CHAPTER 6. HEALTH SERVICES ORGANIZATION AND DELIVERY IN AZERBAIJAN

6.1 Introduction

This chapter describes the current state of the organization and delivery of healthcare services in Azerbaijan. It examines the reasons behind the mismatch between the demand for and supply of healthcare services, which results in skewed allocation of resources, low utilization and quality of care, as well as a large burden of preventable morbidity and mortality in the country.

There are two approaches to analyzing the organization of healthcare services. The structural approach entails a detailed analysis of the way MOH and the private sector are organized, emphasizing the inherent bureaucratic hierarchy both at the central and sub-national level. The functional approach favors analyzing the role(s) that each entity plays for a given health function, be it regulation, financing, service delivery, etc. In this chapter, analysis relies on both approaches, albeit the structural features of the Azeri healthcare system are emphasized to a greater extent. (Other core functions of the system are analyzed separately in greater depth in other chapters of this volume.)

Accordingly, this chapter reviews the following four issues: (i) the main features of the organizational model in healthcare delivery; (ii) whether there is a system hierarchy in relation to management and delivery of health services; (iii) how inpatient and outpatient facilities are owned, managed and funded; and (iv) how public health services are organized and delivered.

Section 6.2 describes in detail the historical context and features of the present organizational model. Section 6.3 discusses issues of system hierarchy in relation to levels of care and types of services. Finally, Section 6.4 summarizes the key issues, options and recommendations.

6.2 Organization of Healthcare Services

6.2.1 Historical context

At independence in 1991, Azerbaijan inherited a fairly well-endowed healthcare delivery network with service points and health personnel down to the village level. However, while a structure existed along the lines of the Semashko organizational model, there was no health “system” per se, as all health and healthcare policy decisions had been made centrally in Moscow and financing and service provision were normative. That is, financing and service provision were based on inputs and prorated to staff levels and the number of beds, with no relationship to the real health and healthcare needs of the population or to variations of these needs across the country. In addition, healthcare was not perceived as a special service sector; there was no distinction in how the healthcare network was financed, key decisions made or staff employed and remunerated. On the demand side, services were supposed to be free at the point of use and accessible to all.

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One key feature of the system was a heavy dependence on central planning (e.g., of facilities, staffing and types of services). From the late 1930s onwards, the system extended universal healthcare coverage across the territory of the republic and put in place public and environmental health programs with a strong emphasis on communicable diseases. It also prioritized occupational health and channeled healthcare provision through large enterprises, as well as through a range of ministries (including Railways, Defense and the Interior). Consistent with the Soviet approach of full employment and its labor-intensive model of development, the number of medical staff in Azerbaijan was high relative both to Europe and other Soviet republics.

The system was inflexible, unresponsive to user needs and encouraged neither individual enterprise, nor initiative, efficiency or productivity. Even more strikingly, it proved unable to adapt to changing patterns of disease in the late twentieth century, when lifestyle factors became increasingly important. It continued to focus on extending facilities and curative services and creating additional capacity for large-scale inpatient and specialist care. Modern approaches to and increased emphasis on disease prevention and health promotion were completely overlooked, with more than 70 percent of the budget committed to hospitals at the end of the Soviet era.

The collapse of the Soviet Union and the subsequent independence of Azerbaijan disrupted core healthcare functions. First, system stewardship was severely impaired due to Azerbaijan’s previous dependence on Moscow for all key health and healthcare policy decisions, an issue discussed in detail in Chapter 3. Second, as a consequence of the economic crisis and war with Armenia, there was a substantial reduction in public outlays for health. This reduction resulted in ever-increasing, out-of-pocket expenditures on the part of patients (see Chapter 4). Third, governance and management of the existing healthcare network was impaired due to fragmentation of budgeting and funding functions, especially with respect to health facilities and human resource issues (employment, compensation, modes of practice and payment, etc.). These topics are discussed in Chapters 4 and 5 above. Finally, the highly technocratic and normative organizational model became obsolete both because the system hierarchy and its regulatory framework could not be enforced and because the healthcare market was opened up to private financing and delivery, with a free choice of providers.

The institutional survival strategy that emerged in the post-Soviet era was predictable: (i) new power, hitherto based in Moscow, was consolidated in the Ministry of Health; (ii) the existing model was maintained as long as possible with no major disruptions to system authority or hierarchy; (iii) changes were introduced gradually, beginning in those subsectors that were either most amenable to change (e.g., primary healthcare services) or untenable (e.g., dental care and pharmaceuticals); and (iv) coping mechanisms adopted by healthcare staff (the price for their continued service and loyalty) were ignored or overlooked.

The downside of such a survival strategy was, of course, its total ignorance of the demand side of the healthcare equation. The result was a reduction in the volume, intensity, mix and quality of health care services; a major increase in private spending
during times of economic hardship, and subsequent loss of confidence in the system’s ability to provide adequate care to restore health.

Nonetheless, certain strengths were inherited from the previous system. The fact that the Ministry of Health, district authorities and basic delivery structures were maintained gave the healthcare system a degree of continuity. At the very least, this continuity ensured that funding continued to flow, despite its limited amount and skewed distribution. In short, survival of the system permitted minimal services to continue to be provided to some segments of the population.

At present, the organizational network, management formulae and structures of the Soviet era form the backbone of the national healthcare system. Privatization of pharmacies and dental care and limited experiments with private-sector providers have done little to affect the overall balance of service provision, still heavily dominated by the public sector through state-owned facilities and directly employed staff. While this might be interpreted as a resistance to decentralization, which can take varied forms (from increased autonomy to corporatization to outright privatization), on closer examination, this resistance appears to reflect a conservative outlook or reluctance to change rather than a significant ideological concern. That said, Azerbaijan has maintained a formal commitment to solidarity as part of its new orientation toward healthcare, which in part reflects the still cherished Soviet value system. This commitment is reflected in both governmental and presidential undertakings on health.\(^\text{147}\)

6.2.2 Current Organizational Model

Under the current model, the Ministry of Health continues to “steer” and “row,” albeit with very little clout over major policy decisions, which fall under the competence of the President, the Cabinet of Ministers and its advisory units. Nor does it have a say in where money comes from and where it goes, which remains the responsibility of the Ministry of Finance (MOF). Indeed, the MOH is mostly confined to owning and running the Medical University, central health institutions in Baku, research institutes and the Sanitary Epidemiological System (San-Epid) for environmental health and control of communicable diseases. Other healthcare institutions are owned and run by district and city administrative units, except for those that are directly run by line ministries or agencies such as the Ministry of Defense, Railways Department, Ministry of Interior and Government Oil Company (see Section 6.3.5 below). In dollar terms, this means that MOH manages close to 25 percent of the total public health budget, while the remainder of the budget is sent directly to the districts. Figure 6.1 below depicts the current organizational structure of the healthcare system.

\(^{147}\) Two concrete examples are the establishment of the State Oil Fund of the Republic of Azerbaijan (SOFAR) in 1999, which was given the responsibility of using part of the state’s oil revenues to support human development and economic diversification, and the State Programme on Poverty Reduction and Economic Growth (SPPRED) in 2002, the medium-term strategy of which is to reduce poverty (the strategy explicitly recognizes the importance of health).
Equally important, MOH has very limited capacity to make policies or to plan and regulate the healthcare system. It does not have a unit tasked with policymaking, nor does it have departments for monitoring and evaluation, human resources or long-term planning (the latter responsibility has been partly assumed by the Ministry of Economic Development).

On the other hand, MOH is in charge of proposing a plan for future investments in health facilities; it regulates the provision of private healthcare and the pharmaceuticals subsector, and contributes to the drafting of proposed health-related legislation. The Ministry of Health is also asked to develop norms (e.g., number and mix of staff, bed requirements, etc.) for MOF to use in budget allocation, as well as medical standards to control and assure the quality of healthcare. In addition, MOH is in charge of, and directly funds, public health programs, such as those concerning HIV/AIDS, tuberculosis and malaria, even though these programs receive co-financing and technical assistance from external donors.

Finally, all personnel in central and district facilities are technically accountable to MOH, which controls staff appointments, including that of chief doctors (a process usually conducted in consultation with district governors). MOH also determines the staff mix of facilities, salary scales, grading issues and other personnel policy matters. In addition, it specifies the nature of employment contracts, leaving institutions at the local level very little discretion to adapt these contracts to local needs and conditions. Finally, it is
noteworthy that Nakhchivan Autonomous Republic (NAR) has its own “Ministry of Health” within MOH, which is in charge of the administration of NAR health facilities. Baku also has a separate line of authority within MOH, which is accountable to its own health division.

6.3 Delivery of Healthcare Services

*Under the Soviet model, which remains largely intact today, service delivery was organized into a three-tiered network: national-level tertiary and/or reference hospitals and polyclinics in Baku; district and city hospitals and polyclinics (secondary-level care); and rural hospitals (SUBs), ambulatory clinics (SVAs) and village health stations (FAPs) (primary care).* In addition, there are a large number of specialized hospitals and dispensaries for particular medical conditions (tuberculosis, psychiatric care, etc.), each meant to address a specific health problem or segment of the population (e.g., women, children, factory workers, etc.).

While a certain system hierarchy and chain of referral seems to exist, in reality the network is very fragmented, with separate polyclinics, hospitals, staff and administrations for cardiology, oncology, gynecology, pediatrics, infectious diseases, tuberculosis (TB), venereal diseases, etc. Rural FAPs, for instance, which are meant to be first-level gatekeepers, are underused; people frequently bypass these facilities to seek care in district hospitals. (See Figure 5.8 in Chapter 5 for an organizational chart of the rural healthcare delivery system.)

Overall, Azerbaijan is well endowed in terms of health facilities. The Ministry of Health and district health administrations together own more than 2,300 facilities that are supposed to deliver a broad range of services free of charge (see Box 6.1).

### Box 6.1 Healthcare Services Provided Free to All Citizens of Azerbaijan

- Maternal health services (provided free to all women during pregnancy, delivery and the post-partum period)
- Child healthcare
- Family planning services
- Care for people working in certain hazardous situations, including those working in proximity to communicable diseases
- Psychological care for family problems
- Prevention of certain hereditary diseases
- Vaccination against tuberculosis, polio, diphtheria, tetanus, measles, mumps, rubella and hepatitis B
- Treatment of tuberculosis
- Treatment of malaria
- Diabetes care
- Care of most military personnel, veterans of wars and their families
- Care of refugees and internally displaced persons
- Care of healthcare and educational staff


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6.3.1 Inpatient care

While there has been a steady decline in the number of hospitals over the last ten years, there are still some 740 hospitals in the country, excluding some 25 private hospitals located mostly in Baku. The average number of beds is close to 250 in the 63 district hospitals, and close to 30 in the 360 rural hospitals. Similarly, there are a large number of specialized Republican hospitals concentrated in Baku, plus 90 specialized dispensaries (located in major cities and most districts) responsible for the management of one sole condition, such as TB or sexually transmitted diseases. Table 6.1 shows the trends and distribution of beds in public hospitals.

| Table 6.1 Number and Distribution of Hospital Beds in Azerbaijan, Selected Years |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|
| Total Public Sector             |                 |                 |                 |                 |
| Number per 10,000              | 70,900          | 74,600          | 69,900          | 68,700          |
| Ministry of Health             |                 |                 |                 |                 |
| Number per 10,000              | 98.2            | 96.6            | 86.5            | 85.0            |
| Other Public Sector            |                 |                 |                 |                 |
| Number per 10,000              | 68,300          | 68,500          | 64,700          | 63,500          |
| Other Public Sector            |                 |                 |                 |                 |
| Number per 10,000              | 94.6            | 88.7            | 80.1            | 77.7            |


As discussed in Chapter 2, Azerbaijan has a very high hospital beds-to-population ratio, at 7.7 beds per 1,000 population, second only to Russia (9.5) and almost twice as high as the EU average (4.1), despite the fact that only 6.5 percent of the population is 65 years of age or older. Hospital admissions and occupancy rates remain very low, at 4.4 and 25.6 percent, respectively, while the average length of stay remains very high, 15.3 days (see Figure 6.2).

Figure 6.2 Availability and Use of Inpatient Care Services in Selected Countries, 2002

Note: Data are for 2002, except the EU-15 average, which is for 2000.
In reality, there is a very wide variation in the use of inpatient care services, depending on provider productivity, types of services offered and distance from major centers and the capital of Baku. For example, the occupancy rate is around 17 percent in TB hospitals and below 15 percent in infectious disease hospitals (see Figure 6.3).

Bed occupancy rates have decreased dramatically over the last decade (see Box 6.2). In the late 1980s, these rates were as high as 70 to 80 percent. By 2000, however, despite a similar number of beds and a larger population, occupancy rates at central ("republican") hospitals were below 30 percent and at district hospitals, below 10 percent.

**Box 6.2 Republic Hospital Number 5**

Republican Hospital #5 in Baku is a 500-bed facility with a six-story main complex. Since 1990, the number of patients treated annually has fallen from the 7,000 treated annually in the 1980s. Only one-fifth of the physical space of the hospital is actually being used and the occupancy rate is 30 percent at best. Despite fewer patients, staffing targets have not decreased. However, only 500 of 560 positions are currently filled; unfilled positions are for drivers and sanitary staff. Of total staff, approximately 75 to 100 are physicians, with the remaining positions filled by nurses, sanitary and other ancillary staff. State financing often falls short of the planned allocation and is used mostly to cover salaries. The Government also pays for utilities directly and provides some capital investment, but the equipment that is delivered is often unanticipated.

*Source: Personal interview with Chief Physician of Republic Hospital No. 5, May 2004.*

However, occupancy rates alone are not a valid indicator of hospital utilization for at least two reasons. First, on the demand side, many patients are expected to pay for food,
laundry, consumables and pharmaceuticals, not to mention informal payments to staff, which in all likelihood reduce access or result in under-reporting of inpatient service use. Second, on the supply side, the number of reported beds is very misleading. A large majority of hospitals, especially in rural and some remote areas, are not operational, but are reported so because MOF funding is input- rather than output-based. In other words, funding is a direct function of a hospital’s potential capacity and staffing, rather than its actual use.

6.3.2 Outpatient care

The Primary Healthcare (PHC) network consists of 1,830 Feldsher Ambulatory Points (FAPs), 680 Doctor Ambulatory Clinics (SVAs or DACs) and 360 village hospital polyclinics (SUBs) in rural areas. In addition, ambulatory clinics exist in large enterprises, and central district (town) or municipal hospitals and district polyclinics are present in some urban areas, bringing the grand total to 1,620 facilities (excluding 40 public dental polyclinics). There has been very little change in the number, distribution and service mix of these facilities since independence in 1991. One could add to the list of facilities physicians’ private homes, which also function as a site of PHC service delivery.¹⁴⁸

It is remarkable that all of these facilities are almost fully staffed and still provide certain basic services.¹⁴⁹ The scope of clinical services provided at this level of the healthcare system is, however, very limited due to lack of medical equipment and supplies, in addition to a limited and narrowly defined skills mix. Indeed, the term primary healthcare is a misnomer, since the care provided is very fragmented and has no continuity. People freely “shop” for physicians depending on their need and ability to pay (even primary-level physicians are considered specialists in their own narrowly defined area of expertise). The concept of integrated family-based care is nonexistent. Not surprisingly, the PHC level does not really operate as a gatekeeper. Rather, it generates a very high number of referrals to hospitals. If users are able and willing to pay, they are treated privately. However, most services provided at this level are either a quick prescription, a referral or an illness certificate. The continuing use of specialists to provide “first-contact” care results in low productivity and inefficiency, particularly in small communities. Affordability, perceived quality of care and socio-organizational and

¹⁴⁸ According to a survey by International Medical Corps (IMC), 31.7 percent of PHC providers commonly see patients in their homes. IMC, “Primary Health Care Network Survey for Southern Azerbaijan,” November 2000.
¹⁴⁹ According to a recent survey conducted in ten districts of Azerbaijan, all FAPs are staffed with feldshers or nurse/midwives and close to 90 percent of SVAs and 80 percent of SUBs are staffed with physicians. In 2004, the average service population per physician was around 7,965 for SVAs, 19,531 per SUBs and 4,224 for nurse/feldshers. On average, there are 1.5 physicians per SVA, 3.3 per SUB and 27 per district polyclinic (Western World Consultants (WWW), “Health Reform Project: Evaluation Survey, Final Report on Household and Patient Satisfaction Survey,” report prepared for the Health Reform Project, 2005). Except for SUBs, which have rather unrealistically high standards, there does not seem to be any major shortage of physicians.
geographic accessibility are the main determinants of outpatient services. Indeed, many facilities lack running water or electricity, let alone medical supplies and equipment.\textsuperscript{150}

Improved access to and quality of primary healthcare has been an objective for most U.N. and international nongovernmental organizations (NGOs) working in the health sector. These goals are also the primary focus of the first World Bank-financed Health Reform Project.\textsuperscript{151} The projects financed by all of these organizations combine efforts to train staff, enhance clinical and management skills, upgrade facilities and promote community participation in the management of PHC network facilities. While these efforts are well received by rural populations, PHC providers and local authorities, they need to be better coordinated. In addition, MOH and local authorities need to assume true ownership of these efforts. Finally, collaborative efforts should subscribe to comprehensive health sector reform, especially in the areas of financing and stewardship. Otherwise, these efforts are destined to remain small in scale and experimental in nature, with little chance of sustainability.

6.3.3 Preventive Services and Public Health

Most public health services aimed at disease prevention and control fall under the responsibility of the Sanitary Epidemiologic Station (San-Epid) network, although in recent years, many of these services have been financially and technically supported by international and private donors. Nonetheless, a decade of under-investment has significantly reduced the capacity of this system.

A network of 82 Municipal Epidemiological Centers staffed by specialist physicians and technical support staff are responsible for controlling infectious and parasitic diseases and monitoring environmental health. Their responsibilities include food and water safety, bacteriology, parasitology, virology and other laboratory services. These facilities are vertically organized and report directly to the Sanitary Epidemiologic Services Unit of MOH. The network is also in charge of organizing immunization programs, for which it provides technical advice and logistical support. However, low salaries and limited resources have put many services in abeyance. Outbreaks of infectious diseases raise doubts about official statistics that reflect high coverage rates, especially whether all children are included in the statistics and whether the cold chain is maintained effectively.\textsuperscript{152} Nonetheless, the San-Epid system has had some recent achievements,

\textsuperscript{150} In districts hosting the World Bank-funded Health Reform Project, 83 percent of FAPs receive electricity only half of the day. Roughly 82 percent of FAPs, 68 percent of SVAs and 55 percent of SUBs do not have a water connection, relying instead on well water. None of the FAPs, 14 percent of SVAs and 15 percent of SUBs has a sewage connection or their own toilets. The numbers are even worse in the control districts, where a very large majority of facilities are in dire need of repair—renovation and the standard set of equipment used at all levels in these districts is either incomplete, missing or in need of repair. A large proportion of these facilities do not even have a means of transportation (WWW, "Health Reform Project: Evaluation Survey," 2005). The findings of the IMC survey cited in footnote 144 above are very similar.

\textsuperscript{151} UNICEF, IMC and, more recently, USAID are the most notable examples.

\textsuperscript{152} According to the "WHO Health for All" database, which uses government statistics, immunization coverage was 97 percent in 2004. However, baseline and evaluation surveys carried out as part of the Health Reform Project in Azerbaijan showed that real coverage varies between 85 and 90 percent for both
including having helped to eradicate polio. The network is currently working with international partners on TB, HIV/AIDS and malaria.

As in most former Soviet republics, the concept and underpinnings of health promotion have yet to take root in Azerbaijan. MOH does not have a department or unit in charge of health promotion. The main obstacles to effective health promotion at the PHC level are the current organizational model of the healthcare system, lack of a family-based practice environment and lack of skilled physicians and allied personnel. One could add to this list the role of cultural mores and customs, including the attitude toward lifestyle-related health determinants (e.g., safe sex and not smoking), which require a heightened degree of awareness and the assumption of personal responsibility.153

6.3.4 Rehabilitative and Social Care

Azerbaijan is well endowed with extended healthcare facilities. However, the contribution of these facilities to the prevention of disease or promotion of health is doubtful. There are some 132 sanatoria and “medical rest” facilities for adults, with a total of 25,000 beds. In addition, there are 18 inpatient medical sanatoria for children and a further array of “preventoriums,” rest homes and tourist centers that involve a care element, which account for an additional 3,560 beds. Some of these facilities are owned by MOH, others by the Ministry of Labor and Social Protection, enterprises and trade unions. Each is funded through the budget of the respective agency that owns the facilities (as well as by informal payments). The services provided vary, but most sanatoria don’t offer much more than accommodation and low-technology interventions such as occupational or movement therapy, “curative” baths, and so on.

Social care is also fragmented among establishments owned by various ministries (including Education, Interior, Health, and Labor and Social Protection). These establishments provide care to orphans. Abandoned children, the elderly and disabled youth have access to residential facilities. One could add to the list extended care facilities for mental patients. Social care facilities in Azerbaijan are characterized by: (i) a blurring of boundaries between healthcare and social assistance, including relevant governmental funding and responsibilities, (ii) low-quality medical and psychosocial care due to lack of funding and adequately trained staff, and (iii) overall allocative inefficiency (valuable human, physical and financial resources are captured by a large and ineffective social care network).

6.3.5 Delivery of Healthcare Services by other Government Entities154

Five other government agencies and ministries provide healthcare services to their own respective constituencies in facilities that are owned, managed, operated and financed

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152 This section relies heavily on G&G Consulting, “Health Expenditure Analysis,” 2004.
by them, further fragmenting the healthcare system. The Azerbaijan Railways Department operates 11 hospitals with 1,800 beds, two polyclinics, six ambulatory centers, six pharmacies, seven dental clinics and five San-Epids. It even has its own cholera prevention station. As of 2004, these facilities employed a total of 764 physicians and 1,497 nurses.

The Ministry of Defense operates seven hospitals, including a training facility for its own medical academy, and several ambulatory service points. In 2002, more than 1,000 physicians and 1,700 allied health personnel were employed by the MOD. The Ministry of Interior operates one hospital, six dental clinics, seven ambulatory centers and one San-Epid. It employs 181 doctors and 190 nurses. The Government Oil Company operates a 500-bed hospital in Baku, one dental clinic and one polyclinic. The company employs 230 physicians and 435 nurses, who serve a population of about 70,000 active and retired oil workers and their dependents. These facilities also provide services to the non-eligible population for a certain fee; such services account for about 30 percent of total inpatient and outpatient services at these facilities.

Finally, a number of government-owned facilities have recently become financially independent, generating their own revenues. These include a few highly specialized diagnostic and treatment centers in Baku.

6.3.6 Burgeoning Private Service Delivery

The role of the private sector in the provision of healthcare services remains small. The involvement of the private sector has so far largely been limited to dental services and pharmacies, as a result of the government’s active privatization of these facilities. According to MOH, while pharmacies operate well as private entities, the privatization of dental units has proven more difficult—many have trouble remaining financially profitable.

There are other models of private care. For instance, the Central Clinic Hospital operates as a private facility in a building leased by the government. While physicians at the hospital are still civil servants and receive the usual salary of about US$20 per month, their total income is directly proportional to their output. There is a case-based fee schedule which begins at US$10 for a simple physical examination, but can go quite high, depending on the volume and intensity of services provided. The occupancy rate of this hospital is about 65 percent and the average length of stay is 4 days, compared to 25.6 percent and 17 days in publicly operated hospitals. The facility serves about 400 outpatients a day and performs close to 20 surgical operations, some of which are day surgeries. Based on such successful experiences, MOH is said to be considering the privatization of some 150 facilities.

Another private model is MediClub, an HMO-like organization with an enrollment base of about 4,000 that caters mainly to the expatriate community and nationals who work for international oil and financial firms. MediClub operates a network of six small hospitals and/or outpatient clinics, based mostly in Baku. Eligible enrollees pay a certain annual fee and copayments at the point of service.
6.3.7 **Vertical Disease Control Programs**

**National Tuberculosis Program (NTP)**

*The burden of tuberculosis (TB) in Azerbaijan is relatively high compared to other countries of the WHO European Region* (see Chapter 2 for details). HIV co-infection is very low, accounting for only 0.1 percent of all TB cases. Tuberculosis control services are delivered through a tiered network comprising the Scientific Research Institute of Lung Disease located in Baku; one TB hospital and 12 TB dispensaries at the sub-national level; and 54 TB units at the district level, including TB dispensaries and outpatient services in polyclinics and district hospitals.

Traditionally, the detection, diagnosis, treatment and reporting of tuberculosis cases have been carried out as per the old Soviet model, with a marked reliance on fluoroscopy and clinical findings for diagnosis and treatment outcomes, together with long-term treatment in inpatient facilities.

*Azerbaijan began implementing the Directly Observed Treatment, Short Course (DOTS) strategy in 1995 with a pilot that included Baku, Xachmaz and Lenkaran.* However, due to the special circumstances of the mid-1990s, the pilot was only marginally successful and suffered from a shortage of TB drugs. In 2002, a new five-year development plan for the National TB Program (NTP) was prepared and put in effect with the aim of nationwide DOTS coverage by 2005.155 While the budget allocated to TB sanatoriums has increased over the last three years from about AZM 2.8 billion (US$568,000) to AZM 1 billion (approximately US$200,000), most of the increase was for salaries, leaving very few funds for drugs and consumables.

The NTP receives significant financial and technical support from the Government of Germany through a collaborative agreement between the German Development Agency (GTZ) and the Kreditanstalt für Wiederaufbau (KfW). GTZ acts as the regional coordinator of the “Caucasus Initiative” and provides assistance in policy development, management, training and printing. KfW’s program supports a five-year, €3-million project that includes a supply of TB drugs, laboratory equipment and consumables, x-ray machines, vehicles for supervision and social mobilization activities.

*At present, DOTS coverage has reached about 50 percent of the total population.* While treatment success is at an acceptable level of about 84 percent, case detection is still very low—around 25 percent (see Figure 6.4).

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Figure 6.4 NTP Performance in DOTS Implementation, Selected Countries and Years

![Graph showing NTP Performance](image)

**Note:** Most data are reported for 2002 and 2003.


Although the main elements of the DOTS strategy are in place, such as free access to TB treatment drugs, implementation of the strategy is confined to TB dispensaries and specialists who are based in cities and district centers. Accordingly, case detection remains low and direct observation of TB treatment is rare. The involvement of the rural network in general, and of feldshers and nurses in particular, may considerably increase case detection and compliance with directly observed treatment, as well as reduce case prevalence and fatality.

**HIV/AIDS Prevention and Control**

While the first case of HIV in Azerbaijan dates to 1994, the government's involvement in HIV/AIDS prevention and control is rather recent, beginning with the establishment of the National Committee to Fight and Prevent AIDS (NCFPA) in 2002. The Committee is comprised of 14 government agencies, five U.N. organizations and three NGOs. A five-year national plan was prepared and adopted in 2002. However, state funding is very limited, about AZM 416 million (US$85,000) for the entire country. While there are twelve HIV/AIDS regional testing centers throughout the country, most data on surveillance and case detection comes from Baku.

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Azerbaijan is clearly lagging in the adoption of well-established modern HIV/AIDS detection and control activities. More important, perhaps, is the need for better and more nationally representative serological and behavioral surveillance data, especially with regard to injecting drug use, which constitutes the primary risk factor in 63 percent of all detected cases. As discussed in Chapter 2, general public knowledge of and behavior regarding HIV transmission and prevention are clearly inadequate.

Of note, the MOH recently received a large grant (about US$6.5 million) from the Global Fund for AIDS, Tuberculosis and Malaria (GFATM) with the aim of scaling up HIV/AIDS and STI prevention and treatment, as well as building institutional and technical capacity. Under the oversight of the NCFPA, the grant will be implemented through the MOH, MOF, MOE, Ministry of Justice and Ministry of Interior. International partners include five U.N. agencies, the IMC, the Open Society Institute and International Relief and Development.

6.4 Key Issues, Options and Recommendations

The organization of the Azeri healthcare system is reminiscent of the former Soviet Union (FSU). It remains centrally planned and organized, based on normative allocations of human, physical and financial resources. Failure to reform the system has resulted in skewed allocations, with excessive hospital facilities and inefficient tertiary-level services on one hand, and on the other, poorly funded, managed and highly fragmented primary healthcare services. Indeed, compared to other countries of the FSU, Azerbaijan is truly lagging behind in the modernization of its healthcare system.

Despite the recently more politically stable, yet macroeconomically austere times, the MOH is reluctant to undertake any major initiatives that would redefine the roles and responsibilities of the MOH, restructure its organization and system hierarchy, or reform the way in which health facilities are owned, managed and funded. Small-scale initiatives to improve access and quality of care at the primary care level are attempts in the right direction, but remain too few and far between to be scaled up and become sustainable. Nor will they contribute to overall system improvement if they remain detached from secondary and tertiary care levels.

As discussed in Chapter 3, the most contentious issue of healthcare reform in Azerbaijan is whether the government has the capacity and/or political will to deliver on its commitments. Granted, some reform initiatives will depend largely on the availability of additional resources. Other initiatives will require difficult policy decisions, with implications for how the budget is allocated to improve efficiency, governance and utilization of available resources. It is somewhat encouraging that MOH is already piloting a number of health reform projects in selected districts that focus on improving primary care. To be successful, however, these attempts must go beyond training staff.

\[157\] Specifically, Azerbaijan has 7.3 acute inpatient beds per 1,000 population, compared to the EU-15 average of 4; an occupancy ratio of 28.5 percent and declining, compared to the EU-15 average of 77 percent. Some 62 percent of total health expenditures are devoted to hospital and tertiary-level facilities.

\[158\] PHC resources include feldshers, ambulances, polyclinics and disease-specific hospitals, many with only a few beds. (Holley, Akhundov and Nolte, "Health Care Systems in Transition," 2004, 19–20).
and renovating facilities to include measures that restore system hierarchy and establish an organizational model that strengthens primary-care services and rationalizes inpatient care facilities on the basis of demand and utilization, rather than input-based central planning and budgeting.

Unlike many other countries with a similar level of socioeconomic development, Azerbaijan is well endowed in terms of physical and human resources. *Despite an explicit commitment to providing free essential care to the population, accessibility to healthcare services remains highly inequitable due to financial reasons. Even when people are willing to pay for services, they are often unable to do so or do not see any value in paying for services that they perceive as highly unlikely to prevent disease or improve health.*

The recommendations below are intended to achieve the often conflicting objectives of improving: equitable access to care, comprehensiveness and continuity of care, patient freedom of choice and satisfaction, and allocative and technical efficiency of service delivery. More specifically, these recommendations are meant to help the healthcare system move from

- a model of specialist physician-centered care towards a model of family-based primary healthcare (PHC);
- a biomedical care model towards a model that values disease prevention and health promotion;
- a highly structured, hierarchical model towards a more integrated, network-based model with built-in gate-keeping;
- a model that does not solve most health problems by referring them to higher levels, towards one where many, if not most problems are resolved at the PHC level;
- a model with extremely inefficient resource allocation towards a model that allocates resources according to healthcare needs; and,
- a model where provider payments are based on inputs towards a model where providers are paid on the basis of productivity and the appropriateness and quality of the care that they provide.

These recommendations are organized into three basic categories: system hierarchy, management (including issues related to decentralization), and funding.

### 6.4.1 System Hierarchy and Levels of Care

*The number and distribution of FAPs, as well as the skills mix in FAPs is appropriate.*\(^{159}\) This level of care has been neglected, resulting in serious deskilling of staff, deterioration of health facilities and lack of basic equipment and supplies. This well-established, grassroot-level healthcare network should be upgraded, its service mix

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159 Surveys on clinical services and practice styles conducted in the 10 pilot districts of the World Bank-assisted health project in Azerbaijan showed that FAPs cover, on average, 4,000 people, a good size for the proposed mix of services. (WWW, "Evaluation Survey," 2005).
re-assessed, and the benefit package for feldshers and nurse/midwives revalued. In addition, the scope and quality of maternal and child healthcare provided by FAPs could be quickly improved by additional training and investment in facilities, equipment and supplies.

Staff of these facilities could also be trained as change agents in information, education and communication (IEC), especially for health promotion. In addition, they could be used to provide home-based care of patients with chronic conditions (e.g., asthma, diabetes, high blood pressure, etc.), as well as for directly observed short-course treatments (DOTS) for Tuberculosis and other standardized regimens (e.g., the integrated management of childhood illness, or IMCI). These functional changes would require upgrading the training curriculum of FAP staff, as well as extensive in-service training. Research should be conducted to better understand the professional and personal needs, preferences, practice behavior, productivity and aspirations of FAP staff, as well as the incentives that would motivate them to provide the new mix of services effectively.

While the number and distribution of physicians at the SVA level appears to be adequate, their skills mix is not. This level of care is too close, in terms of the catchment population, to both grassroots FAP care and SUB care. However, physician qualification requirements and skills at this level are not adequate for family-oriented PHC. In addition, SVAs also employ feldshers and nurse/mid-wives whose geographic area of responsibility and skills overlap those of their colleagues at the FAP level. There are two options for SVAs:

- **One option is to abolish this level of care**, at least in areas where geographic accessibility to village-level hospitals (SUBs) is not a problem. The SUBs should then be reconfigured to provide family-oriented PHC in a practice environment with a certain critical mass of physicians. This option would only make sense if no change in the job description of the SVA physician was envisaged.

- **A second, more likely, option would be to redefine the roles and responsibilities of the SVA physician** (and, if needed, increase their number) in a manner more conducive to providing community-based preventive and public health services, managing the staff of other SVAs and FAPs, and delivering family-oriented PHC. This change in job responsibilities would require retooling physicians through extensive training. Again, the same kind of knowledge, attitude and practice (KAP) research would be needed.

Village-level hospitals (SUBs), which have an average of 32 beds, appear to have become redundant; these units have low admissions and occupancy rates. There are too many SUBs and most are under-utilized. The proposed recommendation for these facilities is to investigate productivity indicators, including commitment and relevance

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160 Surveys on clinical services and practice styles conducted in the 10 pilot districts of the World Bank-assisted health project in Azerbaijan showed that SVAs cover, on average, 8,000 people, a good size for a team of 2 to 3 primary-care and community-health physicians. (WWW, “Evaluation Survey,” 2005).
indexes, preferably in a pilot project in a selected number of districts. On the basis of the pilot, local decisions could then be made to either maintain SUBs as small hospitals or transform them into group practice settings—hubs of a rural network of SVAs and FAPs that would also provide specialized outpatient care.

This strategy would not make major changes to the scope and mix of services provided at the SUB level, except for the discontinuation of inpatient care services. Nonetheless, it would entail extensive training. The evaluation process should build on previous experience in preparing district-level rationalization plans for those districts that participated in the World Bank-financed Health Reform Project.

**The number of central district hospitals is adequate. However, many appear to have too many beds.** In addition, hospitals at the district level are dispersed into separate buildings—sometimes entire facilities—for maternity care, infectious diseases, children’s hospitals and/or wards and district polyclinics. There is a major need to reconfigure, consolidate and, in some cases, downsize these facilities. Even changes in physical infrastructure would generate significant savings by decreasing maintenance costs.

A district-level mapping exercise must be undertaken to determine the appropriate size of central district hospitals and to redefine the scope and complexity of their services. These determinations should be made with a view toward minimizing patient referrals to Baku hospitals. All future investments in physical upgrades and medical equipment by these facilities should be based on the outcome of this exercise, together with the definition of specialist-physician training needs.

**The number of specialized hospitals, dispensaries, sanatoria and “rest establishments” needs to be significantly reduced.** This reduction would require a change of policy vis-à-vis their role in the healthcare system, the extent to which their services should be covered by the public budget in general and by MOH in particular, and which of their services could be integrated into the existing healthcare network.

**The vast hospital network in Baku deserves separate analysis** to better understand the demand side of the services provided by it. This means ascertaining what proportion of patients served by these facilities are from Baku and what types of services attract patients from outside the capital. The analysis should propose an optimal reconfiguration of the Baku hospital network, using an integrated model with a hierarchy of care levels. A special committee will need to be put in charge of the consolidation. *A similar approach could be adopted for the health facilities of NAR,* given its geographical separation from the rest of Azerbaijan and separate healthcare administration.

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161 A commitment index refers to the proportion of patients seen in the facility who come from the theoretical catchment area; a relevance index refers to the proportion of all patients in the theoretical catchment area who actually use their own facility.

162 Surveys on clinical services and practice styles conducted in the 10 pilot districts of the World Bank-assisted health project showed that SUBs cover, on average, 20,000 people, which would qualify as a hub of a PHC network and a center for specialized outpatient-based care (World Wide Consulting Survey, 2005).
6.4.2 Management of Health Facilities

The first step in refocusing the healthcare system on primary healthcare is to define an essential package of services that would be provided free of charge to the entire population, regardless of their status, employment, income level, or place of residence. This service package could be based on the services that are technically free today, but the cost of these services must first be established. A fee policy and schedule for services provided outside the basic package should also be developed.

Second, the composition of PHC teams and the job descriptions of team members must be redefined with a view toward encouraging teamwork, complementarity of skills and tasks, and provision of the basic service package.

Third, the training needs of PHC team members should be defined and a training plan costed, timed and implemented. The training program should cover both clinical practice and basic tenets of community-based, primary and family healthcare (i.e., comprehensiveness of care, continuity of care, psycho-social aspects of care, the patient-provider relationship, etc.). The program should first be piloted, based on previous experience, then scaled up after two to three years.

These changes would require a revision of the current practice environment of the primary healthcare level and substantial capital investment in the medium term.

Finally, the terms of employment of PHC teams should be revamped. (This task is dependent on general civil service reform.) Efforts must be made to introduce flexible employment conditions, such as contractual agreements with MOH or local authorities. Employment arrangements should encompass fund holding, managerial responsibilities, modes of payment, such as unweighted per capita, risk-adjusted per capita, etc., (dis)incentives for patient referral, case management of chronic conditions, home-based care, etc.

Inpatient Care

Decentralization of hospital management is the key to improving inpatient care. Decentralization must specifically address the extent to which hospitals can make their own decisions on strategic issues (e.g., capital investment in infrastructure, equipment, change in the scope and mix of services, etc.), directly procure goods and services, manage their accounts, decide on human resource needs, and set their own employment conditions and personnel policies. One model, already tested on a small scale, would be to retain MOH ownership of hospitals, but allow individual hospitals greater management autonomy and pluralism at their own financial risk. While this strategy might improve technical efficiency, large-scale application of this model would likely reduce access to inpatient care, increase inequalities and quite possibly exacerbate allocative inefficiency.

A more appropriate model for Azerbaijan is a management structure involving local authorities, community representatives and MOH. These stakeholders would oversee a professionally trained hospital manager who would have the authority to purchase and
contract out goods and services within the limits of a global budget. This budget would be broadly determined on the basis of a costing exercise and fine-tuned over time. Hospitals should also be allowed to define a fee schedule and retain revenues for services provided outside of the essential package.

Such a model would require information disclosure, independent financial and technical auditing of hospital accounts and a regulatory framework for contracting, all responsibilities that, in the short term, belong to the MOH as part of its stewardship role.

While it may be too early to expose hospitals to the market in terms of raising capital, subleasing and/or liquidating assets, or investing in high-cost medical equipment, in the short term, they could be allowed to hire or lay off staff and make minor investments to upgrade facilities.

6.4.3 Funding of Facilities and Payment of Providers

Primary Healthcare

Depending on how PHC providers are renumerated, PHC teams could receive a capitation payment that would be adjusted according to qualifications, seniority or area of practice. Alternatively, the capitation could be weighted on the basis of the demographic and morbidity profile of the catchment area served. This amount could be supplemented by a fee-for-service scheme for specific services, based on output (e.g., number of children immunized) or outcome (e.g., no diabetic comas, high blood pressure under control, etc).

While these proposed changes may not be possible under the current personnel regime, they are nevertheless crucial. Organizational changes and training alone will not improve the accessibility and quality of PHC services. The recent significant increase in the pay scale of healthcare staff is welcome, but remains insufficient to improve their motivation and performance. Indeed, contractual agreements with PHC teams are becoming more prevalent as many FSU and East European countries move away from salary to capitation payments at the PHC level. Examples to date include Bulgaria, Moldova, Kyrgyz Republic and Bosnia Herzegovina, to name a few.
Table 6.2 Modes of Hospital Payment in Transition Countries

<table>
<thead>
<tr>
<th>Mode of Payment</th>
<th>Countries</th>
<th>Features</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Line Items</strong></td>
<td>Albania (AL), Armenia (AR), Azerbaijan, Kazakhstan (KAZ), Kyrgyz Republic (Kyr), Moldova, Russian Federation (RF), Tajikistan, Turkey, Turkmenistan (TUM), Ukraine, Uzbekistan</td>
<td>AL: Hospitals owned by state</td>
<td>AR: moving towards per case model; KAZ, Kyr, RF, TUM: not exclusively</td>
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<tr>
<td><strong>Per Day</strong></td>
<td>Croatia (CR), Estonia (ES), Latvia (LT), Russian Federation, Slovakia (SK), Slovenia (SV)</td>
<td>ES: Case-mix adjuster, cap, fee-for-service for some procedures</td>
<td>CR: moving towards global budget; LT: towards per case; RF: not exclusively</td>
</tr>
<tr>
<td><strong>Per Case</strong></td>
<td>Bulgaria, Czech Republic (CR), Georgia, Hungary (HUN), Kazakhstan, Kyrgyzstan, Lithuania, Poland, Romania (ROM), Russian Federation, Turkmenistan</td>
<td>Payment categories vary between 30 to 10,000. Payment rate basis is often historical costs or budgets.</td>
<td>CR, KAZ, Kyr, and TUM: not exclusively; RF: most regions</td>
</tr>
<tr>
<td><strong>Global Budget</strong></td>
<td>Czech Republic, Russian Federation</td>
<td></td>
<td>CR, RF: not exclusively; B&amp;H: developing</td>
</tr>
<tr>
<td><strong>Capitation</strong></td>
<td>Poland (POL), Russian Federation</td>
<td></td>
<td>POL: developing; RF: uncertain</td>
</tr>
</tbody>
</table>

*Source: Adapted from Langenbrunner and Wiley, “Hospital Payment Mechanisms,” 2003.*

Inpatient Care

*For proposed managerial changes to be effective, line-item budgeting based on input norms must be discontinued.* Most other transition countries have opted for some variant of output-based funding, be it on a per case, per day, per admission or diagnosis-related groups (DRGs) basis. Others countries have opted for capitation or global budgets as their primary mode of funding (see Table 6.2) Changes in the system of financing would need to be introduced over a certain experimental period, beginning with a costing of inpatient services to determine real costs, followed by a trial-and-error period of cost-based budgeting. The behavior of hospitals could then be tested and fine-tuned by adjusting fee schedules and profit margins.

*The distinction between private and public ownership should eventually blur as hospitals come to be financed by a mixture of public and private funds, with payments based on output.* The challenge of this new financing framework will be to ensure a level playing field in terms of regulation, quality assurance and control. MOH will need to
assume this responsibility until a mandatory health insurance system is created and the service delivery and financing functions of the healthcare system are separated.

6.4.4 Cross-cutting Issues

Three additional actions are needed to enhance the effectiveness of proposed organizational reforms: (i) reform of medical education and specialty training; (ii) re-alignment of public health and clinical practice in accordance with emerging healthcare priorities and contemporary trends in epidemiology; and (iii) strengthening of the San-Epid network.

The current status of medical education in Azerbaijan and recommendations for its reform are addressed in Chapter 5 of this volume. In short, three issues need to be addressed in medical education reform:

- **The human resources development plan for the healthcare sector needs to be revised and updated in accordance with the projected supply of physicians and the demand for healthcare.** The update should be supplemented by a review and revision, if necessary, of the personnel policy governing the medical profession. It would be preferable if the update addressed other professions, especially feldshers, nurses and midwives, so that the new plan is based on a thorough view of healthcare in its entirety.

- **A detailed analysis of the roles and responsibilities of all institutions and stakeholders involved in medical education is needed.** If required, the institutional foundation of the medical profession should be strengthened, a strategy that may entail establishment of a medical research council and a stronger physicians' association (to better respond to changing needs and preferences of the medical community).

- **The entire process of medical education, from educational entry to postgraduate practice, must be critically reviewed.** This review should identify the relative importance of various determinants, financial or otherwise, that make the system amenable to policy change in favor of evidence-based medical practice. The review should specifically focus on: (i) input, or the selection process; (ii) throughput, or medical education program management and its components (faculty, curriculum, teaching methods and infrastructure); (iii) output, or board examination and licensing; and (iv) teaching institutions themselves, including research as an integrated educational activity.

Notwithstanding high infant and maternal mortality rates, the burden of disease in Azerbaijan, as in many countries of the FSU, falls heavily on the adult population. The current disease burden consists mostly of largely preventable non-communicable diseases (NCDs), a reality that calls for a new public health paradigm which emphasizes lifestyle changes. The following actions are needed:

- The MOH should establish, properly staff and fund a new unit in charge of health promotion. Such a unit should develop a NCD strategy and action plan.
In-service training of PHC physicians and relevant specialists should include communication and counseling skills specifically geared towards NCDs and their main determinants (e.g., smoking, nutrition, exercise, etc).

Training should also include evidence-based case management of NCDs in line with modern diagnosis and treatment protocols.

A similar approach is needed to ensure prevention and control of tuberculosis, STIs and HIV/AIDS at the primary healthcare level.

Finally, the San-Epid network is in dire need of reform. Its capacity for system intelligence, disease surveillance, outbreak detection, rapid response, and maintenance of the cold chain and laboratory network must be strengthened. These goals require the following actions:

- Core public health functions that fall under MOH (e.g., immunization, bacteriology laboratories, etc.) should be separated from those that fall under municipal authorities (e.g., food hygiene, environmental health, water quality, etc.).
- A convincing case should be made to increase the financing of San-Epid facilities, with significant capital investment, preferably through donor funding.
- A training plan in modern methods of epidemic surveillance and control methods should be prepared, timed and costed.

The proposed reform agenda is clearly ambitious in scope and timing. Given willingness to reform, Azerbaijan can greatly benefit from the experiences and lessons learned in other countries where similar reforms have been implemented.