March 1999 (Volume 40, Number 2)

Primary Health Care Revitalization in Azerbaijan

Dinara P. Quliyeva, Shahin A. Huseynov
Primary Health Care Reform Project, UNICEF, Baku, Azerbaijan

Of Azerbaijan's 7,564,800 inhabitants, 52.2% live in urban and 47.8% in rural areas. With the transition to market-oriented economy, health problems have worsened. Expenditures for health care fell from 2.9% of GDP in 1990 to 1.2% in 1997. In case of ilness, 37% of population prefer self-treatment, and 68% of treatment refusals are due to the inability of patients to pay for the treatment. Maternal mortality rate increased from 10.5 deaths per 100,000 live births in 1991 to 52 deaths per 100,000 live births in 1996. However, diphteria has been reduced to sporadic cases, whereas polio has not been reported since 1996. A pilot reform of primary health care was initiated in one of the districts, and soon expanded to four more districts. The aims were the improvement of health management, rationalization/optimization through development of traditional services, organization of preventative activities, rational use of drugs, institution of sustainable financial mechanisms through affordable fees for services, drug sales within health facilities with corresponding management and the accounting systems for the revenues, development of the exemption system, and community participation in district health. Increased patient attendance to health facilities, improved access to the vulnerable population health services, empowered health system management, better quality of care, and reduced overall individual expenditures were observed.

Key words: assessment of health care needs; availability of health services; Azerbaijan; budgets; financial support; financing, governement; financing; public; health insurance; health services administration; health transition

Azerbaijan is a Republic with an area of 86,600 square kilometers. Its currency is Manat (1US$=3,888 Manats), inflation rate is 3.7%, gross domestic product (GDP) per capita US$506, and annual real GDP growth rate 5.8%. The official language is Azeri, and the major religion is Muslim. Of the total number of employees, 14.1% are in industry and construction, 33.4% in agriculture, and 46.5% in services.

On January 1, 1998, the population was 7,564,800, with 52.2% residing in urban areas and 47.8% in rural areas. The population of the capital, Baku, is 1,739,900. Infant mortality rate per 1,000 live births is 19.6, and life expectancy at birth is 70.2 years (73.8 for women and 66.3 for men).

Azerbaijan is a country endowed with natural resources and one of the oldest oil producing regions of the world. It has a favorable climate, fertile land, and developed industrial infrastructure. The communications network, including roads, railways, and sea transport are good, although much remains to be done in telecommunications. Education system is well developed. Literacy rate is high despite apparent decline in recent years.

The armed conflict over the territory of Nagorno-Karabakh resulted in the occupation of 20% of the Republic's territory. Nearly 1 million people became refugees and internally displaced persons, amounting to 11% of the Republic's population. More than 300 construction and industrial enterprises, over 400 agricultural, 4,000 social public buildings, and over 600 schools and hospitals are in occupied territories.

Transition Processes

Azerbaijan is currently going through a painful transition period complicated not only by difficulties of shifting from a centrally planned to a market economy, but also by consequences of the military conflict over Nagorno-Karabakh.

In 1990, expenditures for the health care system made up 2.9% of GDP, but only 1.2% in 1997 (1,2). As a result, most medical establishments were unable to obtain adequate supply of drugs and medicines, carry out essential renovation of buildings, replace and maintain equipment, or train the personnel. All medical institutions experienced serious problems paying for services such as electricity, gas, and water. Some have considerable debts, and salaries are paid very irregularly.

The provision of adequate medical care to almost one million refugees and internally displaced persons, as well as the need to provide health care and guard against epidemics, has been an enormous undertaking for the authorities. Assistance provided by a wide range of international

humanitarian organizations has been useful but inadequate in the face of a near collapse of the system. The UN agencies and non-governmental organizations (NGOs) continue to provide assistance through the old structure, since a new one has yet to be developed and the health care system is under severe strain.
Lack of sufficient government funding, the population's low income, lack of professional medical service and low quality of affordable care, practice of ”under table” payment for treatment, poor equipment, and lack of medicines in hospitals have created a situation were the population seeks medical services only in cases of severe need.
The quality of medical service is still very low. There is a considerable difference between the quality of medical services offered in rural and urban areas. Largely because of poor transport facilities and the consequent lack of easy access to regional medical centers, the rural population receives a lower quality of medical service than the urban population (3).
The vulnerable groups targeted by the government, NGOs, UN agencies, and other donors are at this stage not only the internally displaced persons, but also pregnant and lactating women, children, elderly, disabled, and handicapped. There are many additional, not easily identifiable, vulnerable groups amongst the remaining population.

Table 1. Health infrastructure in Azerbaijan in 1990-1996 period

Until recently, Azerbaijan had achieved a certain level of success in the development of its public health system (Table 1). However, the economic crisis has had a pronounced negative effect on the public health system (1,2). Until now, the capacity of the Ministry of Health to deliver primary health care to the population has suffered from the economic crisis as much as many other sectors. Shortages of essential diagnostic equipment, inadequate laboratory facilities, reduced availability of electricity, gas and food, and inaccessibility of drugs and medical supplies have all impeded the ability of medical structures to provide acceptable levels of health care to the general public in spite of the very high professional level of medical personnel.
According to the World Health Organization (WHO), 37% of the population prefer self-treatment or avoid treatment in the case of illness, whereas 68% of refusals of treatment are due to financial difficulties. Due to the high cost of treatment, the vulnerable part of the population goes to hospitals or clinics at a very late stage of the disease and they must pay much more for their treatment (2).
Medical services should become more ratio- nalized and resources allocated more efficiently. Hospitals should be enlarged and consolidated, with the excess of hospital beds eliminated. Greater priority should be accorded to outpatient clinics and preventive services. The coverage of primary medical services and people's access to them should be expanded.
Health Status of Population
The quality and availability of medical services are important determinants of the population health in any country. Some positive trends have been observed in Azerbaijan health profile in recent years, mostly associated with immunization campaigns carried out by the Ministry of Health in cooperation with UNICEF, the World Health Organization, and other international aid organizations (1,2).
The number of diphtheria cases in 1994 and 1995 was 504 and 883, respectively, but the number fell to 51 in 1996 and to 37 in 1997. A steady decrease in the number of poliomyelitis cases was observed from 1993; no new polio cases were reported since 1996 (2).
Average life expectancy increased by 1.7 years between 1995 and 1997, but this encouraging observation is likely to be more connected with the introduction of a new method for calculating life expectancy (2) than with the improvement in the health care system or the quality of life.
The infant mortality rate (Fig. 1) has fallen from 25.2 per 1,000 live births in 1994 to 19.6 per 1,000 live births in 1997 (4).
Previously almost all births took place in hospitals. Nowadays 8.5% home births are reported and some evidence suggests that in several regions approximately 50% of the babies get delivered at home. At the same time there are 0.23 abortions for each live birth (4).
Maternal mortality rate (Fig. 2) is on the increase: from 10.5 death per 100,000 live births in 1991, it reached the peak in 1996 with 52 deaths per 100,000 live births (4).

Figure 1. Infant mortality per 1,000 live births in Azerbaijan, 1991-1997.

Figure 2. Maternal mortality rate per 100,000 live births in Azerbaijan 1991-1997.

Health Care Reform Program under Assistance of International Organizations

The Ministry of Health has already started addressing all the difficulties and working on a radical reform of the global health care system in partnership with the UNICEF, the leading agency in the health care reform in Azerbaijan, WHO, UNFPA, UNDP, and other international organizations. The first results are positive and bring some optimism of a gradual and progressive development of a modern health care system (5).

During 1997 and 1998, 20 international organizations and NGOs provided health assistance in 29 districts and main urban areas of Azerbaijan. The majority of the NGOs concentrated on the distribution of essential drugs (through existing health care structures) and training. The overall strategy implemented by various NGOs was based on crisis management rather than strategic planning; more emphasis will have to be shifted toward the rehabilitation of the health care management system. International organizations and NGOs working in the health sector try to improve drug management skills at a lower level, promoting the delivery of cost-effective health care by using WHO protocols.

UNICEF came to Azerbaijan in 1993 and immediately focused on priority Mother and Child Health/Primary Health Care programs. It has been providing vaccines, cold chain equipment, supplies, essential drugs, and basic medical equipment. Special attention was paid to the capacity building through repeated training and assisting in upgrading the theoretical basis and practical skills of the personnel.

In an attempt to alleviate the consequences of this situation, the Ministry of Health collaborated in various ways with UNICEF and WHO in 1995. The most important of these were the vaccination campaigns: during the anti-diphtheria campaign (15 to 30 November 1995), much of the population between ages of 2 months and 55 years was vaccinated (1,2).

Due to the joint activities of the Ministry of Health, UNICEF, and other international organizations on such programs as expanded program of immunization (EPI), acute respiratory infections (ARI) treatment, and control of diarrhea diseases (CDD), breast-feeding, and safe motherhood, there has been an improvement in the country's health indicators. The main achievements to date include: 1) infant mortality rate has decreased from 28.2 per thousand live births in 1993 to 19.6 in 1997 (Fig. 1); 2) mortality rate under 5 years of age (U5MR) has decreased from 46.7 per thousand live births in 1996 to 37.5 in 1997; 3) polio cases have not been reported since 1996; 4) maternal mortality rate has been reduced from 52.0 in 1996 to 31.7 in 1997 (Fig. 2); 5) diphtheria has decreased from 883 cases in 1995 to 20 cases in 1997; 6) national policies on ARI, CDD, and breast-feeding have been adopted; and 7) EPI coverage was 90%.

Primary Health Care Reform Project

The survey carried out in 1994 jointly by the Ministry of Health and UNICEF in the Kuba district (3), which had a health infrastructure and reflected a standard copy of the model micro health system found elsewhere in the country, has shown that the major part of the patient's expenditures on health was for the medications, followed by that for the medical personnel (Fig. 3).

Figure 3. Patient's expenditures on health in the Kuba district, 1994.

Following the survey, Ministry of Health with assistance of UNICEF made a pilot study, Primary Health Revitalization, on a district level. The project has been implemented in close collaboration with local health administration in Kuba district since June 1996 and in Masalli district since March 1997. In 1998, the Ministry of Health, following the initial successful implementation of the Project in the pilot districts, has expanded the project to three more districts in southeast of the country: Jalilabad, Lenkeran, and Neftchala.

The goal of the Primary Health Care Revita- lization project is to improve the health status of the population, with special attention to the most vulnerable, i.e., mothers and children. The main objectives of the program are to revitalize the health care system; improve the quality and efficiency of district health services; and introduce new management and financing mechanisms while maintaining the achievements of country's public health sector, such as equity, universal coverage, accessibility and affordability, and professional ethics. It should also enhance and reinforce the effectiveness of primary health care/mother and child health (MCH) activities (vaccination, ARI, CDD, etc.) and involve community in district health services.

Improvement of District Health Management

This was achieved through re-defining the roles of health administration and training. Head physicians of the health centers have become their managers with widened responsibilities: 1) they are in charge of health care provision to the population of the whole catchment area population; 2) their terms of reference include also financial responsibilities; and 3) they are key actors interacting with

communities being also accountable to health councils. In order to improve health performance, repeated training and monitoring on health and financial management, essential drugs and rational drug use, breast-feeding, CDD, ARI, nutrition, and epidemiological surveillance have been organized throughout the districts.

Rationalization

This part of the Program included two aspects: structural and functional. Structural rationalization was done by reducing by about a half the excessive number of district health staff, beds, facilities and premises. All specialized facilities merged with the central district facility and specialized departments with services similar to the central hospital merged with one another. Functional rationalization included the decentralization of the peripheral system (a more horizontal type of management, catchment area principle, improved standards of services throughout the network) and relocation of the staff according to the needs.

Privilege was shifted from the dominating in-hospital oriented health services to outpatient treatment and primary health care. Emphasis was made on empowering mother and child health programs.

Promotion of the Essential Drugs Use and Rational Use of Drugs

This served to reduce the institutional and individual expenditures for health, thus, guaranteeing better coverage of the most vulnerable groups of people.

Sustainable Financial Mechanisms

This part of the Program introduced affordable fees for services and drug sales within health facilities in order to develop sustainable services and corresponding management and the accounting systems for these revenues were instituted. Introduction of sustainable mechanisms (user-fees and revolving drug funds) were leveraged by the development of the exemption system by community health councils, ensuring free access to health services for the poor, pregnant women, and children.

Community Participation

Health councils were established in every village of the catchment areas to function as community units collaborating with health centers.

Expected Project Outcomes

The expected outcomes are: (a) reinforcing, enhancing, and sustaining the effectiveness of primary health care and mother and child health programs; (b) increasing equitable access to health services especially pregnant women and children; (c) raising doctor's confidence in health management and financing; (d) instituting more rational use of infrastructure and more rational allocation of the health staff; (e) further reducing institutional and individual expenses for health; and (f) empowering community and sustaining community participation.

Achievements

The main achievements in the district Primary Health Care reform to date include: (a) increased patient attendance to health facilities by 60%; (b) improved access to the vulnerable population health services up to 30%; (c) empowered health system management, including competence on health management and financing among all health managers of district health facilities; (d) income from the Project activities has allowed to make up for budgetary cuts and has been used for the procurement of additional drugs, increased salaries, maintenance, and operational costs; (e) overall individual expenditures were reduced by half; e.g., expenditures on drugs decreased from US$6.4 per capita in 1995 to US$3.0 in 1997; (f) the quality of care (as indicated by treatment outcomes) has increased due to the provision of good quality drugs, improved protocols of care, availability of services closer to the user; (g) district health system empowered by community involvement in the services; and (h) more resource for primary health care and mother and child health program activities through re-allocation and mobilization for out-patient and preventive activities.

Public Health Problems

The main problems of the health sector countrywide to date are: 1) high rate of the U5MR, 37.7 per 1,000 live births in 1997; 2) alarming increase in the sexually transmitted diseases, almost twice from 1991 to 1997; 3) increase in tuberculosis (71 cases per 100,000 population in 1997 vs 35 in 1990); 4) increase in malaria (9,911 cases in 1997 vs 2,840 in 1995; 30% of cases are children younger than 15); 5) high rate of hereditary diseases (over 15% of all children younger than one year of age); 6) still high maternal mortality rate (31.7 per 100,000 births in 1997); 7) increasing share of home births (9.6% in 1997 nationwide; 31% among internally displaced persons) because of a low level of confidence in the quality of services in the maternity units and low financial status of the population; 8) high level of iodine deficiency (in 70% of school children living in endemic areas and in 11.1% of the adult population); 9) high rate of anemia among pregnant women (over 90%) and children (65%); 10) high rate of abortion (23.1 per 100 births); 11) increasing trend of substance abuse and premature pregnancy among youth; 12) deteriorated environment; 13) EPI coverage of children of 12-23 months in selected areas is only 47%; and 14) low civilian participation in the public health.

The problems of the health care system in the districts not involved in the primary health care reform to date include: 1) over-abundance of infrastructure, i.e., 8.85 hospital beds per 1,000 population in 1997; 2) oversized personnel, i.e., 3.53 doctors per 1,000 population in 1997-1998; 3) lack of financial resources due to budgetary cuts; 4) irrational use of the available resources, i.e., 75% of the budget is spent on in-patient care; 5) shortage of drugs and basic medical supplies (the governmental provision covers less than 10% of the needs); 6) outdated medical equipment; 7) badly paid and unmotivated health staff (average monthly salary is about US$10); 8) lack of in-service training and scarcity of technical literature; 9) worsening quality of medical services 10) deteriorating facilities; 11) unaffordable prices of drugs (frequently of low quality) and some services; l2) declining attendance at public health facilities and widely spread self-treatment due to lost confidence of users in the sector; and 13) limited community involvement.

Future Program Developments

In districts where the pilot reform is going on, general objectives of the reform are: 1) to increase access to health facilities by 30%, with special emphasis on mothers, children, and adolescents; 2) to reduce individual expenditures for health by 40%; 3) to improve financing of basic health services by 10%; and 4) to reduce the incidence of substance abuse among adolescents by half.

Strategies that will be employed are:

1. Improvement of health management and health performance through re-defining the roles of health administration, as well as permanent training on health and financial management, essential drugs use and rational drug use, breast-feeding, CDD, ARI, nutrition and epidemio- logical surveillance, and intensification of the supervision and monitoring systems on performance and user satisfaction.
2. Rationalization/optimization through further development of traditional services and organization of new types of preventative activities; reduction of the excessive number of district health staff, beds, facilities, and premises; introduction of a new type of health care services (youth-friendly clinics, medical genetics counseling, preventive services on tuberculosis, sexually transmitted diseases, mental health, etc.); decentralization of the peripheral system; reallocation of the staff according to the needs; and shifting from in-patient to out-patient services, with emphasis on implementation of primary health care/mother and child health programs.
3. Introduction of essential drug use and rational use of drugs in all health facilities by providing of the first lot of essential drugs to the district and establishing of the corresponding supervision and monitoring system in health facilities.
4. Institution of sustainable financial mechanisms through affordable fees for services and drug sales within health facilities, with corresponding management and accounting systems for the revenues.
5. Development of the exemption system through joint activities of district health managers and community health councils on elaborating mechanisms to ensure free access to health services for the poor, pregnant women and children.
6. Empowerment of the community participation in district health through the advocacy with the district government and district health administration, establishment of collaboration between health staff and community representatives, and capacity building of the community leaders by information campaign and social mobilization.
7. Expansion of the reform throughout the country by further development of the Project's visibility, extension of fund raising activities, and strengthened collaboration with international organization involved in health system reform activities.
8. Adaptation of the model of the expansion to the districts with a high concentration of refugees and internally displaced persons.

Recommendations

Recommendations for strengthening the overall cost-effectiveness of the health care system are:

1. Restrain from financial resource allocation system based on norms (e.g., number of beds).
2. Decentralization of budgetary management to regions and institutions.
3. Transforming the salaried system for physicians into a capitation system, with additional incentives for performance (effectiveness and quality).
4. Creating performance indicators and cost accounting mechanisms in all areas of service position.
5. Installing a co-payment system in selected public institutions where the quality could be improved quickly.
6. Modernizing the health information system.
7. Creating an equipment maintenance unit.
8. Decentralizing health management inside the public sector by creating a financial system that stimulates internal competition.

References
1 UNDP Baku. Azerbaijan Human Development Report. Baku: UNDP; 1997.
2 UNDP Baku. Azerbaijan Human Development Report. Baku: UNDP; 1998.
3 Ministry of Health of Azerbaijan and UNICEF. Study of health care demand, attitudes towards paid health care health care expenditures in Kuba District. Baku: Ministry and UNICEF; December 1994.
4 UNICEF Baku. Situation analysis of children and women in Azerbaijan. Baku: UNICEF; 1998.
5 Agazade N, Quliyeva D, Huseynov S. Primary health care reform progress in Azerbaijan. Presentation at FICOSSER Research Meeting, Velingrad, Bulgaria, October 1998. In press.

Received: March 18, 1999
Accepted: April 15, 1999

Correspondence to:
Dinara P. Quliyeva
3, UN 50th Anniversary Street
Baku, Azerbaijan
dkulieva@unicef.org