

# Alternative approaches to delivery of medical technology for rural health

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**In India, 70% of the population lives in rural areas and about 15% in urban slums; further about one-third of our population is below the poverty line. Since the profit-oriented private medical services dominate over the public health services, most of the rural and urban poor people are deprived of proper medical care. In this article the focus is on health and medical care for the rural people and those who are below the poverty line. A new approach to medical care, which constitutes Western medicine as well as traditional practices, and which is also low cost, is presented. This can be achieved by (i) prevention and control of communicable diseases, (ii) promotion and development of traditional practices, (iii) development and utilization of cost-effective aspects of Western medical science and technologies and (iv) involving local people.**

**An ICSSR/ICMR report describes a model to provide Health for All through a decentralized people-based system. Majority of the diseases are simple and can be handled by local communities, if they are educated and given proper training about health and medical care. Rural women are more efficient to tackle health problems. Several practical experiences reveal that such a community healthcare system for health and medical care is most efficient and highly cost-effective.**

As a result of common usage, the terms science and technology (S&T) as well as rural and urban have acquired new connotations. S&T is now popularly understood by the layman as well as scientists; it is that which originates from the Western Cartesian concept of life. It has devised methods for discovery of natural phenomenon during the Renaissance period in Europe by developing new tools for extending the human senses. This S&T has also resulted in a change from a predominantly rural agricultural society with its small-scale industry to an urban industrial materialistic form of development.

Yet the majority of people of the world still live in predominantly decentralized rural societies together with a smaller centralized urban industrial form of development, which now seeks to dominate the rural counterpart. The traditional form of development utilizes its science developed over the ages, which has been well tried and well established for providing the basic requirements of

life and living. This science and its technologies were in keeping with the social, cultural and ethical norms of these civilizations without undue disturbance of nature, which supported them.

While 70% of the population of India still lives in 7 lakh villages and small towns, even half of the 30% of the population that lives in urban India consists of migrants from the rural areas living in urban slums. Hence they are socially, culturally and economically more akin to their rural counterparts despite living cheek by jowl with the other half who have adopted an over-Westernized, social and economic lifestyle in affluent urban enclaves.

This has changed the rural-urban balance that existed in pre-independence India. A more appropriate definition hence will be to describe the small affluent section as belonging to India, and the 85% that still live in rural India and the urban slums as those belonging to Bharat. Both have their distinctive social, cultural and economic lifestyles as well as requirements. Aggregate statistics also conceals the reality, especially of almost a third of our population which lives even below the poverty line despite a national GDP of almost Rs 2.1 million crores.

While 15% of the population aggressively promotes inappropriate Western science to support their affluent lifestyle, Bharat, by and large, continues to use its traditional practices and technologies, though not rejecting the appropriate aspects of Western science for its needs if provided in a simple, useful and acceptable manner.

The aim of this article is to examine how this merger of the most advantageous aspects of Western medical science and technologies can be effectively utilized and merged with the traditional practices and technologies without the distorting effects of the market-oriented medical science and its technologies, which is now being vigorously promoted by the Western medico-industrial complex even in rural areas, after co-opting our medical profession at all levels.

This distortion is demonstrated even in the public sector, which is now provided less than a quarter of 5% of the GDP which comprises the total health expenditure of our country. Unfortunately, 96% of the budget of even this sector is allocated to Western medicine and a miserly 4% to all the Indigenous Systems of Medicine and Homeopathy. This has resulted in a gross distortion of the healthcare scenario of our country. The integrated approach to

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health has been supplanted by diverting medical resources, manpower and research in both quality and quantity towards Westernized curative services and technologies monopolized by the affluent few at the cost of preventive, promotive and basic curative services for the rest. This is the mandate of the public sector.

It is hence necessary that the approach for health and medical care of Bharat must have five important considerations:

- (a) The emphasis has to be on the prevention and control of communicable diseases that affect the majority, especially the younger age group.
- (b) To protect and encourage the use of well-established local practices as well as the relevant aspects of indigenous systems, e.g. Ayurveda, Yoga, Unani, Siddha as also Homeopathy and Naturopathy, which support both mental and physical well-being. Also to support research into these systems of medicine and healthcare.
- (c) To promote the delivery and utilization of the most cost-effective aspects of Western medical science and its technologies for the major problems of Bharat, viz. the communicable diseases of poverty for which much of this knowledge and technologies are admirably suitable in a highly cost-effective manner.
- (d) To devise mechanisms for stringent evaluation and quality-based implementation of appropriate technologies so that they can be used equitably by the citizens of both India and Bharat.
- (e) To promote peoples' involvement and control at each level to the greatest extent feasible.

This has been described by our own ICSSR/ICMR report<sup>1</sup>, which defines health as primarily a social science with technology as a support; not in reverse.

The countrywide experience of China, as also of our State of Kerala, besides those of many voluntary agencies in various parts of India, reveals the ability of the common woman and man to look after majority of the problems that concern most aspects of their own welfare in a remarkably simple yet effective manner, if provided the opportunity and modest support.

In the field of health there is no better demonstration; how a newly Independent people with enthusiasm could eliminate small pox, control cholera and plague and reduce malaria from 100 million cases to less than 1 lakh within a period of 15 years after Independence. In this, they were supported by a few equally enthused doctors trained in public health as also the politicians who had fought with them to gain the country's freedom. This was achieved at remarkably low cost when the country was financially at its poorest, utilizing the same knowledge and technology which the British had used in their own cantonments. This unique achievement of public health on a countrywide scale chiefly as a result of the peoples' own effort has not received its due recognition, even in our own country.

Instead of continuing to mobilize the vast energy of our people to achieve an equally effective overall social and economic development as was achieved in China, where the benefits could be available to all citizens, our new leaders chose to develop along the urban-industrial mode of development based on the Western model of growth, despite the fact that 92% of population lived in rural Bharat. The 'trickle-down' effect observed in the West as a result of wealth obtained from their colonies, developed into a 'trickle-up' effect using the natural resources and cheap labour of Bharat.

The worst effect of this has been in the field of health, where an increasingly marketized economy has further marginalized the poor by replacing the preventive, promotive and basic curative public health services which have been allowed to degenerate to be replaced with a market-oriented, profit-oriented private medical sector purely interested in curative services. In this, the burgeoning medico-industrial complex has co-opted the medical profession at every level.

It was at this state that a Joint Panel of the Indian Councils of Social and Medical Science Research was appointed in 1979 to study the problem of Health for All and which provided the model for an alternative strategy in keeping with the social, cultural, economic reality of our country and its people as also for the public and private health sectors based on our own experience following Independence.

Instead of bemoaning and hoping to change the heart and functioning of the existing medical order and their leaders, the ICSSR/ICMR report of 1981 (which was also approved by a parliamentary sub-committee) by analysing the problems of our peoples' health as well as of medical care, defined health as a problem of overall socio-economic development rather than a separate entity to be tackled as another techno-managerial exercise. Every villager knows that his/her health cannot be achieved without adequate nutrition, water supply, sanitation, housing and employment. Also education, improvement of the status of women and children, and information of the system that governs and controls their lives, including that of the health services, are essential to enable them to improve their socio-economic status and overall welfare. When this is denied to them, there is no alternative when anyone in the family falls ill but to go to a private doctor for an injection, intravenous saline or even sonography because of failure of the public health service. This has resulted in further indebtedness of the poor, which is now next only to dowry. This is resulting in further malnutrition and ill-health of entire families, with no alternative in the existing socio-political order.

And yet changing the existing system in a democracy also lies within the power of this vast majority. While health and medical care may not be their priority under these circumstances, demystifying this most mystified field of all subjects can play an important role in em-

powering the people and enable them to question and seek solutions, even for other subjects which concern their rights and welfare.

The ICSSR/ICMR report also states that contrary to existing belief, the majority of the illness problems that affect the people are of a relatively simple nature, such as communicable diseases that are responsible for majority of the morbidity as well as mortality of our people, especially of the younger age group. The report also states that if the information and technology for prevention, control and treatment are provided to the people as well as educating them in the demand and proper utilization of the available public and private health services accessible to them, about 95% of existing health and medical problems can be best tackled within the local community with the support of a small number of professionals trained in urban areas.

Since the problem of health chiefly concerns women and their children, they should comprise majority of the local health functionaries trained for this purpose. Experience reveals that wherever this has been undertaken in a systematic manner, semi-literate and even illiterate village women have been able to undertake almost 80% of health as well as medical care of their community at remarkably low cost, since the public services fail to do so despite expending over 85% of their finances on salaries, leaving little for medicines and other services.

This can provide a readily accessible, culturally acceptable, humane and highly cost-effective service, which can provide Health for All. The proviso is that this entire system must be financially and administratively accountable to the local community at each level.

Panchayati Raj under the 73rd Constitutional Amendment now provides both legal and administrative power to the local community at each level, since health is one of the 29 subjects under Schedule 11 of the Panchayati Raj Act<sup>2</sup>.

Let me illustrate with examples how majority of the diseases can be tackled in such a decentralized People-based system<sup>3</sup>.

- Drs Abhay and Rani Bang have demonstrated how over 60% of the mortality from acute respiratory infection of children of the Adivasis of Chandrapur can be diagnosed and treated by their own tribal mothers trained in simple clinical diagnostic skills and in the use of simple antibiotic therapy.
- Oral rice water therapy has been demonstrated by Bangladesh for the prevention of majority of morbidity and deaths due to dehydration from cholera and other diarrhoeal diseases. More important, the local trained village health functionary can mobilize her community to improve the water source.
- A village health worker can ensure early suspicion of tuberculosis in any member of her local community, if taught in the five simple cardinal systems of this

ailment. She can take the suspected patient to the local community hospital for confirmation of diagnosis and collection of the anti-Kochs multi-drug therapy medicines and ensure regularity of the treatment far more effectively than an external DOTS worker. She is not only concerned about a member of her extended family, but in the process also helps protect her own children and family from contracting this disease.

- Malaria is readily diagnosed by such a health functionary when there is breeding of mosquitoes and several cases have fever with rigors. After taking a finger-prick smear, it is sent for confirmation of parasites. In the meantime, she treats the patient with chloroquine and if the smear is positive, with primaquine. In this, she is superior to a professor of medicine or even a malaria technician in early diagnosis and ensuring treatment; all this with empathy for a member of her community and at low cost, besides mobilizing the community for control of mosquito breeding.
- In our experiences at Parinche, Purandhar Talulka, Western Maharashtra, the neighbourhood village health functionary catering to her extended family of 35 adjacent household considers this as a part time social function working from her house within what she considers is her extended family. She attends to over 70% of illness episodes within her community. This not only enhances her confidence and but also her self-image. These women have demonstrated their ability to train similar workers in other States like Orissa, Jharkhand, Gujarat and other districts of Maharashtra. This is also a highly empowering process while undertaking several other community activities like veterinary care and operating small savings schemes in her community.
- She not only looks after the pregnant mother and conducts delivery but refers 'at risk' cases to the gynaecologist at the local community hospital.
- She can also provide first aid for fractures and other emergencies before transfer to the community hospital using a simple telecommunication service for help and guidance, which gives necessary confidence to such workers. These workers also undertake several pathology tests like blood grouping, pregnancy testing, haemoglobin and blood and urine sugar estimations.

Such a community healthcare system supplemented with three doctors and two nurses can train and provide continuous support to almost a hundred such 'neighbourhood' health workers in the community. They can also train most of the personnel for serving the needs of the local community hospital with an adjacent dharmashala, where relatives can stay and care for their own patients and help nurse and feed their own relatives with love and care.

There is no alternative in social, cultural, technical and economic terms to such a personalized, humane and

highly cost-effective form of care for our rural community, which under the 74th Constitutional Amendment and Schedule 12 can be operated equally well within the urban mohalla and with its 'ward hospital'. This leaves only a few problems for tertiary care.

Such a healthcare system utilizes the most cost-effective aspects of both traditional as well as other systems of medical as well as social sciences, which are available. The penchant of our medical profession and scientists for the 'latest' knowledge and technologies emanating from the West is the result of the increasing social, cultural and economic distance between the elite and the vast majority of our people and their problems. This needs to be addressed on a priority basis.

This gulf which is widening since independence has increased due to the globalized market-oriented policy which is being vigorously promoted since it suits the minority of which the medical profession is a part.

Such a policy fails to address the basic health and medical needs of the vast majority, e.g. communicable diseases and other diseases of poverty, even though simple yet

highly cost-effective knowledge and technology is readily available.

That this exists in a democratic and independent country, demonstrates that the solution lies as much in the realm of politics as of medicine.

Hence our research in medical sciences must aim to explore the frontiers of both traditional knowledge and practices as also what is available in all other systems of medicine. Enlightened interaction between social and natural sciences as also between the laboratory and the field opens a new avenue for research for the benefit of our country and its people.

This approach can also be utilized for evaluating new knowledge and technologies which can then be modified to serve our needs.

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1. Health for all: An alternative strategy. ICSSR/ICMR report; FRCH Publication, 1981.
  2. Antia, N. H. and Bhatia, K., People's Health in People's Hands – A Model of Panchyati Raj, FRCH Publication, 1993.
  3. Antia, N. H., Dutta, G. P. and Kasbekar, A. B., Health and Medical Care: A People's Movement. FRCH Publication, 2000.
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