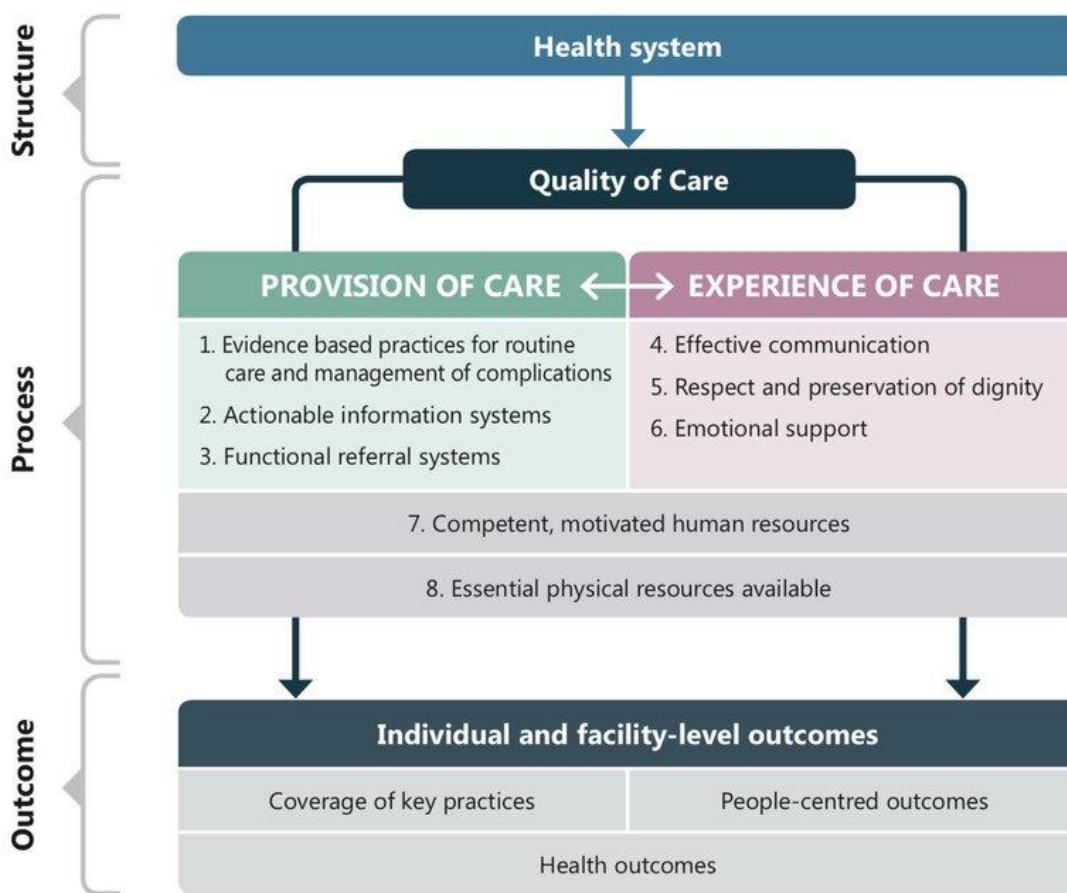


Fig1. Health Care Structure

Definition & Population of Quality Framework

These shortcomings in care quality do not necessarily reflect a lack of money or a lack of professional compassion (Institute of Medicine 2001). As opposed to this, they result from knowledge gaps, improper use of available technology, or organisations' resistance to change. [6] Local health care systems could not have measured clinical practice, linked quality improvement to better health outcomes, or aligned practitioner incentives and objectives.[7]

The likelihood that quality can be quickly enhanced is growing, with most of it emerging since the mid-1990s. Nevertheless, to enhance clinical practice—and subsequently, the standard of care—quality must be identified, assessed, and implemented correctly.[8] This chapter focuses on techniques that work over months rather than years to improve clinical practice and care quality. Better quality can have a far faster positive impact on health than other factors like economic development, educational progress, or emerging technologies.

Definition and Framework

Actions to enhance or sustain health are provided through health systems. Politics, culture, society, and institutions all play a role in these activities and impact them (As shown in fig). Socioeconomic and demographic characteristics, including genetics and personal finances, impact the health state of those seeking medical attention. To receive care that sustains or improves health, one must have access to the health care system, only having access is not sufficient; one must also apply the system's capabilities appropriately.

In order to produce health, quality, therefore, entails maximizing practitioner competence and material inputs. Quality, according to the Institute of Medicine, is "the extent to which health services for individuals and populations increase the likelihood of desired health outcomes and are compatible with current professional knowledge." [9]

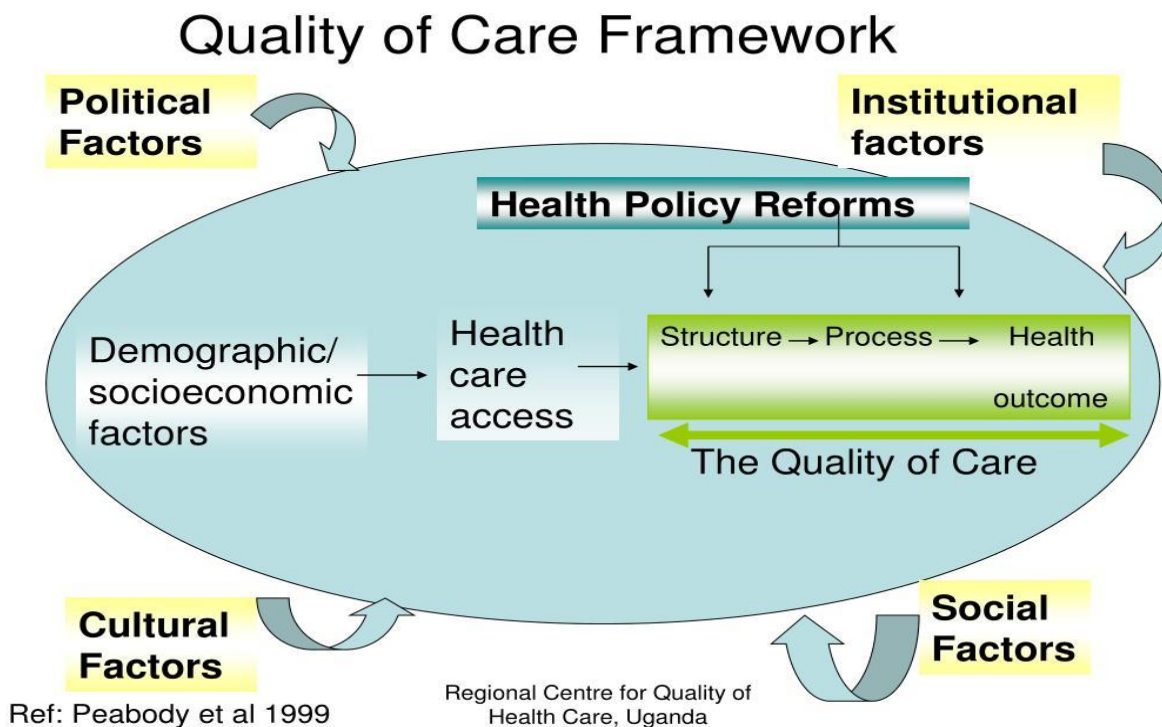


Fig2. Quality-of-Care Framework

Elements of Quality

Three components comprise quality:

- Structure describes dependable, tangible qualities (infrastructure, tools, and technology), the assets of organisations that provide care and how care is financed (funding levels, staffing, payment plans, and incentives).

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- When structural inputs from the health care system are converted into health outcomes, it is via the interaction between caregivers and patients that the process takes place.
 - Health status, fatalities, or disability-adjusted life years—a metric that takes the morbidity and mortality of individual patients or populations of patients into account—can all be used to quantify outcomes. Patient satisfaction or responsiveness to the healthcare system are different outcomes. [10]

Quality studies in developing nations most frequently employ structural metrics since they are the simplest to collect. Numerous analyses have revealed a lack of medical personnel, medications, and other crucial supplies, as well as facilities, but perhaps surprisingly, physical indicators of the structure are not causally linked to better health outcomes. Although more advanced technology or a more attractive setting may be conducive to higher-quality care, the research shows that these structural factors have only a tenuous relationship with improved health outcomes. [11] The significant exceptions are situations where physical changes either boost primary care access in extremely underdeveloped areas or increase the volume of a clinical procedure, like cataract surgery, directly connected to better health outcomes. [12] A population's health is rarely improved by structural changes; at best, the structure is a crude approximation of outcomes or processes.

Contrarily, the process can be evaluated after each appointment with a healthcare professional. However, measuring processes is challenging, particularly in underdeveloped nations. The capacity to evaluate the process has been hampered by the confidential nature of doctor-patient consultations, a lack of measuring criteria, and the lack of trustworthy assessment instruments. [13] However, new techniques are being created to deliver reliable clinical practice assessments. [5] Additionally, evidence-based clinical research has consistently shown which process measurements result in superior health outcomes. This trifecta of pervasiveness, measurability, and connection to health. The preferred method of evaluating quality is through process measurement.

Even though all health interventions aim to produce positive results, measuring quality solely by results is ineffective for two reasons. The quality paradox is the first. Even if a patient receives subpar care, they may still fully recover. Alternatively, a patient suffering from an ailment still suffers from cerebral malaria. Second, adverse health effects are uncommon and do not happen every time.

Structure-process-outcome is a well-known organisational model. However, the idea of quality has been broadened in recent years to encompass more precise objectives for improvement. For

instance, the landmark Crossing the Quality Chasm study from the Institute of Medicine (2001) [9] expands on the idea of incorporating additional, more contextual components to show how process changes might enhance care. Its six main objectives are equity, patient safety, efficacy, patient-centeredness, timeliness, and efficiency.

The Six Elements of Quality from the Institute of Medicine

- *Patient security.* Do people in the healthcare system face any significant risks of harm?
- *Effectiveness.* Is the treatment given reliable from a scientific standpoint and neither overused nor underused?
- *Focus on the patient.* Are the patient's preferences, requirements, and values being respected and taken into consideration when providing care? Do patient values influence clinical judgments?
- *Timeliness.* Waiting times and delays are minimised?
- *Efficiency.* Is there a minimum amount of equipment, supply, concept, and energy waste?
- *Equity.* Does caring differ by gender, ethnicity, location, and socioeconomic status?

**Table1. The Institute of Medicine's Six Elements of Quality
(Source: Institute of Medicine 2001) [9]**

Quality of Care in Developing Countries

In impoverished nations, the quality and consistency of the healthcare delivery process are frequently inadequate. A substantial corpus of research from industrialised nations constantly demonstrates variations in method, which has altered how the quality of care is viewed. [14] Only 8 of 306 U.S. hospital regions, according to 2002 research, had doctors follow evidence-based recommendations for at least 80% of patients. [15] It is crucial to remember that these variations do not seem to be affected by access to care or cost: Neither more supply nor investment led to better care or better survival. For instance, care delivered by specialists in tertiary and teaching hospitals may be superior to generalists in primary care settings for the same conditions. [16]

Lack of resources contributes to variation and subpar care in developing nations. However, limited information suggests that significant high-quality care can be delivered even in settings with very few resources. According to a study conducted in Jamaica using a cross-sectional survey of government-run primary care clinics, a better process alone was associated with considerably higher birth weight. [17] According to a study conducted in Indonesia, only 37% of perinatal deaths were caused by financial limitations, whereas 60% were a result of inefficient processes. [18]

The most effective illustrations of the enormous heterogeneity in clinical practice in developing nations come from cross-system or cross-national comparisons. Researchers who observed clinical practice in a study involving seven countries discovered that 75% of patients were not properly diagnosed, treated, or monitored.

Inappropriate use of antibiotics, fluids, nutrition, or oxygen occurred in 61% of cases, according to Nolan and colleagues (2001). [19]

Implementations of Policy to Improve Quality

By increasing the level of health on average and lowering variation in quality, quality improvement strategies can be successful. To enhance quality and, consequently health outcomes, two categories of policies are intended:

- Those that modify the organisational and financial structures to impact provider behaviour, or those that involve designing and redesigning health care systems.
- Those that expressly point out the individual behaviour of the provider, even at the group level.

Changing structural conditions through interventions that have an impact on provider practice

Materials and personnel in the structure are not directly related to outcomes, but other structural elements, such as organisation and finance, can affect the process by altering the healthcare system's socioeconomic, legal, administrative, cultural, and informational backdrop.

- Legal requirements, accreditation requirements, and administrative rules.
- Malpractice Lawsuits to Enforce Legal Requirements
- Professional Oversight
- National and Local Clinical Guidelines
- Information exchange on technology for quality improvement.
- Public-Private Provision of Care
- Targeted Education and Professional Retraining.

- Organizational Change.
- Total Quality Management in health care
- Collaborative Improvement Model
- Plan-Do-Study-Act cycle
- Internal enabling environment

Economic advantages and expenses of high-quality care

Policy changes can hasten improving a population's health outcomes and lead to higher-quality treatment processes, but are quality gains economic? That it can be shown in this section. At the individual and population levels, we contrast the costs of implementing quality improvement interventions with the economic benefits of higher standards of care.

Individual Economic Benefits

Better quality of care benefits patients since they have better physical, emotional, and mental health. These advantages can be measured objectively by physiological measurements (such as blood pressure), subjectively by self-report, and monetarily by calculating income. A healthy person makes more money than one who is frequently ill, other things being equal. This advantage persists after the disease has passed. Research on early childhood development has revealed that better prenatal and postnatal care reduces mortality and enhances a child's performance in school, which is essential to future labour productivity. [20]

Benefits to Social Macroeconomics

Healthier societies have better levels of human capital and a more vitality to produce prosperity. Higher levels of patient care boost society's human capital by lowering the number of early deaths (which expands the labour force) and the incidence of temporary or permanent impairment (which boosts worker productivity). Because unnecessary or inappropriate care is avoided, providers and insurers also profit from lower costs. Therefore, society gains from improved health and reduced healthcare costs, which can be put to more beneficial purposes. When quality-improving actions offer significant positive externalities (like lowering the prevalence of a communicable disease), they have a remarkably high social value. However, there are situations when society gains but certain stakeholders do not. For instance, doctors may find that their curative services and related resources are less in demand if they offer better preventive care.

Economic cost

Both direct and indirect expenses are associated with policies that enhance the standard of care. The people and material resources required to carry out the intervention are direct costs. Indirect costs result from more subtle changes, such as adjustments to the volume of healthcare services offered, provider demand for different inputs (such as equipment and medications), market prices for healthcare, government health expenditures, and eventually adjustments to the macroeconomy. It is typically sufficient to assess direct costs for local interventions, such as doctor training in a specific area. The computations are typically simple, even though the amount of detail needed when the treatments are complex can be overwhelming. The price of local inputs like labour, transportation, training materials, meals, venue rental, and lodging determines how much a local intervention will cost. The price of educating healthcare professionals on properly treating children's ailments ranges from US\$1 to US\$430. [21]

It is more difficult to estimate the direct and indirect costs of actions at the federal or local government levels. Macro-level actions with precise program-level costs include extending training programmes to all public providers, establishing standards for both public and commercial providers, altering payment structures, and creating consumer protection laws. They impact the economy as a whole by altering how public resources are allocated and how much different goods and services cost. While system-wide initiatives are anticipated to impact quality and health-related benefits, macro evaluations of health policy reforms are rarely carried out.

Health Transformation

In India, public health has seen several noteworthy developments. Health outcomes have substantially improved throughout India due to a national strategy that prioritises nutrition, digital health, and other high-impact interventions. The average life expectancy increased substantially from 64 to 69 years between 2005 and 2018. With a reduction of 57 fatalities per 1,000 live births to 37 between 2005 and 2015, neonatal mortality rates have significantly improved. Through various initiatives over the last ten years, including an increase in institutional births, more excellent immunisation rates, and better sanitation, India has rescued a significant number of infants. In the following areas, the efforts done thus far have produced positive outcomes:

- Declining rates of communicable diseases
- Emphasizing prevention
- Lower rates of new-born mortality
- Combating antibiotic resistance

- Better nutrition
- Artificial intelligence and digital health for social effect
- Greater responsibility from the government

Challenges

One of the economies in the world with the quickest growth rates is India. Consider that every minute, two Indian children under the age of five pass away. For every 10,189 individuals, there is a government doctor; for every 2,046 patients, there is a government bed; and for every 90,343 people, there is a government hospital.[22]

Both socioeconomic class and health are unequal. The government is putting social security and financial inclusion measures in place to reduce economic disparities, but the health sector must also make sure that health disparities are effectively addressed. India currently faces the challenge of a triple burden of disease, including injuries, noncommunicable diseases, and emerging and re-emerging infections in addition to infectious diseases (trauma). Infections that are newly appearing and returning are a severethreat.

The gap between the rich and the poor is widening. Poorer health outcomes are correlated with income inequality or disparity between the various social strata. Widening the wealth gap has detrimental health and societal repercussions. Additionally, in order for the health system to meet these problems in the twenty-first century, it must be strengthened since it is already overburdened.

Conclusion

A provider is considered to be of high quality if they can effectively manage the health care needs of a patient or population by using medical technology in a timely, skilled manner while taking cultural considerations into account and working within the constraints of the available resources. In addition to providing better care, eliminating inferior quality entails stopping the overuse of some treatments (such as unnecessary prenatal ultrasounds or unnecessary injections) and the under provision of some clinical services (such as unnecessary hysterectomies or antibiotics for viral infections).

A tragically singular quality characteristic is that it can completely negate all the benefits of good access and efficient care. In health care systems with significant resource shortages, poor quality is, at best, wasteful—a tragedy. It hurts people when it is at its worst.

- In underdeveloped nations, improved quality results in better health outcomes.

- Clinical vignettes and electronic medical records are two legitimate and reliable strategies to measure process, the primary predictor of health outcomes.
- When evaluated in the ways mentioned above, the quality of care is subpar in developing nations.
- There are quickways to enhance the caregiving process.
- In developing nations, policies influencing structural factors, such as the delivery of care or the ongoing planning and redesign of the health care system, have been successful.

We think that two significant measures might contribute to a quick improvement in the standard of healthcare in developing nations:

- Promoting direct comparisons between outcome and process research
- Sharing empirical research on quality variation

Additional long-term development indicators outside macroeconomic growth can be used to improve health status. By ensuring that the environment or circumstances in which the medical contact takes place are acceptable, health outcomes can be significantly improved in the short term (structural modification) or by raising the probability that healthcare professionals will act in a way that is most advantageous to patients given the current conditions (process improvement). Even when beneficiaries, providers, and governments have the best of intentions, this improvement will not happen naturally or frequently. To increase local capability, developing nations must regularly exchange tools, technology, and knowledge about effective quality improvement strategies. Additionally, funding and incentives must be in line with high standards. Finally, it is essential to maintain the political will necessary to make quality the top priority for health reform.

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