

# Primary health care networks in the Islamic Republic of Iran

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**SUMMARY** The progress towards achieving health for all in the Islamic Republic of Iran is reported in this paper with particular reference to primary health care networks. The establishment of the networks is outlined and the vital elements within the system described, such as the community health workers (*behvarz*) and the health information system. Areas of achievement are reviewed.

## Introduction

In early 1979, Iran underwent a drastic political change, which led to the imperial regime being overthrown. This revolution greatly increased the people's expectations. As often occurs with such drastic political changes, both policy-makers and managers actually helped to magnify the rightful demands for improvement to unrealistic proportions, whether by intent or inadvertently.

Meanwhile, primary health care (PHC) was blossoming as the leading strategy for attaining Health for All by the Year 2000. The content of and ideology behind PHC closely matched what the people expected: social justice, equity, human rights, universal access to services, giving priority to the most vulnerable and underprivileged, concerted effort, and community involvement.

The Islamic Republic of Iran is the sixteenth largest country of the world [1], with an area of over 1 648 000 square kilometres. Administratively, the country has 28 provinces, 278 districts, 676 cities or towns and over 66 000 villages. Given such a scat-

tered population, the health system had to be customized to ensure the accessibility of basic health services to the whole population.

With these considerations in mind, the PHC approach was selected as the basis for designing the country's health delivery system. While it is sometimes argued that the Alma-Ata Declaration mostly focused on policy and strategic issues, PHC has provided a strong and effective guideline for the organization of our district health system over the past 20 years and has enabled us to put some of its core concepts into operation.

A few years before the revolution, a research project had been carried out on developing a methodology for the expansion of medical and health services in the country with collaboration and support from the World Health Organization (WHO). This produced some valuable results [2]. In those days, however, the concept of low-cost health care services was doomed to receive little attention because the desire to invest the huge oil revenues in grandiose endeavours was holding sway at the time.

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Our new health system was actually formulated in 1979, with easy access to services (particularly in rural areas) at its heart. From the very beginning of this phase, the following principles were agreed upon [3]: priority of preventive care as a long-term asset; priority of rural and underprivileged areas, with special attention to high-risk groups; priority of general practice over specialized medical care; priority of outpatient over inpatient care; maximum feasible integration of preventive and curative services; and decentralization, aimed at forming self-sufficient regional and local facilities.

Unrelenting lobbying and perseverance finally bore fruit in the stepwise establishment of the Islamic Republic of Iran's present health delivery system.

## Salient features of the establishment of PHC networks

### Methodology

To come up with the district health organogram, programmes were first broken into their constituent tasks and activities, which were then arranged in ascending order of complexity. As the next step, tasks of equal difficulty and requiring similar skills were identified. This led to a hierarchial organogram for the district health system, where the most peripheral facilities were to deal with the simplest tasks of each programme, more complicated cases and tasks being the responsibility of higher level facilities.

This methodology is time-consuming and entails seemingly endless consultations, yet it has several advantages:

- Almost no task is overlooked.
- Similar tasks with equal complexity are not repeated at different levels. Assigned tasks facilitate defining the duration and content of training courses.
- Once the content of training is clear, decisions on the basic knowledge or qualification required for enrolment can be made.
- Clear learning objectives help to delineate the teaching-learning methodology.
- Eventually, those tasks of any given programme whose execution is not feasible at the district level (due to scarcity of skilled personnel, too small a workload, or where recruiting such scarce human resources would not be cost-effective) remain the responsibility of higher (provincial or even national) levels.

### The master plan

The master plan for districts was a comprehensive compilation indicating the exact sites for the establishment of thousands of rural and urban facilities and the quantitative goals for training various personnel. It also predicted the investment required to upgrade existing facilities or build new ones.

### Estimation of human resources

A particular formula was devised to estimate the human resources required for each facility at every level. This formula incorporated the relationship between the population covered by each facility; the fraction of the population requiring each type of service; the number of times a service would be rendered per year; the average time taken to perform the service; and finally, the average working hours of a health worker.

### Behvarz

The soul of the Islamic Republic of Iran's health system lies in its most peripheral facility — the health house — which is run by community health workers (*behvarz*). *Behvarz* have had a pivotal role in the success of the country's PHC networks so far. One major factor contributing to this success

has been the intimate relationship between a *behvarz* and his/her community. It was exactly with this fact in mind that choosing *behvarz* strictly from their own target community was considered an unbreachable policy from the outset.

The two-year course for training *behvarz* is a typical example of using appropriate technology, and is arranged in a manner in total contrast to traditional pedagogy. Endless memorization of screeds of written material has been eliminated. Instead, training is effected through group discus-

sions, role-playing exercises and working at a model health house set up at each *behvarz* training centre.

### Health information system

The Islamic Republic of Iran's current health information system (HIS) is another exemplary prototype for the use of appropriate technology. Although the only material available to peripheral facilities for recording data is literally pencil and paper (with all its inherent limitations), various data sheets, notebooks and wallcharts have

Table 1 Health indicators most representative of the impact of the expanded primary health care network, 1984-1997

Health indicator	1984	1988	1991	1995	1996	1997
Neonatal mortality rate/1000 live births	20 <sup>a</sup>	19 <sup>b</sup>	19.1 <sup>b</sup>	-	16 <sup>c</sup>	17.9 <sup>c</sup>
Infant mortality rate/1000 live births	51 <sup>a</sup>	42.4 <sup>b</sup>	37.2 <sup>b</sup>	28 <sup>c</sup>	26 <sup>c</sup>	-
Under-5 mortality rate/1000 live births	-	51.9 <sup>b</sup>	46.8 <sup>b</sup>	35 <sup>c</sup>	33 <sup>c</sup>	-
Maternal mortality ratio/100 000 live births <sup>a</sup>	140	91	-	40	37.4	-
Contraceptive prevalence rate (%) <sup>b</sup>						
Modern methods	-	-	44.6	52	55	55.4
All methods	-	-	64.6	72	76	72.9
Crude birth rate (%) <sup>b</sup>	4.1	3.6	2.7	-	2.03	1.77
Crude death rate (%) <sup>b</sup>	0.7	0.5	0.4	-	0.47	0.36
Population annual increase (%) <sup>b</sup>	3.4	3.1	2.3	-	1.56	1.41
Use of iodized salt (%) <sup>d</sup>						
Rural areas	-	-	-	75	89	93
Urban areas	-	-	-	90	96	97
Coverage by immunization among children under 1 year (%) <sup>e</sup>						
BCG	10	88	91	99	96	98
Poliovaccine (3 doses)	32	88	88	97	100	100
DPT (3 doses)	33	88	88	97	100	99
Measles	38	83	84	95	100	98
Hepatitis B (3 doses)	-	-	-	81	84	95
Immunization coverage of pregnant women (%) <sup>a</sup>	3.7	48	77	82	-	76

<sup>a</sup>Source: [4]

<sup>b</sup>Source: [5]

<sup>c</sup>Source: [6]

<sup>d</sup>Source: [7]

<sup>e</sup>Source: Personal communication

DPT = diphtheria, pertussis, tetanus

been devised that make the most vital health information as easily accessible as reading it off a graphically designed wallchart.

## Conclusions

Applying the most fundamental concepts and principles of PHC has had several important outcomes, most notable of which are the following:

- The proposal to integrate medical education and health services, ultimately implemented in October 1985, which led to the Ministry of Health being replaced by the Ministry of Health and Medical Education;
- The introduction of new categories of multipurpose health personnel, trained according to an integrated approach;
- The increase in the percentage of people having easy access to established health service facilities to 90%, which alone has been an important factor in the improvement of health indicators;
- The reduction of the population growth from 3.2% to 1.4% in spite of a considerable simultaneous reduction in the death rate, including infant mortality; definitely the product of well-expanded PHC networks (at least in part).

Table 1 shows the changes in health indicators most representative of the impact of the expanded PHC networks from 1984 to 1997 in the Islamic Republic of Iran.

The Islamic Republic of Iran's uniquely dynamic PHC networks are designed to be able to accommodate new programmes. Today, the nation is experiencing a health transition, which calls for the control of noncommunicable diseases. Consequently, specific programmes for mental health, and the control of hypertension, diabetes and iodine deficiency disorders have so far been successfully integrated into the health networks. More recently, upon a formal decree calling for the designation of drug addicts as "patients" instead of "criminals", integration of the control of drug abuse is being considered in the network's agenda.

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