Coronary Artery Disease in Nepal: Current Perspective, Challenges, Need for National Practice Guidelines, and Potential Solutions

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ABSTRACT

South Asians are estimated to have a 40% increased risk for coronary artery disease as compared to populations from other regions. Nepal, as a South Asian country, should also analyze the burden of coronary artery disease and its risk factors to minimize cardiovascular morbidity and mortality. We reviewed the barriers to cardiovascular care and its services in low- and middle-income countries, including Nepal. The identified barriers included coronary artery disease risk factors, access, cost, adherence to cardiovascular care, awareness, knowledge gaps, and socioeconomic and health system challenges. The possible strategies to reduce coronary artery disease included national, regional, and local perspectives. It also highlighted the involvement of community workers and local leaders, education, patient-centered intervention, easy access to drugs and treatments, rehabilitation and public health measures, innovation within the health care system, and multi-sectoral involvement. This review provides insights into the current situation of coronary artery disease and its possible solutions.

KEY WORDS

Coronary artery disease, Disease burden, Nepal, Risk factors, South Asia

BURDEN

Coronary artery disease (CAD) is an inflammatory atherosclerotic condition. CAD is a major public health concern in both developing and developed nations because of the marked increases in associated morbidity and mortality.[1] In 2016, the global prevalence of CAD was 154 million, attributing to one-third of cardiovascular diseases(CVD) burden and two percent of the overall global burden.[2] The economic burden of CAD was highest even among the CVD, where the estimates were up to 5000$ per episode.[3]

The highest burden of CVD is found in South East Asia Region which comprises one-fifth of the global population.[4] Approximately 80% of CVD-related deaths were reported in low- and middle-income countries (LMICs), half of which were characterized as premature death despite the lower prevalence of cardiovascular risk factors in these regions.[5] LMICs are disproportionately burdened by CVD. One of the important reasons for this is limited resources to make proven effective interventions available.[6]

In Nepal, CVDs, predominantly ischemic heart disease, and stroke contributed to more than a quarter of all-cause mortality and half a quarter of the disability-adjusted life years (DALYs).[4] Around 3.3% of adults aged between 40 and 69 years in Nepal have a 10-year CVD risk of 30% or more.[7] The highest risk is among people living in the far-western province of the country.[7] The Far-Western province has the lowest development index values and the highest number of multi-dimensionally poor people where access to information and treatment is limited.[8]

Nepal's government has adopted the Package of Essential Non-communicable diseases (PEN) to tackle the growing burden of CVD.[9] However, there is a lack of adequate studies except for a few isolated small population studies and cases. The detailed data on individual conditions like CAD, individual risk factors, distribution, and the economic burden of CVD and its components in Nepal remain inadequate.

TRADITIONAL AND NON-TRADITIONAL RISK FACTORS

The increasing prevalence of CVD in LMICs is caused mainly due to the increased burden of its risk factors such as diabetes, hypertension, obesity, dyslipidemia, physical inactivity, smoking, and dietary factors.[10] At a global level, South Asians have the highest burden of CVD than any other regions with a 10% increase in prevalence between the ages of 35 and 64 years.[11,12] Cardiovascular deaths occur 5-10 years earlier in South Asia than in western countries, with the median age of presentation for a new myocardial infarction being 50 years among South Asians which is nearly a decade earlier than in Europeans (median age 59 years) and the Chinese (median age 60 years).[11,13]

From 1990 to 2010, blood pressure increased by up to 2.7 mm Hg with an increase in prevalence of uncontrolled hypertension in East and West Africa and South and Southeast Asia.[14] However, the studies have shown mixed findings concerning the rates of hypertension in South Asians compared with other ethnicities.[15] Apart from genetic predisposition, traditional and emerging risk factors are also responsible for increased CAD risk factors among South Asians.

It has been noted that other associated CVD risk factors such as metabolic syndrome and type 2 diabetes are also more prevalent among South Asians. The global prevalence of diabetes doubled from the year 1980 to 2008 (from 153 million to 347 million cases), affecting 9.8% of men and 9.2% of women, with approximately 40% in China and India, and 12% in Brazil, Pakistan, Indonesia, and Mexico.[16] Type-2 diabetes mellitus (DM) is an especially acute problem among South Asians, likely due to a combination of genetic predisposition, metabolic dysfunction, and adverse interaction with western high calorie/fat and low vegetable diets and a sedentary lifestyle. Individuals of South Asian descents develop Type-2 DM 5 years sooner and 3-6 times more likely to have DM as compared to other ethnicities.[16] A study noted that the high prevalence of malnutrition followed by limited access to a nutritious diet, food insecurity, and health literacy in LMICs also contributed to the increased susceptibility to CVD.[17]

Asians are more likely to develop diabetes at a lower body mass index (BMI) due to a higher risk of developing insulin resistance because of visceral fat during childhood and weight gain. Asians are predisposed to have more deep, superficial, and visceral adipose tissues, which are associated with ectopic fat deposition in the liver resulting in cardio-metabolic traits such as elevated glucose levels, abnormal lipid levels, and abnormal blood pressure.[18] Besides increased BMI and obesity, South Asians have a higher body fat percentage and visceral adipose tissue at a given BMI compared to other ethnicities. These factors increase the risk of metabolic abnormalities, DM, and cardiovascular complications at a lower BMI. The BMI cutoff of 25 kg/m^2 in South Asians produces an equivalent risk of DM development as a BMI cutoff of 30 kg/m^2 in other ethnicities.[19]

In the past 30 years, mean cholesterol has also surged by 0.08-0.09 mmol/L per decade in East-, South-East Asia, and the Pacific regions.[20] Compared to other ethnicities, South Asians have lower level of HDL and higher levels of triglycerides, lower adiponectin levels with elevated ApoB/A1 ratio and insulin resistance, and higher leptin levels for a given BMI or waist circumference. However, South Asians demonstrated similar levels of LDL cholesterol when compared with other ethnicities.[21] The similarity in most of the South Asian diets is a relatively higher calories derived from carbohydrates such as cereals, rice, Chapati, and vegetable curries, with lower consumption of meat

protein.[21,22] Higher carbohydrate intake was associated with lower HDL cholesterol and higher fasting triglyceride levels.[23] The use of clarified fat (Ghee), rich in oxidized cholesterol and saturated oils frequently used in South Asian households for cooking, leads to increased trans-fatty acids and decreased linoleic and linolenic acids in adipose tissue. It increases susceptibility to develop CAD and atherosclerotic complications.[24] However, the conclusion of harmful effects of consumption of Ghee remains controversial as some studies showed beneficial effects while others showed harmful effects.[25] A meta-analysis showed that a 2% increase in energy intake from trans fatty acids was associated with a 23% increase in CAD.[26]

Approximately 82% of the 1.1 billion smokers worldwide reside in LMICs.[27] Although South Asians were approximately 60% less likely to smoke, tobacco is consumed in different forms, including smokeless tobacco and second-hand smoke, contributing to an increase in CAD.[15,28] Studies found that South Asian migrants have lower levels of physical activity and are less likely to complete the full course of cardiac rehabilitation compared with other ethnicities.[29,30] South Asians are at a higher risk of developing premature CAD, more prone to accelerated atherosclerosis and its adverse consequences due to several enhanced non-conventional risk factors.[31] The Joint British Societies (JBS) guidelines states that for South Asian patients, a factor of 1.4 is applied to the estimated 10-year risk derived from the JBS risk tables owing to the reported 40% increased risk of CHD when compared to the general population.[32]

ACCESS

Access to health care

Due to fragmented health care systems in many LMICs, many patients are unaware of the disease and disease symptoms resulting in the delay of the care-seeking behavior. People from remote areas and limited access to advanced technology are more prone to suffer. The limited ambulance services in these parts also play a major role in the delay.[33] Apart from the delay in reaching the primary care centers or hospitals, the lack of specialists and inadequate medical facilities hinder the delivery of proper and timely care.[34] Lack of an organized plan for inter-facility transfer further hinders the CVD services as proper referral mechanisms are needed to improve the timing and the quality of care in patients by shortening the time from the onset of symptoms to presentation to the hospital, especially in rural settings.[34,35]

Access to life-saving medicines

In 2011, World Health Organization (WHO) /Health Action International data of 36 countries revealed that the overall availability of CVD medicines was still low, with a mean availability of 26% in the public sector.[36] The studies showed the low availability of evidence-based CVD medications attributed to inadequate prescriptions in LMICs.[37,38] Dismal availability of medicines, lack of accountability in the supply chain, and poor medication adherence were noted to be three barriers to patient-centered access to essential CVD medicines.[39] Systemic deficiencies and inefficiencies in medicine regulation, distribution, and the unnecessary complexity of supply chain design also played a critical role.

COST

The cost of CVD includes both care-seeking and treatment costs. According to Tran et al., three potential reasons can contribute to poor adherence to essential CVD medicines in LMICs which are: a) Transportation costs: major barrier in accessing care particularly in rural areas with difficult geographical areas. b) User fees to see the clinician: most of the patients in LMICs use out-of-pocket payment to see the clinicians, even in the government sectors. c) higher costs of the medicines themselves. Apart from these factors, the dismal drug availability of life-saving medicines in public facilities in LMICs forces patients to turn to private chemists, resulting in higher costs.[39]

ADHERENCE

The number of prescribed pills, increase in frequency for the patients to take CVD medicine, and the fear of side effects are recognized factors for non-adherence. Five main reasons for non-adherence to medication regimens include socioeconomic factors, medicine-related factors, condition-related factors, health system-related factors, and patient-related factors.[39] The integrated solution of these five factors can help decrease the non-adherence to CVD drugs.

AWARENESS/KNOWLEDGE GAPS

Awareness of the symptoms and risk factors is poor in most LMICs and several reasons are lack of access, less health education, overreliance on and yet lack of trust in health care professionals, cultural barriers to adopting evidence-based measures, resource constraints, and competing demands on patients with CVDs.[35]

CHALLENGES

Challenges in minimizing CVD risk in LMICs include:

• **Implementation gaps**

Insufficient investment and implementation of CVD prevention and disease management efforts exist in LMICs. Poverty, high illiteracy rate, inadequate health care system with limited access to medical insurance, racial, genetic, lifestyle, and environmental differences are the possible causes of implementation gaps. Moreover,

aging, urbanization, changing lifestyle leading to inactivity, and easy availability of low-cost, calorie-rich, fatty fast foods increases CVD risk factors. There are significant inefficiencies in the conventional clinician-patient interaction, provider inertia, misaligned incentives for disease management, and a failure to successfully engage patients in their health management. Lack of information, inadequate knowledge among health professionals, low-quality medical records, lack of focus for chronic disease within the health care organization, and reluctant attitudes towards using risk stratification tools for decision making in prevention, also play a major role in poor management of CVD in LMICs.[40] Also, the lack of ethnic-specific risk algorithm is an important gap to understand and prevent CVD in the population. Patients often receive expensive cardiovascular procedures in large urban hospitals, but then they are sent back to resource-limited environments where follow-up care may be inadequate.

• Implementation challenges

The major challenges in the implementation of effective strategies to reduce CVD include lack of locally adapted guidelines, inadequate resources, awareness, and technical capacity, and insufficient training and education of health professionals. The major contributing factors include socioeconomic and geographical hurdles added with late health-seeking behavior of patients. Moreover, there is a need of technological advancement in both the hospital systems and ambulance facilities which will help improve CVD management.[41,42] Also, the health literacy and self-efficacy of patients are typically low in LMICsS.[43]

• Compliance to guidelines

There is a major evidence-to-practice gap in LMICs. According to Gravel et al. the important barriers to guideline implementation are time constraints among busy clinicians and lack of applicability of guidelines due to clinical situation and patient characteristics.[44] Good quality clinical practice guidelines provide recommendations based on current best-evidence summaries, informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options, and are intended to improve the quality and outcomes of patient care.[45] According to Treweek et al. "guidelines are a convenient way of packaging evidence and presenting recommendations to healthcare decision-makers".[46] However, international guidelines may not reflect local epidemiology, healthcare contents, available treatments or their safe administration, local culture, or capacity to implement care.[47]

Apart from organizational barriers to implementing guidelines such as inadequate resources or inappropriate policies, there also exist physician-level barriers like lack of awareness or familiarity, lack of agreement, self-efficacy outcome expectancy, inertia in overcoming previous practice patterns, and external influences.[48]

• Lack of local data and research

The systematic and evidence-based scientific research is still lacking in LMICs which results in dependency on international guidelines. Sound systematic evidence-based approaches are needed for the generation of local data as the large-scale local adaptation is a potentially expensive process that also requires adequate local skilled personnel to support it.[49] Research, especially the high-quality ones, in LMICs is quite limited.

• Policy

In LMICs, prioritizing the delivery of standardized care remains low and there is a limited health policy priority.[34,49] Advocacy to create awareness among policymakers on the threat of CVDs to the LMICs population's health and economic prosperity is necessary. By overcoming legal barriers in patent law and reducing unnecessary complexity in government procurement of essential medicines and supply chain design, adequate capture of up-to-date consumption data with adequate planning for procurement and resupply, and adequate monitoring and evaluation of the health system is necessary.[39]

• Belief in traditional medicine

Belief is prevalent in traditional medicine in the South Asian population including Nepal. These beliefs and attitudes have a direct result on health outcomes. The ability to embrace or reject lifestyle modifications could be influenced by a lack of appreciation for CAD and the consequences of the disease.[50]

STRATEGIES TO REDUCE BURDEN

• National/regional/local initiatives

Clinical guidelines alone are not sufficient to improve health care quality as they should be incorporated in a quality-assurance cycle with education programs and feedback from surveys of clinical practice.[51] Therefore, the promotion of local epidemiological and intervention studies is needed for the generation of data which can help in producing local guidelines in the long term. It has been recognized that drugs reducing risk factors have disparate effects by ethnicity, yet we lack trials and study data to compare outcomes across these strata and prepare appropriate and tailored guidelines.[6]

Advocacy at a local level and the organizational working environment are core influences to the implementation of guidelines. It is important to assess the stage of readiness to change and the specific nature of barriers to change.[41] It is also important to identify the interventions with the most significant health impact and cost-effectiveness. For example, due to resource limits, low-cost screening methods and non-laboratory-based methods for risk factor screening are preferred in LMICs. Inexpensive and culture-specific methods include a comprehensive screening

of CVD risk factors, individualized risk assessment, and behavior recommendations with the use of non-medically trained professionals as health coaches. However, in some situations, adopting, contextualizing, or adapting recommendations to local circumstances and focusing on implementation plans rather than recreating the evidence base will be cost-effective.[45]

• Involvement of community workers

Structural change to the healthcare system should focus on comprehensive and multi-faceted community-based interventions. An efficient and equitable solution is a primary-care approach based on a trained primary care team. Integrated care with the joint participation of generalist and specialist care physicians in the planned delivery of care for patients with chronic conditions is widely advocated.[35]

Task shifting can be achieved with the rational redistribution of tasks within the health workforce to more efficiently use the limited human resources shortage to improve patient care. Community health volunteers can play a crucial role in increasing the capacity of overburdened health care systems by using resources more effectively and increasing access, coverage, and quality of care. Community health workers may remove barriers to risk factor control and medication adherence resulting from cultural, educational, and language differences between patients and the health care system.[52]

• Guidelines and protocols

In Europe, it is emphasized that the guidelines and recommendations be translated, taking into consideration the diversity of health care systems and that their implementation should be adapted to, and evaluated in, local and national circumstances.[53] Whereas in LMICs, specific references and recommendations on CAD prevention guidelines concerning ethnic groups are extremely limited. Development of evidence-based guidelines at the national level by a multidisciplinary group, with involvement of local stakeholders and adaptation to the local context by local practitioners, is recommended.

Involvement of end-users in the guideline development process with emphasis and investment in promoting guideline implementation using multifaceted dissemination will result in the proper use of national and local guidelines.[49] The guideline development is expensive, demanding, and continuous process and requires a multidisciplinary group of experts to spend time and resources. LMICs can more efficiently use their health care resources in more critical areas.[54]

It is important to both promote and implement a regional protocol as well as monitor its effectiveness as a lack of guideline compliance can lead to an increase in mortality rates.[53,55] There should be a discussion regarding facilitators and barriers for local guideline implementation and

the development of actionable implementation plans. Adoption can occur when the recommendations are already appropriate to current contexts, environments, workforce, health policy, infrastructure, funding, and training.[45] Contextualization may include activities such as education, redesigning the workforce, changing policy, relocating funding, and improving infrastructure. These guidelines should address local problems and adhere to the local policy framework to maximize impact and should be followed by peer education and coaching to support and promote a high standard of care. Commitment on the part of institutional policies, coordinated health systems, feedback, chart reminders, and various educational interventions targeting practice change can result in standardized care, improve outcomes, and implement evidence-based data.[56]

There are great variations between ethnic, racial, and socioeconomic groups within a country, and even greater interpersonal variability in personal characteristics and preferences that always emphasizes the need for individualized approaches in applying or translating these guidelines to developing countries.[57] An aggressive evidence-based guideline that addresses the conventional and nonconventional risk factors is much needed because secondary and tertiary prevention is expensive and requires advanced hospital facilities which increase the burden of health expenditure and financial load. Practicing physicians and other healthcare professionals play a major role in identifying the high-risk population. Disseminating recent guidelines along with financial incentives, audit and feedback, automated reminders, and educational outreach visits have proven to change health care professional behaviors and patient outcomes.

• Education

Intense lifestyle and nutritional modification with a concurrent focus on awareness programs and health promotion activities play a major role in alleviating CVD. Culturally effective education programs that are language-specific and appropriate for effective communication are required. The awareness pertaining to CVD can also be provided from a wide variety of sources including primary care physicians, media, schools, homes, community centers, family, friends, and different religious groups. Aggressive tailored, individualized CVD risk factors management prepared by a multidisciplinary team is required in high-risk individuals, whereas quality improvement in the health service delivery for the moderate risk population and periodic monitoring and public health interventions aimed at improving awareness and healthy behaviors are crucial in low-risk individuals.[58,59]

Effective utilization of health information in raising public awareness on a healthy diet and physical activity with financial measures that increase the cost of unhealthy food and minimize the price of healthy fiber-rich locally cultivated food might be an important initiative to

promote healthy food habits. Health communication programs using mass media and other large-scale public communication strategies involving the community are necessary to enhance the knowledge, motivation, and skills of individuals and their communities. Also, legislative measures that provide nutritional information and limit the availability of unhealthy food are needed along with a combination of measures such as reducing the intake of saturated fat, a salt-restricted diet, and tobacco control.[40]

• **Interventions needed**

Holistic, patient-centered interventions have been shown to improve CVD outcomes along with the use of a multidisciplinary team of other non-physician care providers. Programs led by clinically trained nurses, pharmacists, and community health workers, demonstrated an improvement in adherence to lifesaving CVD medicines, a significant reduction in blood pressure, and a reduction in glycated hemoglobin at a fraction of the cost anticipated with physician-based health care delivery.[60-63]

The use of poly-pills, fixed-dose combinations of drug regimen, directly address the adherence barriers of regimen complexity and pill burden and have been shown to increase patient adherence and reduce CVD events in patients with CVDs or who are at risk.[39]

Validated risk reduction tools with individualized management plans using absolute risk scoring: the numeric probability of a CVD event occurring in a given time and use of evidence-based, culturally acceptable, sustainable, and practicable preventive strategies along with health coaching- a one-on-one form of health education and motivation has proven as an effective measure.[64]

• **Involvement of local leaders**

The presence of local protocols and pathways along with adequate health care resources, regular quality assessments and detection of barriers, and implementation of evidence-based interventions with a skill mix of health professionals appear to positively impact CVD care.[65] The hub and spoke model of management of ST-elevation Myocardial Infarction has been proven beneficial.[66] The incorporation of local leaders and the local community in the management of CVD-related diseases and risk factors can minimize the disease as well as risk factor burden in the population, escalating the levels of organized CVD care.

• **Easy access to drugs and treatments**

In addition to improving the infrastructure for easy access to the health facilities, implementation and evaluation of health information systems to improve real-time communication of consumption rate, inventory, and procurement status should be encouraged to improve the availability of essential medicines. According to Tran et al. the formation of revolving fund pharmacies serves as backup pharmacies when government pharmacies are unable to supply.[39] They conduct regular needs assessments to forecast usage and ensure accountability in their daily operations instead of small markup and the net profit earned for the uninterrupted supply of drugs to the population.[39] Also, they suggest the use of modern technology like short message service (SMS) technology and paper analytical devices, which are paper cards that carry out a library of colorimetric tests to rapidly and qualitatively detect the falsified medicines. If there are suspicious drugs, they can be confirmed using confirmatory testing with standard instrumental methods.

• **Focus on rehabilitation and public health issues**

There is also a need to strengthen the rehabilitation of CVD patients with adequate knowledge regarding CVD and further prevention. The success of CVD preventive strategies depends on feasibility as well as preparedness and support by the community and governments. Public health policies for the promotion of a healthy lifestyle and improved physical environment initiated at an early age and continued throughout a lifetime are vital. Effective utilization of health information in raising public awareness on a healthy diet and physical activity are crucial. Government should provide policy support and major health policy reforms regarding it. However, the health system alone could not counter Non Communicable Diseases (NCD); rather a whole of government and whole of society should be responsible. Emphasis should be on public health and preventive measures, concentrating both on education and structural changes.[35] Whenever possible, health care should be provided within primary care with extensive use of standardized protocols and guidelines and ideally using comprehensive and multifaceted community-based interventions, as recommended by the NCD Alliance.[67]

There is an urgent global need to translate research evidence to community uptake and policy reform and review the applicability and context appropriateness of current interventions. The focus should be on the aim of discovery for earlier detection and appropriate screening methods. We also need to formulate strategies to strengthen the clinical capacity of the current healthcare system to improve the current interventions resulting in invaluable insight towards health policy formulation and future research on potential adaptation for resource-poor settings. Building facilities, training health care personnel, and working with partnering institutions and industry to procure the equipment necessary for delivering appropriate cardiovascular care alongside research, training, and education is a must. Rather than focusing on vertical, disease-specific programs, a "diagonal" approach should be pursued in which CVD-related healthcare delivery should be integrated into a broad-based approach to health systems' strengthening and promotion of primary care services.[68-70] Population-based strategies, such as tobacco tax, universal sodium reduction, and subsidizing healthful dietary choices such as fruits and vegetables,

appear to be cost-effective options for LMICs.[43]

• Innovative ways

LMICs need to develop and adopt affordable and effective point-of-care innovative diagnostic tools, devices, technology with management involving both integrations with existing health care facilities and the creation of new care delivery systems. The adoption of electronic health records (EHRs) has provided a unique opportunity to conduct population health surveillance and management. The use of color-coded WHO/ISH charts and potentially mobile phone calculator applications to calculate a patient's 10-year CVD risk can be effective in minimizing the risk of CVD. Simple messages are needed to effectively promote the recommended dietary patterns on a widespread population basis. Digital health technology, such as tablet-based risk assessment tools, mobile-phone apps for physicians, and text messaging interventions, represents a new approach.

• Multi-sectoral involvement

The determinants of the global CVD epidemic are multifactorial. Although the biological and behavioral risk factors for CVD exist, these are influenced by more "upstream" and "structural" factors such as globalization, demographic change, socio-political determinants, social inequality, education, and cultural norms.[71] Therefore, an inter-sectoral approach is needed to address the multifactorial etiology of CVD so that the interventions to control global CVD can be inter-sectoral, extending beyond the direct domain of the health sector to involve multiple sectors of society, both public and private, and at both the population and individual levels.[71,72] Inter-sectoral and comprehensive policy approaches include the diversity of public and private sector actors with the collaboration of policies, programs, and interventions. This collaboration creates environments suitable for individuals to make and maintain healthy life choices. However, the implementation and enforcement of these policies require negotiation, compromise, creative financing, and transparent accountability.[58] Using the combination of mass media,

social marketing, community mobilization, empowerment and participatory approaches, enhancement of knowledge and behavior diffusion networks, and access to healthy choices can result in the adoption of health-promoting behaviors.[73]

RECOMMENDATIONS

In LMICs, multiple approaches which urge and address awareness, access, services, discrimination, cultural sensitivity, and biological factors are required. In addition, improved integration of health care delivery across geographic regions is crucial.

The health system in Nepal will achieve maximum cost-effectiveness and equity by learning from but not imitating models and frameworks developed in high-income countries and other LMICs. It is integral to devise country-specific policies based on the evidence specific to countries or regions based on their history.

Population-risk stratification, task-sharing and -shifting, and community- as well as network-based care and further research using innovative and novel communication strategies, are required to determine the optimal approach in LMICs.

Synergistic reinforcement of inter-sectoral interventions like policy approaches, health communication programs, to improve healthcare delivery-such as strengthening health systems, improving quality of care, optimizing human resources for health, establishing secure supply chains of drugs and technology, and promoting equitable access to care-is crucial to improve the preventive, diagnostic, therapeutic, and rehabilitative services available to the population.[58] National health policies, prevention, and management guidelines tailored and addressing population-wide health in combination with tools to reduce behavioral risk factors with strategies targeted to high-risk populations are important to reduce the risk factor as well as a disease condition.[9]

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