



Role of Primary Healthcare in Disease Control

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One of the most important issues that health systems deal with in the world is disease control. The growing burden of communicable and non-communicable diseases, new infections, antimicrobial resistance, and health inequities necessitate a solid, convenient, and durable response to healthcare delivery. Primary healthcare (PHC) has been considered the foundation of efficient health systems and an important measure of controlling diseases (Meckawy et al., 2022). PHC is not just a player in the global and national struggle against disease, whether it's infectious, chronic, or emergent, but the key strategic base to successful disease control. Primary healthcare can be considered the key to controlling the disease based on the focus on prevention, early diagnosis, and convenient treatment. Primary healthcare enhances the overall health outcomes of the population by strengthening community-based services and dealing with health inequities and makes the population healthier and the burden of disease easier.

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Concept and Principles of Primary Healthcare

Primary healthcare is the term used to denote the basic healthcare that is offered to people and families within the society in the form of their full participation and at a reasonable price. It is the entry point of the health system and individual contact and is equity-based, accessible, community-based, and the right technology (AbdulRaheem, 2023). In comparison to the hospital-based care that is frequently oriented towards special treatment, primary healthcare requires treatment of the broader determinants of health, such as social, economic, and environmental determinants.

The core ideals of primary healthcare form the basis of the control of disease. Equity will guarantee that vulnerable and marginalized groups are taken care of to minimize disparities that promote the spread of the disease and poor health outcomes. With accessibility, health services can be interacted with at an early stage before the conditions take a serious turn (Santric Milicevic et al., 2024). Participation at the community level promotes trust, relevance, and compliance with health interventions. Combined, the above principles allow primary healthcare to not only be a treatment platform but also a proactive disease prevention and control system.

Primary Healthcare and Disease Prevention.

Preventing disease in the first place is the least costly and the most humane way of controlling the disease. PHC is in a unique position to implement this axiom, being the major player in promoting health and primary prevention among communities. Prevention is one of the most important functions of primary healthcare in the control of diseases (Gizaw et al., 2022). Primary-level preventive services decrease the occurrence of diseases and minimize transmission and needless increases in secondary and tertiary healthcare centers. The aim of primary prevention is to prevent an occurrence of the disease by use of methods like immunization, health education, sanitation, nutrition, and lifestyle change.

The basis of disease control is immunization programs, which are mostly executed with the help of primary health services. The reduction of morbidity and mortality in the sphere of the world has been significantly decreased by the vaccination against such diseases as measles, polio, tetanus, hepatitis B, and more recently, COVID-19. Primary care centers are used as immunization sites and guarantee extensive coverage, follow-ups, and tracking of adverse outcomes (Greenhalgh et al., 2022). In most low- and middle-cost nations, immunization campaign success can be directly attributed to the robustness of primary healthcare infrastructure.

Primary healthcare provision of health education also contributes significantly to the prevention of the disease. Hygiene, safe water use, nutrition, sexual and reproductive health, and control of vectors education help individuals to develop practices that minimize the risk of diseases (Stevens et al., 2023). An instance in point includes handwashing and sanitation education, which has been determined to avert diarrheal illnesses to great extents, whereas awareness of mosquito management helps to avert malaria and dengue.

Early Detection and Surveillance of Diseases

The second important role of disease control in the situation when it cannot be prevented is to reduce the impact, length, and spread of sickness. The key to this secondary and tertiary prevention is PHC that facilitates the smooth patient flow between the diagnosis and subsequent recovery or long-term management. Primary healthcare is needed to achieve early disease detection and surveillance, which are the significant elements of efficient disease control (Medina et al., 2022). Early diagnosis enables early treatment, minimizes complications, and minimizes the transmission of infectious diseases. Primary healthcare providers tend to deal with the patients with early or mild symptoms first, hence playing a critical role in the identification of disease patterns and outbreaks.

Both communicable and non-communicable diseases are detected at an early stage because of the routine screening services provided at the primary level. Tuberculosis, HIV, cervical cancer, breast cancer, hypertension, and diabetes screening will facilitate early interventions, which will enhance health outcomes and save on long-term expenses (Shami et al., 2023). This is the case with infectious diseases like tuberculosis, whereby early detection at the primary healthcare facilities helps to prevent transmission in communities.

The surveillance systems in cases of disease are frequently based on the information provided by primary healthcare facilities. Such facilities submit notifiable disease cases, trends,

and a portion of national and international disease surveillance systems (Perveen et al., 2022). Primary healthcare was an important aspect during the identification of cases, contact tracing, referral, and monitoring of communities due to COVID-19, which is an outbreak and pandemic. In the absence of good primary healthcare systems, there is a lack of proper disease surveillance.

Control of Communicable Diseases.

In the control of communicable diseases, especially of limited resources, primary healthcare is central. Poverty, overcrowding, poor sanitation, and access to healthcare have a strong association with many infectious diseases. Primary healthcare deals with these challenges in the form of integrated and community-based approaches.

Primary level is usually used to treat diseases like malaria, tuberculosis, HIV/AIDS, respiratory infections, etc. Primary healthcare centers diagnose, commence treatment, promote patient adherence to prescriptions, and follow up. In the example of directly observed therapy (DOT), which is a widely used treatment of TB, it is usually done with primary healthcare to guarantee treatment adherence and that drug resistance will not occur.

Community health workers as a component of primary healthcare boost disease control initiatives since the community health worker reaches homes that might not have any formal health facility (Osborne et al., 2022). They offer health education, dispensation of drugs, case identification, and aid in treatment compliance. They improve the level of trust by their presence in the communities and enable culturally relevant interventions that are crucial in the control of communicable diseases.

Management of Non-Communicable Diseases

The emergence of non-communicable disorders (NCDs), including cardiovascular diseases, diabetes, cancer, and chronic respiratory diseases, in the world has underscored the role of primary healthcare in the control of diseases. NCDs consume a large percentage of the morbidity and mortality in the world and cannot be treated sporadically.

Primary healthcare would best suit the management of NCDs by detecting them early, modifying risk factors, and managing the conditions. Hypertension, diabetes, obesity, and hyperlipidemia screening enables the identification of the at-risk individuals in their initial stages (Endalamaw et al., 2024). The behavioral determinants of NCDs can be addressed through counseling on diet, physical activities, quitting smoking, and alcohol reduction by the primary healthcare providers.

The primary level of managing chronic diseases is cheaper and more efficient over the long term. Frequent follow-ups, prescription of drugs, observation of complications, and education of the patients are most effective within the vicinity of their homes. The primary level of managing NCDs can positively impact the quality of life of patients by decreasing hospital admissions, complications, and healthcare expenses and improving them.

Health Promotion and Community Empowerment.

Primary healthcare plays a major role in health promotion, which is a potent means of controlling diseases. In contrast to curative care, which aims at treating disease, health promotion is aimed at improving general health and making a person less susceptible to illness. Primary healthcare environments are the best place to encourage healthy behaviors and environments.

Primary healthcare providers foster healthy eating, physical activity, safe sex, and mental health through outreach efforts, group education, and individual counseling, which are community-based approaches (Fernandes et al., 2025). These interventions deal with the underlying causes of numerous diseases and play a role in decreasing the burden of diseases in the long term.

The other primary healthcare issue is community empowerment. Disease control is more sustainable when the communities take active roles in the identification of health issues and the formulation of solutions. The engagement of communities promotes the feeling of ownership, accountability, and cultural relevance, which enhances the efficacy of interventions. Communities that have power will be more prepared to take preventive measures and seek treatment earlier, as well as support preventive measures in the community.

Primary Healthcare and Health Equity.

Health inequities have a great impact on disease distributions and outcomes. The inherent one is that the poor, rural, or informal populations might have a greater disease burden due to the lack of access to healthcare services, learning institutions, and even basic services (World Health Organization, 2024). Primary healthcare plays an important role in mitigating such inequities and having these vulnerable populations control diseases. Primary healthcare renders care affordable and accessible, and this reduces care barriers. Outreach services, mobile clinics, and community health workers also increase the population served by the services to those who are underserved in order to have disease prevention and treatment reach those who need it the most (Greenhalgh et al., 2022). This is a nondiscriminating approach that is important in the control of diseases that thrive in inequality.

Social determinants of health are also addressed in primary healthcare. With the assistance of its collaboration with the sectors, e.g., education, housing, water, and sanitation, primary healthcare assists in developing more holistic work, which reduces the risk of sickness. Health education, nutrition, and improved living conditions play important roles in controlling diseases and the health of people on the whole.

The Role of Primary Healthcare in Emergencies in Public Health.

Due to the emergencies of diseases that are caused by public health, like epidemics, pandemics, and natural disasters, primary healthcare plays a very crucial role in disease control. Due to the unexpected and unpredictable health situation, primary healthcare becomes the initial point of delivery of care in the case of an emergency where the continuity of simple services becomes guaranteed and the new health risks are prevented.

Primary healthcare centers are very important in identifying cases in initial stages, triaging and referring, and risk communication in case of an epidemic. They propagate true information, they combat fake information, and they prefer community-based containment

measures (Michielsen et al., 2023). During the COVID-19 pandemic, good primary healthcare systems were associated with better outbreak control, reduced hospital overcrowding, and increased compliance with the recommendations of public health by the community. Furthermore, primary healthcare is a supplement to resilience because it maintains the required services such as maternal and child care services, immunization, and the management of chronic diseases amid the crisis. Such continuity prevents secondary health crises, which tend to arise whenever the routine services are interrupted.

Challenges in Primary Healthcare in the Controlling of Diseases.

Even though it is necessary, primary healthcare is conjoined with a set of issues that limit its implementation in the management of diseases. In the majority of countries, primary healthcare is not adequately financed, staffed, and appreciated as compared to the services in the hospitals (Khatri et al., 2023). Some of the barriers to service delivery include a deficiency of trained health workers and inadequate infrastructure and diagnostic capacity. There are also disaggregated health systems. Lack of integration of primary, secondary, and tertiary care can result in an inefficient network of referrals, redundancy, and lapses in disease control. Ineffective health information systems hold back surveillance, monitoring, and evaluation initiatives. Sociocultural barriers may reduce the utilization of primary healthcare services because of poor health literacy, misinformation, and stigma. Such problems must be addressed on a long-term basis of political dedication, investment, and community involvement.

Directions and Strengthening Primary Healthcare in the Future.

Intense primary healthcare is essential in the improvement of disease control and universality of health insurance. The additional investment in the infrastructure of the primary healthcare and the workforce development and health information systems development is of paramount importance (Hanson et al., 2022). Adequate health workers like nurses and community health workers are trained and retained, increasing the quality and accessibility of the services.

The application of digital health technologies opens up the possibility of new opportunities on the primary level of controlling the disease. Electronic health records, telemedicine, mobile health applications, and data analytics can be used to improve surveillance, patient follow-up, and health education (Nundy et al., 2022). The innovations can expand the primary care provision to a larger area, particularly in rural and underserved areas. The other aspect is to have policy reforms that emphasize primary healthcare, intersectoral collaboration, and community involvement. By aligning the health systems in accordance with the primary healthcare principles, the countries will be capable of establishing more robust, fair, and efficient methods of disease control.

All in all, primary healthcare cannot be replaced by any other in the process of controlling the disease. It is a system that keeps the disease in the background through promotion and vaccination; it is the system that addresses the disease at its early stage and in a fair and consistent manner, and it is the sturdy framework that can make the health systems stand any storms. It controls the whole spectrum of forces that influence the occurrence and impacts of illnesses by prevention, early discovery, and medication, promoting health, and

involving the community. It is especially effective in the minimization of health disparities, management of infectious and non-infectious diseases, and application of equity, access, and community participation, which makes it well placed to combat health disparities. Successful health systems rely on primary healthcare despite the fact that they are faced with underfunding and lack of personnel. There is a health requirement and social and economic necessity to reinforce primary healthcare. As the health problems of the world continuously evolve, the resources will be required to invest in the design of primary healthcare systems that may be exploited to guarantee the sustainable control of diseases and improvement of the health of the population on the global level.

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