Review Article

Strengthening the Health System to Better Confront Noncommunicable Diseases in India

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ABSTRACT

The paper emphasizes the vital need to address the rising burden of noncommunicable diseases (NCDs) in India with a health systems approach. The authors argue that adoption of such approach may soon be imperative. Applying the health systems framework developed by the WHO in 2000 to NCDs means in summary re-examining the planning and organization of the entire health system, from service provision to financing, from information generation to ensuring adequate supply of pharmaceuticals/technologies or human resources, from improving facility management to performance monitoring. Using this framework the authors seek to highlight core issues and identify possible policy actions required. The challenge is to ensure the best implementation of what works, aligning the service provision function with the financial incentives, ensuring leadership/stewardship by the government across local/municipal, state or regional and national level while involving stakeholders. A health system perspective would also ensure that action against NCD goes hand in hand with tackling the remaining burden from communicable diseases, maternal, child health and nutrition issues.

Keywords: Noncommunicable diseases, India, Health system approaches

Introduction

For years, it was thought that while communicable diseases (CD) were hurting low and middle-income countries, noncommunicable diseases (NCD) mostly affected-high income countries. As shown in other parts of this special issue, however, NCDs are probably the most important health threat the world is confronting in terms of "single" cause of death, disease and disability (although NCDs are not one but many diseases, as is well known). Despite the knowledge accumulated and the concerted efforts and funds available, results have not been good, among other things because of having paid insufficient attention to the strengthening of health systems at global level.

Access this article online

Quick Response Code:

Website: www.ijcm.org.in

DOI: 10.4103/0970-0218.94706

This paper will try to give a health systems perspective to the necessary response to NCDs. The authors do not intend to present an exhaustive proposal but rather outline the core methodological approaches, with selected illustrations. Subsequent work should strengthen and expand on the arguments made here.

After this introduction, a summary of findings related to NCDs in India is presented, followed by an outline of key methodological points in a comprehensive health system intervention (first in theory and then applied to the Indian reality), before summarizing possible lessons and critical pending issues.

Concern with recent findings

NCDs are a particular threat to India. For example, it is estimated that by 2020, two out of three Indian deaths will be due to NCDs.(1) Also, the number of diabetic people has increased from 19 million in 1995 to 51 million in 2010, and is predicted to increase to 87 million by 2030.(2) Yet the devastating burden of disease due to NCDs (for example, the retinopathies, kidney failures and amputations due to diabetes) is

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Received: 01-12-11, **Accepted:** 14-01-12

only starting to be felt. Given the high prevalence of risk factors among the population and the linkages of NCDs with nutrition, smoking, sedentary life, etc., it is likely that many chronic diseases will now configure an even more complex picture of comorbidities (e.g., chronic respiratory disease and obesity, diabetes and renal insufficiency, etc.). The economic impact that NCDs will have over people in India (huge catastrophic costs and social disruptions) will also be enormous in a context of overwhelming predominance of direct out-of pocket (OOP) expenditure if swift action is not taken. Almost 50% of Indian families with a member affected by cancer experience catastrophic spending and 25% are made poor as a consequence of the disease.[3]

The recent years has also seen various developments in NCDs - such as launch of various national programmes[4] as well as increase in the financial outlay provided especially for cancer, diabetes, cardiovascular diseases and stroke in the 11th Five-year Plan under the Integrated National Programme for cancer, diabetes, cardiovascular diseases and stroke focusing on early diagnosis and management. Since 2005, a large-scale national attempt at health systems strengthening is also underway under the aegis of the National Rural Health Mission (NRHM).[5] The NRHM has emerged as a major financing and health sector reform strategy to strengthen states health systems with the state governments adopting various innovative strategies to address the health challenges.

The Prime Minister on 15 August, 2011, has also announced that increasing national attention will be paid in India to health issues under the proposed 12th Five-year Plan.[6] These varied efforts have resulted in notable achievements in the health sector. Overall there has been a general trend towards strengthening the services provided by the public health sector, with increasing access and improvements in quality, reflected in increasing utilization of the facilities coupled with augmentation of human resources, amongst others.[7-9] However, performance across states continues to be varied; the system continues to lag behind in fund utilization and there are challenges in both program management and governance to be overcome before the capacities to absorb more funds and deliver better services are in place. Several reviews and assessments[8-11] have highlighted various challenges that face the health sector in India. These inter-alia include, poor governance and dysfunctional role of the state; lack of strategic vision; and weak management; need for more integrated approach and integrated health care system across levels; low public health spending coupled with high out of pocket expenditure, especially at point of use of service; lack of financial protection especially for the poor and vulnerable; health human resource challenges; dominant yet unregulated private sector among others.

Since the 1980s, the Framingham study in the US[12] at the level of analysis and the North Karelia Project in Europe[13] at the level of intervention, recently confirmed as a world reference[14] have shown the need for comprehensive approaches to fighting NCDs in general and cardiovascular diseases in particular. All these and other models and experiences across the world show that managing NCDs and chronic conditions require a health system response, which includes redesigning health-care delivery to achieve better coordination of services, aligning payment systems, planning health care workforce and capacity, etc.[15]

The required systemic response in terms of the range of (preventive, diagnostic, therapeutic, rehabilitative and caring) services and inter-sectoral approaches needed to address NCDs will only emerge if solutions are found to the current silo-like, fragmented services and interventions deployed against NCDs, the lack of financial robustness in a health system unable to cover people, the insufficient regulatory arsenal and the inadequate combination of knowledge, skills and motivation (in a broad sense) of many of the inputs involved.

Outline of the methodological key points

We argue that a health systems perspective is needed to provide the necessary response against NCDs. Recent years have seen the emergence of health systems-strengthening discussions[16-19] and initiatives, such as the recommendations of the WHO Report 'Preventing chronic diseases – A vital investment'[20] and The Global Strategy for Prevention and Control of NCDs.[21]

Evidence shows that improving health is impossible without intersectoral actions addressing the social determinants of health and other contributing factors plus a mix of services targeted at individuals (personal health services) and populations at large (non-personal health services). A heath system is therefore "the ensemble of all public and private organizations, institutions and resources mandated to improve, maintain or restore health within the political and institutional framework of the country".[22]

Any health system has some final goals, which could be summarized as: improving health levels and equity, protecting people against the catastrophic consequences of disease, improving responsiveness to citizens' expectations; and working efficiently. In turn, these results are mediated through intermediate goals such as access, quality, continuity, sustainability, etc.

Health system goals and objectives can in turn be achieved by means of four interdependent functions (sets of repeated activities), namely: provision of services,

collection and allocation of the necessary financing, generation of the human resources and other inputs that make service provision possible and setting rules as well as providing strategic direction for all the actors involved. The inter-play and combination of inputs in these functions (service provision, financing, input creation and stewardship) determine the health outcomes in any health care system. Functions are generic to all health systems but are organized differently in different countries, making health systems dynamic entities with interactions responding to policy preferences in the way people's needs and expectations should be addressed, access to health services should be ensured, financial protection to against ill health provided, etc. Each country needs to arrive at its own solutions; there is no fixed entry point, readymade solution or approach to be "copied" or "imported".

A depiction of the health system framework is provided in Figure 1.

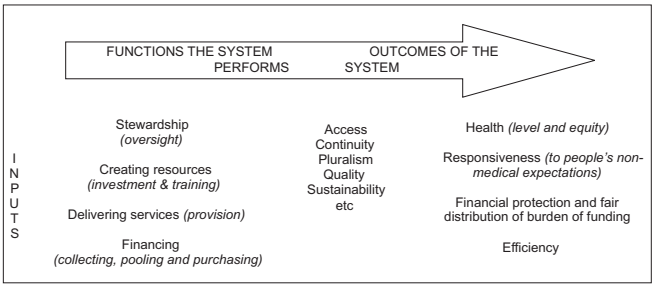

Figure 1: Health systems framework

What does it mean to apply the health systems approach to NCD in India?

The above comprehensive health systems approach can help India respond properly to the NCD challenges. Importantly, responding to NCD (e.g., fighting tobacco) requires a broad range of personal services -e.g., treating bronchitis episodes, or providing advice during medical consultation- and population services -e.g., warning labels on cigarette billboards, or media campaigns- looking for large-scale impact, cost effectiveness and economies of scale combined with actions taken by other sectors (e.g., tobacco taxation or advertising bans).

Using for example 'service delivery' as an entry point would start by acknowledging that managing established NCDs is often technology-intensive and expensive. People at low or moderate risk should be kept away from becoming high risk through population-level risk reduction (prevention). At the same time, those at high risk should be protected from developing disease-related complications through individual clinic-based efforts (treatment). The challenge would be deciding which promotive, preventive, diagnostic, curative and rehabilitative personal and population services should be provided; how many of each and for whom (i.e., target population – age, sex, etc) and how to organize and manage their provision (for instance, which services would be provided in the public sector or in the private and voluntary sectors, which ones in primary centres and/or in hospitals; which as general or specialty services); who would deliver these services? (e.g., doctor, nurses, ASHA) and how these services would be financed and regulated, quality ensured, etc.[23]

A health promotion approach would lead to similar results. NCD prevention calls ideally for a 'life span' approach, reducing risks at each stage through appropriate interventions variably integrated into different levels of care (primary, secondary and tertiary). Services would range therefore from (i) providing information and an enabling environment for increasing awareness and adoption of health living habits by the community to (ii) early detection of persons with risk factors or clinical disease at early stages and cost-effective care to prevent complications (including low cost, high-yield technology, acute care) to (iii) secondary prevention to reduce risk of recurrent events; and (iv) rehabilitation and palliative care when disease resulted in complications or was incurable. Many of these activities could be performed in primary care settings (e.g., health education, blood pressure checks, tobacco cessation, oral cancer screening); some others (e.g., cancer management, treatment of left ventricular dysfunction) would need to be performed in secondary and tertiary care settings as per clearly defined guidelines.

The existence of comorbidities and dual burden would lead to complexities in the nature of services required (for instance, treating individuals with heart disease and diabetes would be more complicated than having either alone). For that reason, rather than adopting a disease-based approach, a move toward integrated service delivery with greater co-operation between service delivery providers and institutions and the communities/patients would offer advantages. Global experience and evidence has clearly indicated that interventions for NCDs can have a significant impact on population health outcomes in a cost effective and sustainable manner if integrated as part of a comprehensive package of primary care services accessible to all[24] supported by effective secondary care.

Service provision is always determined by the amount of resources available (knowledge, human resources, infrastructure, pharmaceuticals, diagnostics and consumables amongst others, bringing on the inter-related function of resource generation). Diagnostic and monitoring technologies, adequate facilities, etc are critical, as also are registers, individualized patient records with follow-up systems and several other related inputs.

Human resources for health are particularly important, for all forms of care depend upon trained human power. One of the key challenges in the fight against NCDs is therefore managing human resources in a cost-effective manner, articulating the nature and number of professionals, technicians, and auxiliaries required, achieving the needed mix and distribution of personnel while continuing to train them to develop accessible, efficient service-delivery strategies. This is a daunting task in India with its huge human resources constrains (less than one doctor per 1000 inhabitants, barely a third of those in most other countries with its level of economic development plus very serious distribution problems).

In a logical sequence, availability of services and personnel needs to go hand in hand with access to and effective use of essential medical products and technologies (in some ways, management of NCDs generally need long-term care, often for life). Along with appropriately trained health workers to initiate and continue care, therefore, patients must have reliable supply of medicines. No major burden of NCDs can be reduced without equitable and reliable access to essential medicines. This 'need' has to be seen in India in the context of the intellectual property rights regime, (i.e., some estimates on the quantity required), examination of prices, availability, procurement systems and quality.

All of the above would go nowhere without a health financing strategy to protect large populations requiring ongoing lifelong treatment against major financial hardship. The purpose of health financing is to ensure stable availability of sufficient funds in a way maximizing health results. The manner in which the financing system is organized (extent of population covered by insurance or pre-payment mechanisms; amount and nature of risk coverage; extent to which subsidized services are available to the poor, incentives the payment methods offer to professionals, contracting arrangements, etc.) affects health system performance.

Because NCD care is expensive —and a major portion of health treatment is paid out of pocket in India (70% expenditure is incurred by households, mostly at the point of service use), hospitalization for major illness is a major cause of indebtedness. A study has shown that almost 50% of households with a member affected by cancer experience catastrophic spending and 25% are made poor by healthcare expenses. The odds of incurring catastrophic hospital expenditure due to cancer are 160% higher compared to hospitalization due to communicable diseases.[3] Decision makers need to carefully consider the equity dimension when developing public policies against NCDs in India because only about 13-15% of the population is covered by some robust risk coverage and the available pools are small and fragmented, with high amounts of subsidies being paid by different governments.[25]

The focus of the Rashtriya Swasthya Bima Yojana (RSBY) scheme by Ministry of Labour and several other (e.g., Arogyasri Yojana in Andhra Pradesh, Suvarna Arogya Surakhsa Scheme in Karnataka, etc.) is to cover identified tertiary care diseases involving catastrophic expenditure and not covered under any other health program. In its move toward Universal Health Coverage, India needs to arrive at a strategy and decisions which ensure pooling of resources, building a strong base of prepaid personal and population services, either through insurance or other mechanisms of revenue generation and allocating resources in a manner that allows for maximization of health gain.

Finally, the stewardship (or oversight) function contributes to the attainment of health system goals and influences the other functions. As a steward, the government is responsible for providing vision and direction for all other players through formulating strategy and direction; collecting and using intelligence and exerting influence - through regulation and other means. Each stakeholder needs in turn to be held accountable for the resources endowed to them. In this regard, the already dominant position of the private sector is a matter of concern in India - about 80% of all outpatient care and about 60% of all in-patient care; over 75% of the human resources and advanced medical technology, 68% of an estimated 15,097 hospitals and 37% of 623,819 total beds are in the private sector.[26] Furthermore, this happens without proper supervision – an extraordinarily broad variation is seen in adherence to standards, quality of care provided and cost of care.

There is a need to re-build the Indian public-private mix, with the government playing a major role, patient empowerment and professional self-regulation in a way that is transparent. This is coupled with a need for better planning and strategizing, more flexible regulation and enough "health intelligence" so as to ensure accountability. The government needs to clearly articulate the goals of the health system regarding NCDs, including the roles of the various stakeholders (public and private) moving from input to a outcome and output driven goals; the institutional/organizational arrangements for implementation; the tools to be used; management of partnerships; access to up-to-date health information and analysis for informed decision making, including monitoring and evaluation of performance.

Summary: Lessons learnt and pending issues in India

The NCDs wave caught the Indian health system

seriously unprepared, creeping in fast and massively, while much attention was being paid (albeit justifiably!) to CD and reproductive and child health (RCH). Many people knew that the threat was close but inadequate action has been taken to confront it. Lessons need to be learnt from that fact!

Being positive, India is at a critical juncture where policy choices will have a profound impact on the health and well being of future generations. Interconnected actions are required across levels, including short-term, medium-term and long-term interventions to respond to the expanded mandate about prevention, surveillance and management of NCDs while continuing to forge the unfinished agendas of communicable diseases, maternal and child health and nutritional disorders amongst others.

Applying the health systems framework to NCD means in summary re-examining the planning and organization of the entire health system, from service provision to financing, from information generation to ensuring adequate supply of pharmaceuticals/technologies or human resources, from improving facility management to performance monitoring. While there is no magic bullet, the health system approach provides a balanced way to address functional dimensions. The challenge is to ensure the best implementation of what works, aligning the service provision function with the financial incentives, ensuring leadership/stewardship by the government across local/municipal, state or regional and national level while involving stakeholders. A health system perspective would also ensure that action against NCD goes hand in hand with tackling the remaining burden from communicable diseases, maternal, child health and nutrition issues. Needless to say, this needs to occur both at the Union and state level, especially as State governments have the main responsibility in health, with support and coordination from the Union which is in charge of defining policies and providing a national strategic framework.

As indicated, the authors have only intended to outline the core methodological approaches, with selected illustrations in the understanding that subsequent work should strengthen and expand on the arguments made here. In that spirit, a number of actions are suggested:

1. Enhance stewardship. Outline a clear policy and set priorities – at union, state and district level. Articulate what the private sector is expected to do in prevention, early diagnosis and screening, service provision, domiciliary care, etc. Use existing evidence for policy formulation shifting the focus from inputs-based planning to outcome-output oriented goals (arrive at inputs required, rather than the other way around). Develop the regulatory arsenal in the fight against NCD, including private sector regulation. Promote health system performance monitoring and assessment. Generate evidence for action and health intelligence: document country experiences and best practices. Foster operational research and publish results.
2. Transform service delivery as radically as possible. Move away from disease- specific vertical elements to well-structured services and networks. Clearly stipulate the nature and quantum of personal, population services and inter-sectoral actions required, including their organization, management, financing and monitoring. Ensure that the package of primary care services includes NCD services with a well-functioning referral system.
3. Implement the proposed financing changes aimed at achieving universal coverage. Address the financial barriers that prevent access to health care, especially the high out of pocket expenditure at the point of service and move to prepayment mechanisms (e.g., insurance, medical savings etc). Coordinate insurance schemes across the country. Strengthen tax collection. Develop resource allocation mechanisms that will foster productivity and quality. Ensure effectiveness in earmarked- resources allocated for fighting NCDs;
4. Ensure adequate resources for responding to NCDs –physical infrastructure, laboratory support and essential drugs against key NCDs. Plan for human resources in line with the service requirements and burden of disease (number and type of human resources -e.g., generalists, specialists, nurses, paramedical staff, etc.) and skills required at each level, timeline for production, training curricula relevant to population needs, systems for continuing education, regulatory, etc.
5. Convince the other sectors of the importance of Inter-sectoral actions and their role in responding to NCDs –"talk their language to create 'win-win' situations, outline the specific actions expected from them. Integrate, integrate, integrate – monitor constantly and adjust.

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How to cite this article: Duran A, Khot A. Strengthening the Health System to Better Confront Noncommunicable Diseases in India. Indian J Community Med 2011;36:32-7.

Source of Support: Nil, **Conflict of Interest:** None declared.