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Health Sector Review Note

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ALOS	average length of stay
AMU	Azerbaijan Medical University
BPMS	basic package of medical services
BSL	Budget System Law
CAS	Country Assistance Strategy
CDCL	Central Drug Control Laboratory
CDH	Central District Hospital
CEE	Central and Eastern Europe
CIS	Commonwealth of Independent States
CoM	Cabinet of Ministers, Republic of Azerbaijan
DALY	disability adjusted life years
DOTS	directly observed treatment, short course
DPOLY	district polyclinic
DPT	diphtheria, pertussis, tetanus
DRG	diagnosis-related groups
ECA	Europe and Central Asia
ECSHD	Europe and Central Asia Human Development Unit
EDL	essential drug list
EU	European Union
FAP	Feldsher Ambulatory Point
FDI	foreign direct investment
FSU	former Soviet Union
FSW	female sex worker
GDP	gross domestic product
GFATM	Global Fund against AIDS, Tuberculosis and Malaria
GLP	good laboratory practice
GMP	good manufacturing practice
GoA	Government of Azerbaijan
GTZ	German International Development Agency
HBS	Household Budget Survey
HDR	Human Development Report
HiT	Health Systems in Transition
HIV	Human Immunodeficiency Virus
HMO	health maintenance organization
HRP	Health Reform Project, Republic of Azerbaijan
IBTA	Institution Building and Technical Assistance project
IDA	International Development Association
IDPs	internally displaced populations
IDU	injecting drug user
IEC	information, education, communication
IMC	International Medical Corps
IMCI	integrated management of childhood illness
IMF	International Monetary Fund

IMR	infant mortality rate
IUD	intrauterine device
KAP	knowledge attitude practice
LBW	low birth weight
LICUS	Low-income Countries under Stress
MCH	maternal and child health
M&E	monitoring and evaluation
MDG	Millennium Development Goals
MDR-TB	Multiple Drug Resistant Tuberculosis
MED	Ministry of Economic Development, Republic of Azerbaijan
MMR	maternal mortality ratio
MICS	Multiple Indicator Cluster Survey
MLSPP	Ministry of Labor and Social Protection of Population, Republic of Azerbaijan
MOA	Ministry of Agriculture, Republic of Azerbaijan
MOE	Ministry of Education, Republic of Azerbaijan
MOF	Ministry of Finance, Republic of Azerbaijan
MOH	Ministry of Health, Republic of Azerbaijan
MOI	Ministry of Interior, Republic of Azerbaijan
MOJ	Ministry of Justice, Republic of Azerbaijan
MTEF	medium-term expenditure framework
MTPES	medium-term public expenditure strategy
NAR	Nakhchivan Autonomous Republic
NCD	non-communicable diseases
NCFPA	National Committee to Fight and Prevent AIDS
NGO	nongovernmental organization
NTP	National Tuberculosis Program
OOP	out-of-pocket
OR	occupancy rate (beds)
OTC	over-the-counter
PA	Poverty Assessment
PER	Public Expenditure Review
PHC	primary healthcare
PIP	public investment program
PPL	public procurement law
PRSC	Poverty Reduction Support Credit
PRSP	Poverty Reduction Strategy Paper
RDU	rational drug use
RH	reproductive health
RHS	reproductive health survey
San-Epid	Sanitary Epidemiological Network, Republic of Azerbaijan
SCPESP	Science, Culture, People's Education and Social Problems Unit, Republic of Azerbaijan
SME	small and medium enterprises
SOCAR	State Oil Company of Republic of Azerbaijan
SOFAR	State Oil Fund of Republic of Azerbaijan

SPPRED	State Program for Poverty Reduction and Economic Development, Republic of Azerbaijan
SSC	State Statistical Committee, Republic of Azerbaijan
SSPF	State Social Protection Fund, Republic of Azerbaijan
STI	sexually transmitted infections
STP	standard treatment protocol
SUB	rural hospital and polyclinic, Republic of Azerbaijan
SVA	doctor ambulatory center, Republic of Azerbaijan
TB	tuberculosis
U5MR	under-five mortality rate
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations International Children's Emergency Fund
USAID	United States Agency for International Development
VCT	voluntary counseling and testing
VHI	voluntary health insurance
WDI	World Development Indicators
WHO	World Health Organization

CURRENCY EQUIVALENTS

Exchange rate effective as of May 9, 2005

Currency unit = Azeri Manat (AZM)

US$1 = AZM 4,809

GOVERNMENT OF AZERBAIJAN FISCAL YEAR

January 1–December 31

EXECUTIVE SUMMARY

Health outcomes in Azerbaijan are poor, in part due to a healthcare system that is persistently ineffective in delivering affordable, quality services with equal access for all segments of the population. In fact, Azerbaijan lags behind most post-transition countries in terms of health status, as well as in its approach to reforming the healthcare system.

This two-volume Sector Review Note outlines the burden of ill-health, its distribution and trends, then addresses the adequacy of the existing healthcare system to meet unmet healthcare needs and to respond to epidemiologic and demographic challenges. The main rationale behind this Sector Note is to spur policymakers to consider a set of options for reforming the system, thereby enabling them to embark on a long-awaited reform initiative to improve health outcomes.

The Burden of Illness and its Determinants

Azerbaijan is undergoing a demographic transition as a result of a decreasing population growth rate, a steady decline in fertility rates over the past several decades and net emigration during the 1990s. Despite declining fertility, Azerbaijan presently has a relatively young population. In 2003, 26.8 percent of the population was under age 15, while only 7.5 percent was over 65. However, the population is aging and, according to projections, the dependency ratio (the number of people aged 0–14 and 65 years and older divided by the number of people aged 15–64) is expected to increase.

Between 1990 and 2002, life expectancy at birth shortened by six years—the highest downtrend in the world, excluding the countries of Sub-Saharan Africa, which lost up to three times as many years during the same period due to the HIV/AIDS pandemic.[1] The most likely primary explanation for this decline is increasing infant, child and maternal mortality, all corroborated by independent surveys.[2] This finding is most disconcerting if one considers that there is one maternal and child health (MCH) clinic in the country for every 900 children below age five and for every 2,200 women of childbearing age (15–44). Similarly, there are 3.6 physicians and 7.5 nurses per 1,000 population—clearly adequate ratios from a purely resource input perspective.[3] The decline in life expectancy is also due to premature adult mortality. The probability of dying between ages 15 and 60 is 23.1 percent for Azeri males and 12.2 percent for females, twice as high for both sexes than in EU countries.

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[1] McMichael, A.J., et al., "Mortality Trends and Setback: Global Convergence or Divergence?" *Lancet* 363 (2004): 1155–59.
[2] See in particular UNICEF, *Reproductive Health Survey 2001* (New York: UNICEF, 2003), and *Multiple Indicator Cluster Survey* (New York: UNICEF, 2002). The Reproductive Health Survey was conducted in 2001 and published in 2003; it is referred to as the RH Survey throughout this Sector Note. The Multiple Indicator Cluster Survey was conducted in 2000 and published in 2002; it is referred to as the MIC Survey throughout this Sector Note.
[3] The EU-15 averages for doctors and nurses are 3.9 and 7 per 1,000 population, respectively.

If current trends continue unabated and urgent action is not taken, health outcomes are expected to decline further, making it unlikely that Azerbaijan will meet its pledged health-related Millennium Development Goals (MDG) by 2015 (a two-thirds reduction in maternal mortality and a three-quarters reduction in child mortality).[4]

Non-communicable diseases are mainly responsible for high premature adult mortality in the country, accounting for about 85 percent of total mortality. Specifically, circulatory diseases are the main cause of mortality, affecting men and women equally. However, male mortality from accidents, injuries and poisoning is three times higher than female mortality from the same causes.

Adult health is also adversely affected by a recent resurgence of infectious diseases. For example, during the last 15 years, the TB incidence rate has more than doubled. During the same time span, the HIV incidence rate has increased 35 times. While the HIV prevalence rate is still less than 1 percent, survey data indicate that the risk of HIV transmission is high due to lack of awareness of HIV transmission modes, a high prevalence of intravenous drug use, high rates of HIV infection among IDUs, and a high rate of infection among commercial sex workers.

According to survey data, the maternal mortality ratio (MMR) remains high—the third highest in the ECA region and 10 times higher than the EU average. The main causes of maternal deaths are acute post-partum hemorrhage and post-abortion complications, which are exacerbated by a high prevalence of anemia in pregnant women. Inadequate quality and uneven access to antenatal and postnatal care also contribute significantly to high maternal mortality. The infant mortality rate (IMR) is also high in Azerbaijan—the second highest in the ECA region and 16 times higher than the EU average. IMR is also three times higher among poor households than rich households. The same is true for under-5 child mortality (U5MR), also the second highest in the region and 20 times higher than the EU average. Both IMR and U5MR are 50 percent higher in rural than in urban areas. The main causes of mortality and morbidity among infants and children are respiratory diseases and dehydration caused by diarrhea.

There are several forces driving deteriorating health outcomes in Azerbaijan. Unhealthy lifestyle choices are perhaps the most powerful risk factors affecting mortality and morbidity. They include tobacco use, alcohol abuse, a high-fat diet, lack of physical activity, a relatively low intake of fruits and vegetables, and drug addiction. The consequences of some of these risks include high blood pressure, high cholesterol, and diabetes, all of which contribute to the high prevalence of circulatory diseases. Lifestyle risks are compounded by socioeconomic factors, including urban/rural and poor/rich disparities, as well as environmental factors (e.g., inadequate water quality).

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[4] See Annex 1 for a detailed assessment of Azerbaijan's prospects of meeting these MDG goals.

Access to and quality of health services also affects health outcomes in the country. For example, only half of the population utilizes health services when experiencing an illness, indicating that people either cannot or will not pay for poor-quality services. While decreased utilization of healthcare services due to high out-of-pocket payments may not, in the short term, significantly impact levels of morbidity and mortality resulting from non-communicable diseases, the impact may grow exponentially over time. Low utilization of healthcare services is and will continue to be the case for the poor, who at present are less healthy because they do not have the necessary financial resources to pay for health services (informal payments) and drugs. The poor also have less access to good nutrition (leading to malnutrition and micronutrient deficiencies), tend to live in more unsanitary and overcrowded conditions, and have less access to safe drinking water.

Another health condition, one often overlooked by health policymakers and practitioners alike, is the high incidence of mental illness as a cause of disability, with men affected twice as much as women. Since the early 1990s, the population of Azerbaijan has undergone significant stress as a result of the war with Armenia, economic transition, mass population displacement and high rates of poverty, all of which have played an important role in adversely affecting health outcomes.

The Societal Response

Although it is more than adequately endowed in terms of facilities and staff, the healthcare system in Azerbaijan has not been successful in achieving the societal goal of providing essential health services to the population, nor has it been able to respond to the evolving needs, preferences and aspirations of the Azeri people. Unfortunately, despite very large unmet preventive and curative healthcare needs in Azerbaijan, policymakers continue to rely on administrative data that indicate a population in generally good health and an adequately performing healthcare system. The need for reform has not, therefore, been widely acknowledged. Today, there is a general consensus that the Azeri health care system has, in fact, failed to reform Soviet-style centralized financing and normative allocation of human, physical and financial resources. Indeed, compared with other countries of the FSU, Azerbaijan is truly lagging behind in the modernization of its healthcare system.

The collapse of the Soviet Union and Azerbaijan's subsequent independence led to the obsolescence of existing healthcare governance, organization and financing models as a result of: (i) lack of enforceability of the previous system's hierarchy and regulatory framework, which constituted the backbone of a highly technocratic and normative organizational model, and (ii) disengagement of the state from its financial obligations to the healthcare system.

The response of the Ministry of Health (MOH) has been to consolidate new power, hitherto based in Moscow, and hold on to the Soviet healthcare system model as long as possible without major disruptions to system authority or hierarchy. Accordingly, MOH opted to make changes gradually and began reforming those subsectors and spheres of activity most

easily amenable to change, such as primary healthcare, dental care and pharmaceuticals. In addition, MOH has been reluctant to address the issues of excess capacity of healthcare providers and the informal payments adopted by these providers as a coping mechanism during the transition period.

The lack of proactive systemic reform by MOH has had deleterious effects on the volume, intensity, mix and quality of heathcare services. In addition, private spending by consumers was allowed to flourish at a time of economic hardship. As people paid more, but received less for their money, they became more dissatisfied and eventually lost confidence in the system's ability to provide adequate care to restore health.

Today, MOH continues to "steer" and "row," albeit with very little clout over major policy decisions, which theoretically fall within the competence of the President, the Cabinet of Ministers and its advisory units. The MOH's actual role and capacity to govern the system, make policies, regulate and control overall quality and gather the intelligence needed to monitor public heath is very limited. The ministry does not, for example, have a unit tasked with policymaking, nor does it have departments for monitoring and evaluation (M&E), human resources or long-term planning. This institutional weakness is compounded by a lack of pluralism in system governance. In other words, the system is plagued by the absence of an active purchaser of services, extremely weak representation of providers and consumers, and fragmentation of health investment and budget decisions (the latter fall under the responsibility of the Ministries of Economic Development and Finance).

As a result, the current system suffers from the following shortcomings:

- a legal and regulatory platform that is not conducive to effective system stewardship;
- fragmented accountability for technical, administrative and financial matters, leading to conflicts of interest, divided loyalties and inefficient resource allocation;
- excessive hospital and specialized care facilities;
- poorly funded and managed, as well as highly fragmented, primary healthcare services;
- a de-motivated health workforce that relies on informal payments to cope with low wages and a practice environment devoid of incentives to provide appropriate care; and,
- major inequalities in health and healthcare as a result of very low public outlays, coupled with increasingly high levels of out-of-pocket payments.

A Way Forward

This report makes a number of recommendations with a view to moving away 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 gatekeeping;
- a model that does not solve most health problems (referring them instead to higher levels) towards one where most problems are solved 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.

In order to reach the above objectives, the recommendations below are offered for the main elements of the healthcare system: stewardship, financing, organization and delivery structure, human resources, and pharmaceuticals.

Stewardship

The MOH should assume responsibility for health policymaking in Azerbaijan. This responsibility would require the ministry to redefine its vision, mission, mandate, roles and responsibilities, all of which would be presented in a White Paper. This paper would also outline Azerbaijan's health and healthcare policy and reform agenda and propose a road map for its implementation. The drafting of the paper would require: (i) re-activation of the Health Reform Commission, which would be placed in charge of drafting the White Paper; (ii) carrying out a consensus-building exercise among all stakeholders in the healthcare system; and, (iii) preparation of an implementation plan for reform, including the costing of necessary inputs (this crucial step is already envisaged in the upcoming PRSC, a goal to which the GoA has explicitly committed itself).

The preparation and the issuance of the White Paper should have the backing of the President and be supported by an interagency steering committee and technical groups. The array of options presented in the White Paper should be fed back to all stakeholders to build consensus on their specific content and, equally important, to facilitate agreement on the timing, sequencing and financing of reform elements. Following this process, five districts that demonstrate a high level of commitment to the reform process should be selected to pilot the reforms. It is critical to consider that implementation of reforms would likely require changes in laws and regulations, changes which would need to be prepared and put in place in advance of the reforms.

Finally, a public information campaign, preferably conducted through the media, should be developed and properly financed. The campaign should explain to the populations of the five pilot regions the main tenets of the reform, the nature and timetable of reform activities and emphasize those actions that are likely to produce tangible results in the short run (e.g.,

improved access to and quality of care, as well as reduced out-of-pocket expenses for essential services). Last but not least, collaboration with international partners throughout the process will be needed to secure their political, technical and financial support.

Financing

Increasing government spending on the health sector is an absolutely necessary first step, but must be accompanied by a major change in the way health resources are pooled and equitably allocated. There are several mechanisms that can be used to pool both public and private resources.

The simplest mechanism would be to agree on an allocation formula based on objective criteria such as demographic, epidemiologic, socioeconomic and other relevant factors that affect healthcare needs, demand and utilization. Further refinement could include adjustments for the cost of delivering care to more remote areas, with other important risk adjusters added over time.

Another option would be to create a single pooling entity that could enhance rationalization of resources by linking the budget to the healthcare needs of the population. This entity could be virtual, i.e., it could operate within the existing structure of the Ministry of Finance (MOF), or it could be established as a separate public entity in the form of a fund.

A third option would be to establish a Health Insurance Fund that would assume, among other responsibilities, the pooling function.

In order to introduce improvements in technical efficiency, cost-containment and quality of care, *performance-related payments to primary care providers need to be put in place.* Primary-care facilities could receive payment on a per capita basis, with the flexibility to generate savings that could be reallocated for pharmaceuticals and equipment. Such an approach could improve levels of equipment and supplies, as well as enhance national training programs for physicians and nurses. These changes would need to be combined with a more systematic approach towards monitoring user charges and wages in the public healthcare system.

Performance-related payments should also be introduced for hospitals. Gains in efficiency could be made by replacing current budgeting with payment mechanisms that reward hospitals for higher throughput while motivating a decrease in cost per case. Based on the experience of other countries, performance-based payments are best applied within a global budget. Lowering the average length of stay and staffing levels could lower the cost per case and result in overall cost savings, particularly if combined within a global budget.

Equity and access to basic healthcare can be addressed through revision and costing of a package of services. The provision of existing services should be re-assessed in terms of affordability, various scenarios of population coverage, the size and content of the service

package and the service mix. One option is to define an essential package that would be provided to the entire population free of charge and financed by general tax revenues. This package would include all primary and preventive care, plus public health interventions and some secondary and tertiary care. An expanded version of the package could include additional curative services that would require a financial contribution from the population, yet offered free of charge to the poorest. Again, the potential cost of expanded coverage should be realistically assessed to ensure that it is affordable.

A decision must be made as to whether the government will gradually assume full responsibility for financing all health services or limit its scope of responsibility to a basic service package, thus allowing for expansion of the health insurance market. Regardless of the government's decision, there must be a clear delineation between services covered by the government and those covered by health insurance. Ideally, the latter should not cover the same mix of services, but supplement the government package.

Organization and Delivery

A well-established, grassroots healthcare network exists in Azerbaijan under the name of Feldsher Ambulatory Points (FAP). This network should be upgraded, its service mix re-assessed, and the benefit package for feldshers and nurse/mid-wives revalued. In addition, the scope and quality of maternal and child healthcare services provided by FAPs need to be upgraded through additional training and investment in facilities, equipment and supplies. FAP staff can also be trained in outreach activities to work as change agents in information, education and communication (IEC), especially for health promotion.

The job description of the physician at doctor ambulatory centers (SVAs) also needs to be redefined 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 or family medicine. This change in job responsibilities would require retooling physicians through extensive training.

As for rural hospitals (SUBs), the proposed option would be to look into productivity indicators, such as the degree of concordance between the availability of facilities and service utilization. On the basis of this evidence, local decisions would be made on whether to maintain these facilities 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.

The number and bed distribution of central district hospitals needs to be re-evaluated in parallel with the rationalization of SUBs. *As part of the rationalization of facilities, there is a major need for reconfiguration, consolidation and, in some cases, downsizing.* Indeed, facilities that have separate buildings for maternity, infectious diseases, children's hospitals and/or wards and district polyclinics may have to be consolidated to improve physical access and economies of scale (in terms of maintenance and operating costs).

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There is a definite need to significantly reduce the number of specialized hospitals, dispensaries, sanatoria and "rest establishments." This reduction will require, however, a change of policy vis-à-vis their role in the healthcare system, to what extent their services should be covered out of the public budget in general and by MOH in particular, and which of their services could be integrated into the existing healthcare network.

Finally, the situation in Baku and Nakhchivan deserves separate analysis to better understand the demand side, more specifically, referral patterns and the origin and destination of patient flows. In the case of Baku, this would require setting up a special committee in charge of consolidating the vast hospital sector. As for Nakhchivan, the referral mechanism has to be rethought to ensure minimum referrals to Baku.

Human Resources

There is a need for a long-term human resources policy and planning to redress urban/rural imbalances and inequities in human resource distribution, particularly of specialist/family practitioners and across levels of care. The latter imbalance could be gradually resolved through the proposed program of post-graduate medical education. In addition, improvements in the pay scale of health workers could partially be addressed by optimizing current budgets so that posts that exceed requirements are removed without reducing the overall staff budget.

The incentive structure also needs to be realigned to link payments to productivity. A more dynamic retirement policy and strategy may be in order, such as severance payments for those who are reluctant to retire. Finally, overproduction of medical graduates could be curtailed by closing or imposing strict regulations and norms on the licensing of private universities.

Pharmaceuticals

Azerbaijan needs a comprehensive national drug policy, the objective of which would be to improve the population's access to high-quality, safe and effective drugs in accordance with the burden of disease and the priorities of the national health sector. Areas of emphasis include pricing of brand and generic drugs, an essential drug list and standard treatment protocols for most common diseases.

Proposed Reform Agenda: Phases and Sequencing

Three consecutive phases of reform of the healthcare system are suggested as stages of a gradual but comprehensive reform agenda.

Phase I would entail defining healthcare priorities and improving the day-to-day functioning of the system for enhanced access and quality of care. In this step,

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affordability would cease to be the major impediment that prevents people from seeking healthcare. This phase would involve the establishment of an essential package of clinical and public health interventions and build the mechanisms and tools to deliver them effectively. Effective delivery of this package will require a number of actions, including identification of the major causes of the existing disease burden; standardized diagnostic, treatment and referral protocols; costing of interventions, training and certification of primary care physicians and allied personnel; mechanisms for quality control and assurance, including the information management system; and the legal and regulatory basis to assign roles and responsibilities, together with the necessary financial and non-financial incentives for effective delivery. Phase I would focus almost entirely on primary healthcare, with changes to inpatient care limited to those needed to introduce effective delivery of the essential package.

Phase II would build on Phase I and would focus on improving allocative and technical efficiency, encompassing both inpatient and primary-level healthcare facilities and services. This would require major additional capital investments in hospital infrastructure and equipment with a view toward rationalizing inpatient care facilities. This additional investment would, in all likelihood, require a sharp reduction in the number of hospitals and/or beds on the basis of a nationwide mapping exercise. Such an exercise would follow a thorough assessment of inpatient and outpatient healthcare needs, together with the existing supply and utilization of beds and other inpatient services.

Phase III would be more systemic, encompassing all reforms undertaken under previous phases, and require a restructuring of the existing institutional framework. More concretely, MOH would revise its mandate and business processes and define its functions, roles and responsibilities within the new institutional framework. Accordingly, MOH would mainly become a policymaking, planning, regulating and monitoring agency without direct involvement in the financing or provision of curative services. However, MOH would maintain its responsibility for the provision of public health services, including disease prevention and health promotion (which would be provided at the reformed primary healthcare level).

In terms of financing, MOF, in coordination with MOH, should design a mechanism to allocate resources according to the needs-based formula described above. Ultimately, a separate fund could be established to pool resources and assume the purchasing function of healthcare services as a true Health Insurance Fund. However, this last step may not materialize until the tax base in Azerbaijan becomes broader, or people become more willing to make earmarked contributions to a fund. In any case, more research is needed on potential revenues and expenditures to determine the long-term fiscal sustainability of such a fund.

All phases presented above are implicitly sequenced, so that Phase II cannot be successfully implemented without first undertaking the necessary reform steps required under Phase I, and so on. One may, therefore, view Phase III as the long-term goal of comprehensive reform.

The proposed reform agenda is clearly ambitious in scope and timing. Given a willingness to reform, Azerbaijan can greatly benefit from the experiences and lessons learned in other countries where similar reforms have been implemented. The issue is whether the government has the capacity and/or the political will to follow through and deliver on these and other commitments in the health sector. Granted, some of the reform initiatives would depend largely on the availability of additional resources. Other initiatives would require difficult policy decisions, with implications for how the budget is allocated to improve efficiency, governance and utilization of available resources. To be successful, the goals of restructuring the healthcare system and strengthening public health in Azerbaijan must become central development objectives of the government. One indicator of this commitment would be the completion of the White Paper discussed earlier.

CHAPTER 1. HEALTH STATUS, HEALTHCARE NEEDS AND DETERMINANTS IN AZERBAIJAN

1.1 Introduction

Azerbaijan has undergone major political and socioeconomic changes since the breakup of the Soviet Union, including a dramatic economic downturn, a period of rampant inflation, war with Armenia over Nagorno-Karabakh, major population displacements and a deterioration of public utilities (e.g., gas, water and heating), as well as social and health services. Despite stabilization in recent years and an average annual growth rate of nearly 9 percent from 1997 to 2002, Azerbaijan today is one of the seven lowest-income countries in Europe and Central Asia, with a per capita gross domestic product (GDP) of US$1,022 in 2004.[5] According to the Household Budget Survey (HBS) of 2002, almost 46.7 percent of the 8.2 million people in Azerbaijan[6] were living below the national poverty line (i.e., consuming less than AZM 175,000 per capita per month) and 8.8 percent were living in extreme poverty (i.e., consuming less than AZM 125,000 per month).[7]

Despite the economic growth of recent years, poverty in Azerbaijan has had a substantially negative impact on the health of the population. People in the country perceive that there has been a clear deterioration of their livelihoods and of basic state services.[8] This chapter will review the current health status of the population and examine risks to and determinants of poor health outcomes in Azerbaijan. Based on this analysis, the chapter will outline issues that need to be addressed through a variety of public health policies and programs in order to improve public health.

1.2 Methodology

This chapter relies heavily on primary data collected by a number of surveys and/or compiled by the World Bank and U.N. agencies.[9] Where country-specific data was not

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[5] Ministry of Economic Development (MED) estimates, 2004.

[6] See Annex 2 for a demographic profile of Azerbaijan.

[7] *Azerbaijan Household Budget Survey*, State Statistical Committee (SSC), 2002.

[8] World Bank, *Azerbaijan Republic Poverty Assessment* (PA) (Washington, DC: World Bank, 2003).

[9] Specifically, these sources are: multiple reports of the State Statistical Committee of Azerbaijan; UNICEF, *Reproductive Health Survey 2001* (New York: UNICEF, 2003); UNICEF, MIC Survey; UNDP, *Human Development Report 2004* (New York; UNDP, 2004); WHO, *Atlas of Health in Europe,* 2003 (Geneva, Switzerland: WHO, 2003); WHO Regional Office for Europe, "Health for All" database and *World Health Report* (Geneva, Switzerland: WHO, 2003); WHO, *The European Health Report* (Geneva, Switzerland: WHO, 2002) ; OECD, "Health Data" database, 2004; Population Reference Bureau (PRB), *Reproductive Health Trends in Eastern Europe and Eurasia* (Washington, DC: PRB, 2004); USAID, "Primary Health Care Assessment: Azerbaijan," (Washington, DC: USAID, 2005); J. Figueras et al., "Health Systems in Transition: Learning From Experience," chapter 1 in *Ten Years of Health Systems Transition in CEE and NIS,* (Copenhagen, Denmark: European Observatory on Health Systems and Policies, 2004), http://www.euro.who.int/observatory/studies/20020911_1; J. Holley, O. Akhundov, and E. Nolte, "Health Care

available, approximations were made using regional and/or sub-regional data, especially in the calculation of risk factors. Large discrepancies exist between official data and data from international sources, including survey data and estimates based on modeling. For some indicators, this can partly be explained by the use of different definitions and the manner in which data was collected. However, the discrepancy is also attributable to the fact that official statistics are compiled from administrative data collected from government medical facilities. These facilities do not necessarily gather data on people who do *not* use public facilities and services for a myriad of reasons, making this data applicable only to the subset of the population that use these facilities regularly. For the purposes of this chapter, official statistics are used for comparison whenever possible to highlight differences in the data.

This chapter first describes the heath status of the population by age group, using comparisons to similar indicators from other countries of the FSU, Turkey and the EU-15.[10] It then explores health risk factors and determinants in Azerbaijan using the conceptual groupings of lifestyle, environment, human biology and healthcare organization. The chapter concludes with a brief discussion of unmet health needs, followed by recommendations on intra- and multi-sectoral interventions.

1.3   Health Status in Azerbaijan

The health status of people in Azerbaijan has deteriorated significantly in the past decade. Even during the Soviet period, health outcomes in Azerbaijan were lower than those in Western European countries. However, starting in the mid-1980s, the health status of the population in the country (as in all former Soviet republics) began to stagnate and by the early 1990s, deteriorated sharply. Despite the existence of clear health challenges, official data of the Azerbaijan government shows that health indicators have improved since the mid-1990s and are mostly better than those of many countries with similar per capita incomes. This finding is not, however, supported by other available sources (e.g., surveys and modeling estimates), as seen in the different data sets for life expectancy as shown in Table 1.1 below.

Table 1.1 Life Expectancy at Birth in Azerbaijan, 1990–2002: Two Data Sets

	1990	1995	1996	1997	1998	1999	2000	2001	2002
Official statistics (a)									
Male	67.0	65.2	66.3	67.4	67.9	68.1	68.6	68.6	69.4
Female	74.8	72.9	73.8	74.6	75.0	75.1	75.1	75.2	75.0
Total	**70.9**	**69.05**	**70.05**	**71.0**	**71.5**	**71.6**	**71.9**	**71.9**	**72.2**
World Bank estimates (b)									
Male	67.0	65.2	--	63.8	--	--	61.7	--	61.8
Female	74.8	72.9	--	71.3	--	--	68.9	--	68.3
Total	**70.9**	**69.05**	**--**	**67.55**	**--**	**--**	**65.3**	**--**	**65.1**

Sources: (a) Azerbaijan State Statistical Committee (SSC), "Population of Azerbaijan," *Statistical Bulletin* (Baku: SSC, 2003); (b) World Bank, World Development Indicators (WDI) database, 2003.

While official statistics show that average life expectancy was relatively stable and actually increased by 1 year from 1990 to 2002, according to WDI data, life expectancy has fallen almost 6 years since 1990. If one looks at comparative regional figures using WDI data, average life expectancy in Azerbaijan is one of the lowest in the region—13 years lower than the EU-15 average (see Table 1.2). It is striking that Azerbaijan, together with Kazakhstan, ranks highest in terms of the number of years of life expectancy lost since 1990. Meanwhile, the average gain in life expectancy among EU-15 countries, Turkey, Armenia and Albania was 2 years over the same period.

Table 1.2 Average Life Expectancy at Birth in Selected Countries, Selected Years

	1990	1995	1997	2000	2002
Kazakhstan	68	65	64	64	62
Azerbaijan	**71**	**69**	**68**	**65**	**65**
Kyrgyz Republic	68	66	67	66	65
Turkmenistan	66	66	66	65	65
Tajikistan	69	68	68	67	67
Uzbekistan	69	69	69	68	67
Turkey	66	68	69	70	70
Georgia	72	73	73	73	73
Albania	72	71	72	74	74
Armenia	72	72	74	74	75
EU-15	**76**	**76.8**	**77.2**	**77.7**	**78.0**

Source: World Bank, WDI, 2003.

While life expectancy is not a fully valid indicator for assessing the health status of a given population because it does not consider the number of years lived in less-than-full health, the indicator is nevertheless widely used for comparative purposes. As the data in Table 1.2 demonstrates, a large health gap exists not only between Azerbaijan and the countries of Western Europe, but between Azerbaijan and some of the poorest Central and Eastern European (CEE) countries, such as Albania.

1.3.1 Adult Health

Premature death of adults is one of the major causes of low life expectancy in Azerbaijan.
Analysis of mortality trends based on official statistics shows that 43 percent of the increase in the number of deaths in the period 1990–2002 was due to deaths in the 35–65 age group. Ninety percent of these deaths actually occurred between the ages of 35 and 50.[11] In other words, premature deaths among adults under 65 is a major concern, accounting for roughly 68 percent of all deaths in Azerbaijan, compared to roughly 51 percent in EU-15 countries. Also, excessive male mortality is a particular concern, as seen in the female-to-male ratio in Table 1.3 below. Premature male mortality is more than twice premature female mortality (0.46 ratio), whereas in EU-15 countries, male mortality only slightly exceeds female mortality (0.91 ratio). In fact, if current death rates remain constant, 23 percent of Azeri males who are 15 years old today would be unlikely to reach age 60. In EU-15 countries, the respective figure is 11.7 percent.

**Table 1.3 Probability of Dying and Deaths from All Causes
in Selected Countries, 2002**

	Probability of dying between ages 15 and 60 (%)		*Deaths from all Causes, 0–64 Years (per 100,000 population)*		
	Males	*Females*	*Males*	*Females*	*Female/Male ratio*
Kazakhstan	42.1	19.5	703.9	250	0.36
Turkmenistan	36.9	19.3	629.7	183	0.29
Kyrgyz Republic	34.5	16.3	570.9	216	0.38
Tajikistan	28.3	17.2	406.5	146	0.36
Uzbekistan	24.3	15.2	474.9	165	0.35
Azerbaijan	**23.1**	**12.2**	**391.8**	**181**	**0.46**
Georgia	20.7	8.6	319.4	245	0.77
Armenia	20.4	9.8	299.4	203	0.68
Turkey	17.7	11.2	-	-	-
Albania	16.7	9.4	234.7	186	0.79
EU-15	**11.7**	**6.0**	**217**	**197**	**0.91**

Sources: WHO, *World Health Report,* 2003, and *Atlas of Health in Europe,* 2003.

1.3.2 Non-communicable Diseases

Non-communicable diseases (NCDs) are the major cause of mortality among adults in Azerbaijan. Circulatory diseases, cancers, respiratory and digestive diseases, as well as diseases of the nervous system, account for about 85 percent of total deaths (see Table 1.4), although one would have expected maternal mortality as one of the main causes of death in women.

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[11] SSC, "Population of Azerbaijan," 2003.

Table 1.4 Mortality by Cause of Death per 100,000 population, 2002

	Total deaths by all causes	Diseases of the circulatory system	Neoplasms	Diseases of the respiratory system	Diseases of the digestive system	Accidents, poisoning and injuries	Diseases of the nervous system
Women	538.9	327.7	63.1	35.1	32.8	10.9	n/a
Men	618.2	330.7	82.9	44.4	36.2	36.0	n/a
Average	578.5	329.2	73.0	39.7	34.5	23.4	10.1
%	100%	57%	13%	7%	6%	4%	2%

Source: SSC, "Women and Men in Azerbaijan," 2003 (2002 data).

Official statistics also reveal a gender difference in the incidence of cancer. Men suffer disproportionately from cancers of the stomach, larynx, trachea, bronchial tubes and lungs, bladder, bone and lymphatic tissue. Among women, the incidence of breast cancer is highest among all cancers, followed by cervical, ovarian and uterine cancers. While diseases of the circulatory system are the main cause of mortality for both men and women, Table 1.5 reveals that respiratory diseases account for the majority of morbidity in Azerbaijan, responsible for 46 percent of all cases.

Table 1.5 Morbidity by Main Disease Groups per 10,000 population, 2002

Total deaths by all causes	Diseases of the circulatory system	Neoplasms	Diseases of the respiratory system	Diseases of the digestive system	Accidents, poisoning and injuries	Diseases of the nervous system
1,681.7	127	9.1	766.5	103.7	141.1	55.4
100%	8%	1%	46%	6%	8%	3%

Source: "Health Care," SSC, 2003 (2002 data).

What both tables also show is that accidents, injuries and poisoning are another important cause of mortality (4 percent) and morbidity (8 percent), with men being three times more affected than women. As Table 1.6 shows, road traffic accidents in Azerbaijan caused more deaths per accident than in most comparator countries. The ratio of deaths to accidents is 52 times higher for Azerbaijan than the EU-15 average.

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Table 1.6 Motor Vehicle Traffic Accidents and Deaths in Selected Countries, per 100,000 population (2003)

	Deaths	*Accidents*	*Ratio (deaths/accidents)*
Kazakhstan	123	76	1.62
Turkmenistan	205	34	6.03
Kyrgyz Republic	152	55	2.76
Tajikistan	100	24	4.17
Uzbekistan	155	49	3.16
Azerbaijan	**196**	**25**	**7.84**
Georgia	101	38	2.66
Armenia	217	25	8.68
Albania	122	14	8.71
EU-15	**46.2**	**299**	**0.15**

Source: WHO, *Atlas of Health in Europe*, 2003.

1.3.3 Re-emergence of Infectious and Parasitic Diseases

Communicable diseases, particularly TB, continue to be a health threat in the country. While non-communicable diseases, accidents, injuries and poisonings represent most of the disease burden in Azerbaijan, communicable diseases—which were decreasing in the late 1980s—re-emerged in the mid-1990s, including tuberculosis (TB), sexually transmitted illnesses (STIs), malaria, diphtheria and new diseases such as HIV/AIDS. This trend is consistent with experience of other FSU countries since 1990. According to official statistics, deaths from infectious diseases in 2002 accounted for 3 percent of total deaths, with men three times more affected than women.[12]

As Figure 1.1 shows, official statistics indicate that there has been a reduction in mortality due to communicable diseases since the late-1990s. The reduction has brought this type of mortality to a level slightly below that of 1990, but still 2.5 times higher than that of Western European countries. This reported reduction may be explained by the diphtheria outbreak that occurred in 1995, when deaths from infectious diseases peaked. However, when one examines major diseases such as TB, gonorrhea, syphilis and malaria, rates of infection have been steady and/or have actually increased. Also, the officially reported incidence of acute intestinal infections, salmonella, scarlet fever and measles has been steadily high and/or has increased.[13]

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[12] SSC, "Women and Men in Azerbaijan," 2003 (2002 data).
[13] SSC, "Health Care," 2003.

**Figure 1.1 Death Rates in Azerbaijan and the EU-15 from Infectious and Parasitic Diseases,
All Ages, per 100,000 population (1970–2002)**
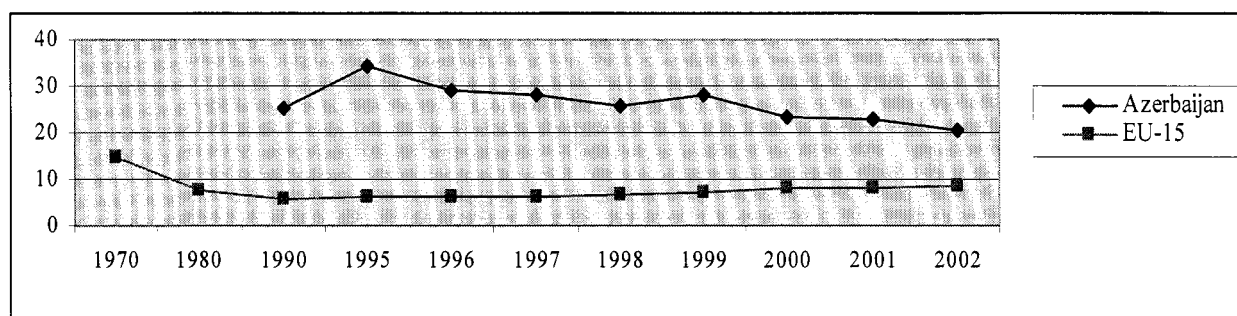
Source: WHO, "Health for All" database, updated January 2005.

The incidence of TB has almost doubled since 1990 and is now six times higher than the EU-15 average. While not as high as that of Kazakhstan and the Kyrgyz Republic, the incidence of TB continues to grow in Azerbaijan, although the true scale of the problem is likely greater than that shown in Table 1.7.

**Table 1.7 TB Incidence in Selected Countries per 100,000 population,
Selected Years**

	1990	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*
Kazakhstan	65	67	85	108	136	167	173	176	185	180
Kyrgyz Republic	52	75	90	116	122	131	126	135	133	140
Uzbekistan	46	43	51	56	60	62	63	69	81	80
Turkmenistan	63	44	47	74	81	93	90	81	74	94
Azerbaijan	**37**	**44**	**66**	**61**	**59**	**58**	**64**	**60**	**62**	**82**
Tajikistan	46	35	28	36	41	42	44	55	62	64
Armenia	17	21	24	27	36	39	35	36	44	47
Turkey	43	37	34	40	34	33	26	25	25	26
Albania	19	20	21	19	20	21	19	18	19	17
EU-15	15	14	14	13	13	12	11	10	10	8

Source: WHO, "Health for All" database, 2005.

For example, according to the WHO Global TB Control Report, there were an estimated 109 prevalent cases per 100,000 population in 2003, with a case fatality rate of 14 percent (24 percent among HIV positives, although less than 1 percent of adult TB cases were attributable to HIV in 2000).[14] In terms of gender, the number of TB infections is three times higher for men (3,780 registered cases) than women (1,320 registered cases).[15] In addition, multi-drug resistant tuberculosis (MDR-TB) has been identified as a substantial problem in

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[14] WHO, *Report on Global TB Control* (Geneva, Switzerland: WHO, 2004). Also see Corbett et al., "Global Burden of Tuberculosis: Global Trends and Interactions with the HIV Epidemic," *Archives of Internal Medicine*, no. 163 (2003):1009–21.

[15] Government of Azerbaijan (GoA), "State Program on Poverty Reduction and Economic Development (SPPRED)" (Baku: GoA, 2003).

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the prison population and has even been observed in the civilian population.[16] If HIV becomes more prevalent in Azerbaijan, the current increase in TB and drug resistance could become significantly worse.

Table 1.8 Tuberculosis Incidence, Prevalence and Mortality in Selected Countries, per 100,000 population

	TB incidence	_TB prevalence_	_TB deaths_		_TB case fatality rate (%)_	
	All cases	_All forms_	_All_	_% attributable to HIV_	_HIV Negative_	_HIV positive_
Albania	27	41	5.1	0.1	19	33
Armenia	77	106	12.8	1.1	17	31
Azerbaijan	**82**	**109**	**11.0**	**0.1**	**14**	**24**
Bulgaria	48	60	6.4	0.0	13	20
Georgia	85	99	14.0	0.0	17	21
Kazakhstan	146	150	18.0	0.3	13	17
Kyrgyz Republic	142	164	21.0	0.0	15	19
Republic of Moldova	154	233	22.0	1.9	14	30
Russian Federation	126	183	23.0	5.8	18	32
Turkey	32	50	5.0	0.0	17	29
Turkmenistan	94	125	14.0	0.0	15	23
Ukraine	95	145	14.3	7.4	14	30
Uzbekistan	101	134	13.5	0.0	13	21

Source: WHO, _WHO Report on Global TB Control_, 2004.

Plasmodium vivax malaria in Azerbaijan has had a long history of endemicity. While almost totally eradicated by a successful campaign in the mid-1970s, the country experienced two large malaria epidemics in the late 1970s and 1980s as a result of diminished control efforts. The situation deteriorated during the 1990s, reaching a peak of 13,135 cases in 1996—the result of war, large-scale population movements, agricultural practices and other socioeconomic factors. The reported number of indigenous malaria cases was eventually reduced to 505 in 2002. Nonetheless, the country remains vulnerable to malaria outbreaks. According to WHO, 80 percent of Azerbaijan is considered a malaria-endemic zone, where transmission is seasonal between May and October. This reality requires multi-sectoral collaboration (especially with regard to agricultural practices and irrigation), in addition to more traditional control measures such as indoor residual spraying, biological control and environmental management.

The officially reported incidence of syphilis, considered a good indicator of trends among all STIs, more than tripled from 1990 to 1997, from 2.68 to 9.51 per 100,000 population. The incidence rate seemed to decline to 2.94 per 100,000 by 2002. This low number is, however, likely the result of under-reporting. The real number is probably substantially higher, particularly when one compares these statistics with those reported for other countries in the

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[16] Harvard Medical School/Open Society Institute, _Review of Tuberculosis Control Programs in Eastern and Central Europe and FSU_ (Boston: Harvard Medical School, 2001).

region. For example, the 2.94 figure is three times lower than the officially reported data for the same period in the Czech Republic; 10 times lower than that reported in Georgia, Latvia, Lithuania, Uzbekistan and Estonia; and 20 times lower than that reported in Turkmenistan.[17] Figures for new cases of viral hepatitis B also show similar discrepancies when compared to numbers reported in other countries of Eastern Europe and the FSU. Syphilis and chlamydia prevalence rates among female sex workers (FSW) were, moreover, 9 percent and 63 percent, respectively.[18]

Meanwhile, the reported incidence of HIV/AIDS has increased dramatically, from 0.04 new infections per 100,000 population in 1996 to 1.41 in 2003 (a thirty-five-fold increase).[19] However, the prevalence rate is still very low (less than 0.1 percent), given that the total officially reported number of persons infected with HIV/AIDS was roughly 700 (USAID estimated the number at more than 1,400 cases in 2004, with low and high estimates of 500 to 2,800, respectively).[20] According to UNAIDS, there were 596 registered cases of HIV/AIDS as of January 2004, a number that included 22 foreign nationals. Of this total, 45 percent had been infected abroad, mainly in Russia and Ukraine. The male-to-female ratio of registered cases is 4:1. Except for pregnant women prior to delivery, mandatory testing for HIV is not mandatory. Voluntary testing and counseling (VCT) remain very limited, with about 2.3 percent of the total population tested in 2003.

Injecting drug use is the predominant mode of transmission of HIV/AIDS in Azerbaijan (63 percent of all reported cases). A WHO supported survey implemented in 2003 showed that 19.5 percent of injecting drug users (IDUs) in Lenkoran and 13.5 percent in Baku were infected with HIV. HIV prevalence among FSWs is estimated to be around 8.5 percent.[21] Data from the 2000 MIC Survey indicates that the risk of HIV transmission is very high, given the general lack of knowledge about STI/HIV/AIDS (only 72 percent of women had ever heard of AIDS, a number that fell to 56 percent in rural areas and 50 percent among poor women). In addition, almost no sexually experienced woman ever uses a condom during intercourse and only 36 percent of young adults aged 15–24 use any type of contraception. Indeed, in 2000, only 2 percent of young women aged 15–24 could correctly identify two ways of preventing the sexual transmission of HIV or correctly reject three misconceptions about its transmission.[22]

1.3.4 Nutritional Status of Adults

The proportion of the population that is overweight and obese is on the rise. The 2002 Household Budget Survey (HBS) collected information on adult nutritional status in the country. As Table 1.9 shows, the nutritional status of the adult population in 2001 reveals

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[17] WHO, *Atlas of Health in Europe*, 2003. (2000 and 2001 data).
[18] UNAIDS/WHO, "Epidemiological Fact Sheet", 2004.
[19] WHO, "Health for All" database, 2005.
[20] USAID, "Primary Health Care Assessment," 2005.
[21] UNAIDS/WHO, "Epidemiological Fact Sheet, Azerbaijan 2004 Update" 2004.
[22] UNICEF, MIC Survey.

that about 10 percent of the adult population is malnourished, while only 2.3 percent is obese. However, the proportion of pre-obese or overweight adults is 18.6 percent, higher than the average rate of 12.1 percent for European and Central Asian countries. Overweight and obesity rates can be attributed to diet and inadequate physical activity; being overweight is also known to be a precursor of obesity. Obesity can, in turn, lead to diseases such as diabetes, hypertension and cardiovascular disease, all of which pose a serious public health problem.

Table 1.9 Nutritional Status of Adults by Consumption Quintile, 2001

	Consumption Quintile					*Total*
	1	*2*	*3*	*4*	*5*	
Malnourished	11.05	10.70	10.21	10.54	8.82	10.26
Normal	69.96	69.42	70.48	68.80	65.49	68.83
Pre-obese	17.06	17.62	17.35	18.15	22.73	18.59
Obese	1.92	2.25	1.95	2.51	2.95	2.32
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Bank, *Azerbaijan Republic Poverty Assessment*, Main Report, Vol. II, Report No. 24890-AZ (Washington, DC: World Bank, 2003).

1.3.5 Maternal Health

If current trends are not reversed, a three-quarters reduction in the maternal mortality ratio, a key MDG goal, is unlikely to be achieved by 2015. During the 1990s, Azerbaijan experienced a dramatic increase in maternal mortality.[23] Official data suggest that the maternal mortality ratio (MMR) first increased more than fourfold (from 9.3 deaths per 100,000 live births in 1990 to 43.8 deaths per 100,000 live births in 1994), then generally remained at this level until 2002, when it declined to 19.9.[24] However, evidence suggests that these official figures underestimate MMR because an increasing number of women in Azerbaijan give birth outside medical facilities; deaths that occur due to post-partum complications at home are not usually recorded as maternal mortalities.

According to the UNICEF MIC Survey conducted in 2000, MMR was estimated at 79 deaths per 100,000 live births for 1988. World Bank WDI data suggests that MMR was 94 deaths per 100,000 live births in 2000. Table 1.10 below provides country comparisons based on adjustments made to officially reported MMR figures to account for under-reporting and misclassification. Based on these estimates, Azerbaijan has an MMR substantially above most comparator countries and 10 times greater than the EU-15 average. It ranks fourth behind three Central Asian countries, where MMR has reached levels observed in some countries of South Asia and sub-Saharan Africa.

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[23] The WHO defines maternal mortality as: "[the] death of a woman while pregnant or within 42 days of the end of pregnancy from any cause related to or aggravated by the pregnancy or its management."

[24] SSC, "Population in Azerbaijan," 2003.

Table 1.10 Maternal Mortality Ratio (adjusted) in Selected Countries, per 100,000 Live Births, 2000

Country	Adjusted MMR
Kazakhstan	210
Kyrgyz Republic	110
Tajikistan	100
Azerbaijan	**94**
Turkey	70
Albania	55
Armenia	55
Georgia	32
Turkmenistan	31
Uzbekistan	24
EU-15	**9.1**

Source: UNDP, *Human Development Report,* 2004; World Bank, WDI, 2004.

A major cause of maternal deaths during delivery is acute hemorrhage, the consequences of which are further exacerbated by the high prevalence of anemia in pregnant women. According to official statistics, anemia accounts for roughly 60 percent of all morbidity in pregnant women. The percentage of pregnant women at term who had anemia, for example, increased from 5 percent in 1989 to 19 percent in 2001.[25] Survey data also suggest that 38 percent of all pregnant women and 40 percent of women with children suffer from anemia.[26] Chronic or recurrent anemia among women is linked to malnutrition and/or iron deficiency, often compounded by frequent pregnancy and repeated abortions.

Another likely factor contributing to maternal deaths is the high percentage of births at home not managed by a skilled attendant. Skilled attendance at birth is a critical factor in reducing the risk of maternal mortality during birth. According to survey data, one in four deliveries take place outside medical facilities; the proportion is 36 percent in rural areas. Overall, 87.5 percent of deliveries are attended by skilled personnel (95 percent in urban areas and 82 percent in rural areas), of which only 69.4 percent are attended by a physician (86 percent urban, 56.5 percent rural), 11.3 percent by a nurse, 6.8 percent by a midwife and 5.8 percent by a traditional attendant.[27] However, according to the Reproductive Health (RH) Survey conducted by UNICEF in 2001, prenatal care is of poor quality, with 81 percent of women reporting that they had received inadequate care. This shortcoming is compounded by the fact that only 72 percent of women surveyed actually received antenatal services (85 percent urban, 63 percent rural), which are critical for identifying high-risk pregnancies.[28]

The high level of abortions also contributes to maternal mortality. According to official statistics, abortions account for roughly 12 percent of maternal deaths. These deaths are caused by both postpartum complications and abortions performed outside medical facilities. Although there has been a reported reduction in the number of abortions from 1989 to 2001

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[25] GoA, SPPRED, 2003; and SSC, "Men and Women in Azerbaijan," 2003 (data for 2000–2002).
[26] UNICEF, RH Survey.
[27] UNICEF, MIC Survey.
[28] UNICEF, RH Survey.

(from 39,022 to 18,361, respectively),[29] survey data show that the lifetime abortion rate has actually increased in Azerbaijan, rising from 2.3 abortions per woman in the period 1993–1995 to 2.9 in the period 1999–2001.[30] The discrepancy between official and survey-based data can be attributed to a number of factors, including under-reporting of abortions performed in the private sector, problems with registration data in state medical facilities and the fact that 3 percent of all abortions are performed completely outside of clinical settings.

Survey data suggest that abortion is the most common form of birth control in the country. A woman of reproductive age has, on average, 3.2 abortions during her lifetime (3.4 in rural areas, 2.8 in urban), although official data puts this figure at 0.3. The abortion rate derived from survey data is 1.8 times higher than the officially reported fertility rate of 1.8 in 2001.[31] As Table 1.11 shows, the abortion rate in Azerbaijan is the second-highest in the region, based on surveys carried out in the countries cited there. This correlates with the results of a small sample survey of Relief International in 2001 (cited in HR Survey) which showed that 75 percent of sexually active women reported at least 1 induced abortion over a lifetime. The data is also consistent with the fact that roughly 57 percent of all pregnancies in Azerbaijan are unintended (9 percent mistimed, 48 percent unwanted).[32] In fact, 70 percent of all women polled in the survey said they did not want any or any additional children.

Table 1.11 Number of Abortions per Woman in Selected Countries

Country	Abortion rate
Georgia	3.7
Azerbaijan	**3.2**
Armenia	2.6
Russia	2.3
Romania	2.2
Ukraine	1.6
Kyrgyz Republic	1.5
Kazakhstan	1.4
Moldova	1.3
Turkmenistan	0.8
Uzbekistan	0.6

Source: Population Reference Bureau, 2003.

1.3.6   Child Health

A two-thirds reduction in the under-five mortality rate, another key MDG goal, is unlikely to be achieved by 2015 if current trends are not reversed. Given the high maternal mortality rate described above, it is not surprising that the infant mortality rate (IMR) is also

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[29] GoA, SRPRED, 2003.
[30] PRB, "Reproductive Health Trends," 2003.
[31] GoA, SRPRED, 2003.
[32] UNICEF, RH Survey.

very high in Azerbaijan. While official statistics report that IMR has been declining since the 1990s, reaching 12.5/1,000 live births in 2001, survey data report rates that are 6 times higher. The UNICEF RH Survey, for example, calculated that the neonatal mortality rate (0–27 days) was 38/1,000 and the post-neonatal mortality rate (28–364 days) was 43/1,000, for a combined IMR of 81/1,000. The RH Survey also found that stillbirths accounted for 21.2/1,000 live births. Table 1.12 below compares official data with WDI data (based on adjusted estimates) for Azerbaijan and other regional countries. According to the WDI data, the IMR of Azerbaijan is highest after that of Tajikistan and 16 times higher than that of the EU-15 countries.

Table 1.12 Infant Mortality per 1,000 Live Births,
Selected Countries and Years

	1990	1995	2000	2001	2002
Official statistics (a)	**23**	**23.3**	**12.8**	**12.5**	**12.8**
WDI estimates (b)					
Tajikistan	98	95	92		90
Azerbaijan	**84**	**81**	**78**		**76**
Turkmenistan	78	75	71		70
Kazakhstan	41	52	71		76
Kyrgyz Republic	69	61	53		52
Uzbekistan	55	56	55		55
Turkey	64	50	38		35
Armenia	49	41	32		30
Albania	36	29	24		22
EU-15 average	**8.1**	**6.0**	**5.1**		**4.6**

Sources: (a) GoA, SPPRED, 2003; (b) World Bank, WDI, 2003.

The reasons for the staggering discrepancies between survey and official data are: (i) incomplete reporting and registration of infant live births and deaths, and (ii) differences in how a live birth is defined. With respect to reporting, the underestimation of IMR may be attributed to the fact that medical facilities may misclassify premature babies as miscarriages and early neonatal births as stillborns because IMR is used to evaluate their performance. On the other hand, data collected from registry bureaus that issue death certificates may not accurately reflect all infant deaths because infants who die before having a birth certificate may not be registered. Also, infant deaths (also maternal deaths) that occur at home may not always be reported or registered. The second reason for the discrepancy in data is the difference between WHO and Soviet definitions of live birth. The latter definition was used in Azerbaijan until 2001. Whereas the WHO definition includes any infant born alive, according to the Soviet definition, premature and low–birth-weight infants who died within 7 days of birth were not counted. Given that roughly 50 percent of total infant mortality occurs within the first week, it is easy to see how this difference in definition contributed to a substantial reporting difference.

With respect to the Under-five Mortality Rate (U5MR), an MDG goal, official statistics similarly report a decline since 1990, with U5MR reaching 24.8/1,000 live births in 2000. MIC Survey data, however, revealed a U5MR of 102/1000 in 2000 and the RH Survey of

2001 reported a figure of 92.2/1,000. These figures are closer to those reported by the World Development Indicators. The high U5MR rate appears consistent with the high IMR rate, which is responsible for a substantial percentage of total U5MR. As with IMR, Table 1.13 shows that the U5MR of Azerbaijan ranks highest after Tajikistan, and is 18 times higher than that of the EU-15 countries.

Table 1.13 Under-Five Mortality Rate, per 1,000 Live Births, Selected Countries and Years

	1990	1995	2000	2001	2002
Official statistics (a)	**40.5**	**43.2**	**25.9**	**24.8**	**23.1**
WDI estimates (b)					
Tajikistan	127	122	117		116
Azerbaijan	**106**	**102**	**97**		**96**
Turkmenistan	98	93	88		86
Kazakhstan	52	69	98		99
Kyrgyz Republic	83	72	63		61
Uzbekistan	65	66	66		65
Turkey	78	60	45		41
Armenia	60	49	37		35
Albania	42	33	26		24
EU-15	**9.3**	**6.9**	**5.6**		**5.3**

Sources: (a), GoA, SRPRED, 2003; (b) World Bank, WDI, 2003.

It is worth noting that both IMR and U5MR in Azerbaijan were 50 percent higher in rural than urban areas, with poor households at substantially higher risk. The mother's level of education was also an important factor, with mortality rates twice as high for infants and children whose mothers only had a secondary or high-school diploma.[33]

Overall, acute respiratory infections, dehydration caused by diarrhea and neonatal conditions are the main causes of mortality in infants and young children (see Table 1.14). The major causes of morbidity among infants are respiratory illnesses; diseases of the nervous system; infectious and parasitic diseases; stomach, digestive and intestinal disorders; diseases of the urogenital system; injuries and poisoning.[34] MIC Survey data from 2000 suggest alarming rates of diarrhea, particularly among internally displaced children, with 22 percent of all children under five suffering from diarrhea within the two years immediately preceding the survey. This finding correlates with the fact that roughly 25 percent of population has no access to safe drinking water, a number that reaches 42 percent in rural areas.[35]

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[33] UNICEF, MIC Survey.
[34] SSC, "Health Care," 2003.
[35] UNICEF, MIC Survey.

Table 1.14 Main Causes of Mortality among Children under 1 Year, 2003

Cause of mortality	Actual number	Percentage of total
Total deaths by all causes, per 10,000 live births	128.4	100%
Diseases of the respiratory system	62.0	48%
Conditions originating during perinatal period	24.2	19%
Infectious and parasitic diseases	14.8	12%
Diseases of the nervous system	9.4	7%
Congenital anomolies	10.1	8%
Accidents, poisoning and injuries	1.0	1%

Source: SSC, "Population of Azerbaijan," 2003.

According to official statistics, the immunization of children against measles, poliomyelitis, TB and DPT (diphtheria, pertussis and tetanus) has reportedly reached the 95–98 percent level, while the MIC Survey found that roughly 85 percent of children were immunized. However, evidence suggests that there are cold-chain problems due to lack of and/or poorly maintained equipment, as well as unreliable electricity supplies that may render vaccines ineffective.[36] In fact, the incidence of measles in 2002 was found to have more than doubled since the previous year and was six times higher than in 2000.[37]

Malnutrition in Children

Poor nutrition and micronutrient deficiencies also pose a serious health problem for children in Azerbaijan and have a long-term impact on their overall health in adult life. Micronutrient deficiencies can significantly affect children's height, size and the proper functioning of their immune system, causing long-term implications for development. The more commonly known micronutrient deficiencies are iron deficiency (observable through episodes of anemia, iodine deficiency, and acute cases as goiter) and Vitamin A deficiency, which is normally associated with blindness.

The prevalence of anemia among newborns ranges between 40 and 52 percent for children under five years old. The RH Survey found that the rate of anemia was 32 percent in children aged 12–59 months. The rate of anemia was as high as 57 percent for children aged 12–23 months. The prevalence of iodine deficiency among school-age children ranges between 20 and 29 percent.[38] Very high levels of iodine deficiency are consistent with the fact that only 41 percent of all households have adequately iodized salt.[39] In terms of children with vitamin A deficiency, the 2004 World Food Program survey found that 23 percent of children under six had this deficiency.[40]

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[36] World Bank, *Azerbaijan Republic Poverty Assessment* (PA), 2003.
[37] SSC, "Health in Azerbaijan," 2003.
[38] World Bank, "Prospects for Improving the Nutrition Situation in Eastern Europe and Central Asia," World Bank, Washington, DC, 2002.
[39] UNICEF, MIC Survey.
[40] World Food Program, "Food Security and Nutrition Survey," 2004.

Because of the high rates of micronutrient deficiencies among pregnant women, the prevalence of low–birth-weight (LBW) babies is also high in Azerbaijan. The RH Survey of 2001 found that LBW babies accounted for roughly 12 percent of all births. The UNDP Human Development Report of 2004 cites a comparable figure of 11 percent. As Table 1.15 shows, Azerbaijan has one of the highest LBW rates compared to other countries of the FSU, Turkey and the EU-15.

Table 1.15 Prevalence of Babies Born with Low Birth Weight
(<2500 grams), Selected Countries, 2004

Country	% Prevalence (LBW)
Albania	3
Georgia	6
Turkmenistan	6
Armenia	7
Uzbekistan	7
Kyrgyz Republic	7
Kazakhstan	8
Azerbaijan	**11**
Tajikistan	15
Turkey	16
EU-15	**6.5**

Sources: UNDP, HDR, 2004; UNICEF, *State of the World's Children*, 2004.

In terms of nutrition among children under age five, the MIC Survey found high levels of (i) stunting, as expressed by the ratio of height-for-age (H/A), which measures the slowing of skeletal growth (chronic malnutrition); (ii) wasting, as measured in terms of weight-for-height (W/H), which reflects the loss of both tissue and fat in the body (acute malnutrition); and (iii) underweight children, as measured by weight-for-age (W/A), a composite measure for both wasting and stunting (general malnutrition). The prevalence of stunting among children under five was found to be 19.6 percent, with 7.2 percent severely stunted. About 16.8 percent of children in this age group were underweight, with 4.3 percent severely underweight, 7.9 percent wasted, and roughly 1.9 percent severely wasted.[41] The prevalence of underweight and stunted children is greater in rural than urban areas by roughly 20 percent and is strongly correlated with the level of household wealth.

1.4. Health Risks and Determinants

The previous section outlined the level and distribution of diseases, injuries and conditions that currently prevail in Azerbaijan. However, focusing on data and information on morbidity and mortality alone may result in an inadvertent preoccupation with curative aspects of healthcare (i.e., a view that healthcare services play the major role in determining outcomes). But health outcomes are clearly a result of cross-cutting issues and/or risks that are driven by individuals and society, with healthcare only one determinant of outcomes. An

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[41] UNICEF, MIC Survey.

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understanding of these risks and the main determinants of health outcomes is essential to the prevention of disease, injury and other conditions, as well as for promoting the health of the population. Therefore, this section will focus on both the causes of poor health and the risks to health, based on the data reviewed earlier in this chapter.

1.4.1 Concepts of Health

Concepts and models of health have evolved in response to changing patterns of disease, from primarily infectious to chronic diseases. At first, the "ecological model" (single cause/single effect) was used to understand infectious diseases. A "social ecological model" followed, which recognized that many factors influence a person's health, but that behavioral factors have more impact on health than the physical environment. The definition of health in the WHO Constitution of 1948 added the dimension of mental well-being; this definition fundamentally changed the approach to health issues. This new approach led to the development of multidimensional models that view a person's health and well-being from every possible perspective.

One such approach is the "environment of health" model, which explains health outcomes in terms of four main inputs to the individual's health: environment, behavior, heredity and healthcare services, in order of descending importance.[42] This model was further developed by Dever into an "epidemiological model" of health that provides a comprehensive view of health determinants. Another recent model views main determinants in a causal relationship, visualized as concentric circles surrounding an individual at the center (representing personal characteristics that cannot be changed, such as age, sex, genetic make-up, etc.). An individual's health is also influenced by his or her lifestyle and behavior (second layer), which in turn are influenced by social norms (third layer) and living and working conditions, education, healthcare, etc. (fourth layer). All these layers are affected by overall macroeconomic and environmental conditions in a given country.[43]

As a result of this continuous fine-tuning of models of health, the list of determinants of health are now numerous and multisectoral. They include: (i) income and social status; (ii) social support networks; (iii) education and literacy; (iv) employment and/or working conditions; (v) social environments; (vi) physical environments; (vii) personal health practices and coping skills; (viii) healthy child development; (ix) biology and genetic endowment; (x) health services; (xi) gender; and (xi) culture.[44] These factors are inter-linked, affecting one another continuously, and the way in which they interact impact the health and mortality of the population. The models described above facilitate an understanding of these determinants and their inter-relationship, making them more manageable to analyze and use in the design of health policies and strategies.

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[42] G.E. Alan Dever, *Community Health Analysis: A Holistic Approach* (Germantown, Maryland, USA: Aspen Systems Corporation, 1980).
[43] Figueras, McKee and Lessof, "Learning from Experience," 2004.
[44] This list of determinants is used by the Public Health Agency of Canada.

The following analysis is based on concepts of the "epidemiological model" and will focus on four main determinants: (i) human biology, (ii) lifestyle, (iii) socioeconomic and environmental dimensions, and (iv) the healthcare system. The analysis reviews how the main causes of mortality and morbidity in Azerbaijan (e.g., non-communicable diseases, accidents, communicable diseases, maternal and child conditions and other risks) are associated with these main determinants.

1.4.2. Health Determinants in Azerbaijan

Poor health outcomes in Azerbaijan are attributable to several risk factors, many of which are linked to chronic disease, premature mortality and morbidity. Figure 1.2 below provides a breakdown of the main health risks in terms of their impact on mortality, as well as on disability-adjusted life years (DALYs) in the European Subregion B (Europe-B), which includes Azerbaijan.

Based on these figures, it is evident that the main risk factors affecting mortality and morbidity in the Europe-B region include high blood pressure, extensive tobacco and alcohol use, a high fat content and relative lack of fruits and vegetables in the diet, lack of physical activity and high cholesterol—all important causes of the chronic diseases that account for the majority of adult deaths in Azerbaijan, as discussed earlier in this chapter.

Figure 1.2 Ranking of Risk Factors by Mortality and DALYs, 2002
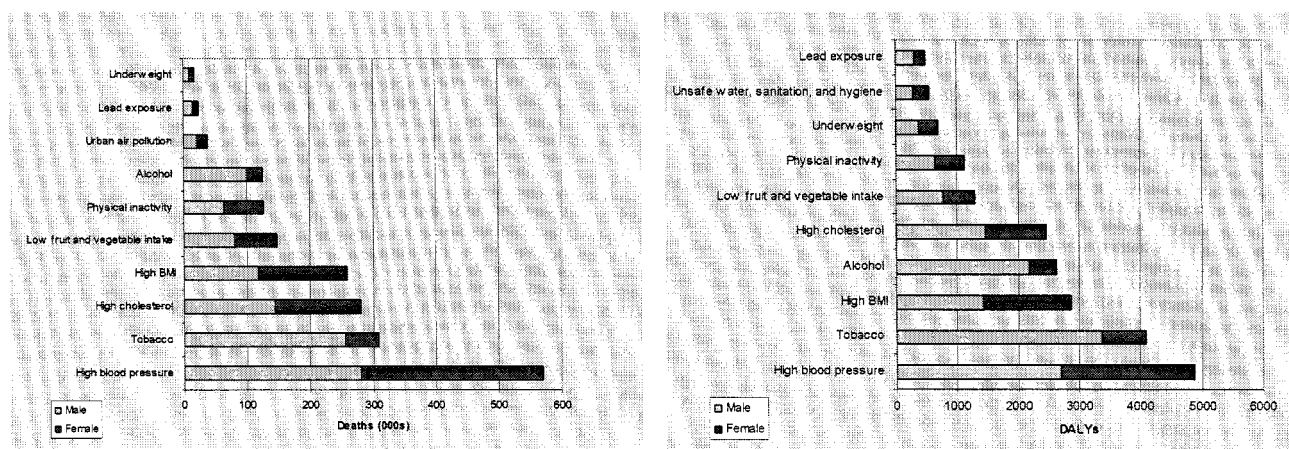
Sources: Ezzati, M., A. Rodgers, A.D. Lopez, S. Vander Hoorn and C. Murray, "Mortality and Burden of Disease Attributable to Individual Risk Factors," Chapter 26 in *Comparative Quantification of Health Risks,* Vol. 2 (Geneva: World Health Organization, 2004).
Note: Europe Subregion B includes Albania, Armenia, Azerbaijan, Bosnia-Herzegovina, Bulgaria, Georgia, Kyrgyz Republic, Poland, Romania, Serbia and Montenegro, Slovakia, Tajikistan, Macedonia, Turkey, Turkmenistan and Uzbekistan.

DETERMINANT NO. 1: HUMAN BIOLOGY/GENETIC INHERITANCE

Genetic determinants are important constitutive factors for individual health, but fall beyond the scope of this analysis. Elements in this group include personal characteristics (e.g., age, sex and genetic makeup) that cannot be changed. However, some health risks that are attributable partly to genetics, including some cancers, high blood pressure and other genetically linked diseases, can be managed through prevention, i.e., genetic testing, preventive testing, drugs, etc.

DETERMINANT NO. 2: LIFESTYLE

People (men more than women) in Azerbaijan smoke and drink too much, exercise too little and consume a high-fat diet. When examining risk factors presented in the two figures above, it is safe to say that many of these risks are associated with the *unhealthy lifestyle* and *consumption* choices of the population, self-created risks that clearly account for a significant part of the disease burden in Azerbaijan and in the region as a whole. Some of these behaviors are closely related to existing cultural habits.

Unhealthy lifestyle

A sedentary lifestyle and lack of exercise are strongly associated with hypertension and coronary heart disease, illnesses that are reportedly responsible for 57 percent of mortality in Azerbaijan. Other risky behaviors, such as poor hygiene, high-risk sexual behaviors and lack of preventive measures (within the control of an individual) may contribute to the spread of communicable diseases (including HIV/AIDS), which are on the rise in the country. Indicators of such behaviors include, for example, the high estimated incidence of gonorrhea and syphilis (despite relatively low reported numbers), the extremely low prevalence of condom use (as reported by sexually experienced young women), the high rate of pelvic inflammatory disease (27 percent of all women and 42 percent of married women were so diagnosed in 2001), and the fact that only 10 percent of sexually experienced women have ever performed a breast self-examination.[45] Some of these behaviors are also related to poor reproductive and preventive health services in Azerbaijan, discussed later in this chapter.

Consumption choices

Consumption choices are a set of self-imposed risks such as: (i) smoking, which causes chronic pulmonary disease and lung cancer, as well as aggravates heart disease; (ii) alcohol consumption, which can lead to increased incidence of violence and motor vehicle accidents, alcohol poisoning and even cardiac arrest (in severe cases of binge drinking), as well as to alcohol addiction, which can result in liver and cardiovascular disease; (iii) a high-fat diet rich in cholesterol, which contributes to heart disease and obesity, which can in turn lead to such diseases as diabetes and hypertension; and (iv) drug use, which can lead to dependency

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[45] UNICEF, RH Survey.

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and addiction, resulting in injuries, suicides, homicides and an increasing risk of HIV/AIDS transmission.

All of these risks exist to varying degrees in Azerbaijan. The analysis below examines how they contribute to the mortality and morbidity of the population. It should be noted that the risks examined here are also a function of health services, where a physician's advice can, to some degree, influence patients' decisions about smoking, alcohol and diet. However, most physicians in Azerbaijan have not been trained to provide such advice or counseling, an area where further efforts should obviously be targeted.

Smoking has traditionally been common in the region, particularly among men (an average of 40 percent of all adult males smoke[46] versus less than 1 percent of women). This habit has visible consequences, as seen in Figure 1.2 above. After high blood pressure, smoking is considered the highest risk for both morbidity and mortality in the country. In fact, smoking was estimated to cause 17 percent of all mortality among men aged 35–69 in 2000.[47] The widespread prevalence of smoking helps explain soaring male deaths from lung cancer and high rates of morbidity and mortality due to diseases of the respiratory system.

Alcohol consumption is also high in Azerbaijan (particularly among young males). As seen in Table 1.16, the country ranks third in consumption of spirits in the region, after Russia and Belarus. The number of registered diagnoses of "alcoholism and alcoholic psychosis" by medical institutions in the country has also been consistently high and actually increased 5 percent from 1995 (220.2/100,000) to 2002 (231.3/100,000)[48]

Table 1.16 Consumption of Spirits in Selected Countries, 2000

Country	Liters (pure alcohol equivalent)
Russia	5.5
Belarus	5.3
Azerbaijan	**4.2**
Ukraine	2.2
Kazakhstan	1.2
Tajikistan	0.5
Turkey	0.6
Armenia	1
Albania	0.4
EU-15	**1.8**

Source: WHO, *Atlas of Health in Europe*, 2002.

The extent to which alcohol contributes to mortality in Azerbaijan can be deduced from the impact of the 1985 Gorbachev anti-alcohol campaign: life expectancy figures improved rapidly, with reductions in deaths from many causes where the link with alcohol was self-

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[46] The figure is close to 60 percent among men ages 40–59. See SSC, "Women and Men in Azerbaijan," 2003.

[47] Holley, Akhundov, and Nolte, "Health Care Systems in Transition," 2004.

[48] SSC, "Health Care," (Baku: GoA, 2003).

evident, such as injuries, violence and acute alcohol poisoning.[49] Studies also found that binge drinking has played an important role in increasing mortalities from cardiovascular disease (cardiac arrest) in Russia.[50] Given the high level of alcohol consumption in Azerbaijan, it is most likely a significant contributor to mortality, both in terms of its impact on the disease burden and its contribution to the very high death rates from motor vehicle accidents. (As noted earlier, road traffic accidents caused more deaths in Azerbaijan than in most comparator countries.). In addition, alcohol is a likely contributor to the high level of domestic violence in the country, as reported in the RH Survey of 2001, with more than 20 percent of women saying that they had been abused by their spouse and 10 percent, that they had been sexually abused.

Poor nutrition

Soviet nutritional policy emphasized the need to consume protein, which inevitably led to high consumption levels of animal fat. While consumption patterns differ among countries of the FSU, a high-fat diet rich in cholesterol is prevalent in Azerbaijan. The consequences of this diet are seen in the fact that 21 percent of the population is either obese (3 percent) or pre-obese (18 percent), which poses a significant public health risk and contributes to high mortality from cardiovascular diseases and can also lead to diabetes.

Drug use

According to official statistics, the prevalence rate of drug addiction and abuse has more than quadrupled since 1990, from 5/100,000 to 23/100,000 by 2001. According to UNAIDS, the estimated number of IDUs in Azerbaijan is close to 400,000, up to 60 percent of whom are injecting heroin—making this group extremely vulnerable to HIV infection.[51] In addition, the number of drug addicts registered by medical institutions in the country has tripled since 1995.[52] Because these numbers are based on registered cases, they likely underestimate the actual number of drug users in Azerbaijan. Drug use is a criminal offense, so the majority of drug users are unlikely to be registered unless they are taken to medical clinics, most often as a result of having severe side-effects.

Intravenous drug use is responsible for the majority of recent HIV cases in Azerbaijan, although the predominant mode of HIV transmission may soon shift from IDUs to heterosexuals, given that survey data indicates a general lack of knowledge about HIV/AIDS in the country. Of particular concern is that Azerbaijan is a country with a predominantly young population, which places the country at greater risk for HIV transmission. Younger population cohorts are more likely to experiment with drugs and sex and, therefore, are at higher risk for infection. Lastly, Azerbaijan's geographic location

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[49] Figueras, McKee and Lessof, "Learning From Experience," 2004.

[50] McKee, "Alcohol is Implicated," 2001.

[51] UNAIDS/WHO, "Epidemiological Fact Sheet," 2004.

[52] SSC, "Health Care," 2003.

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along the drug transit route from South Asia to Europe (along which heroin exported from Afghanistan is transported) makes the country more vulnerable to the spread of HIV/AIDS.

DETERMINANT NO. 3: SOCIOECONOMIC AND ENVIRONMENTAL FACTORS

As a result of the collapse of the Soviet Union and the war over Nagorno-Karabakh, poverty levels in Azerbaijan have increased, living and environmental conditions have worsened and the health of the population has deteriorated considerably. As opposed to the previous set of determinants, the issues examined under this category are defined as *psychological, socioeconomic and physical* conditions over which an individual has little or no control. In fact, even the unhealthy lifestyle behaviors described above, such as alcohol consumption and poor diet, may not depend entirely on people's individual choices, but also on prevailing social and economic conditions.

While many lifestyle determinants were well-established prior to the transition period, it is evident that the population experienced a period of high stress due to economic and social upheaval, when salaries went unpaid for months, unemployment slowly grew, food and other essential items became scarce, and poverty increased dramatically. In addition, basic public utilities such as water, gas and heating deteriorated and air and water pollution increased. The war over Nagorno-Karabakh and the consequent emigration of large segments of the population from occupied land also had a visible impact on many key indicators of people's well-being in the early 1990s. All of these factors have had a significant impact on the health, including mental health, of the population, reflecting the accelerated rate of change in society.

Psychological factors

Rapid socioeconomic and environmental change had the effect of increasing the overall feeling of instability among the population, exacerbating certain existing lifestyle risk factors, such as alcohol and drug use. However, this instability also contributed to an increased incidence of mental illness, which rose sharply in the early 1990s, subsided by 1996, then began to climb sharply again in early 2000, when it reached 1990 levels. The incidence of disability from mental disorders in Azerbaijan is alarming; it is twice the incidence of disability from TB and more than twice that from cancer.[53] Men are more than twice affected than women by mental illness,[54] which is associated with higher rates of suicide, violence and homicide.

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[53] SSC, "Health Care," 2003 (2002 data).
[54] SSC, "Women and Men in Azerbaijan," 2003.

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Socioeconomic and physical conditions

Factors related to socioeconomic and physical conditions are best captured in relation to prevailing conditions of poverty in Azerbaijan, where roughly 50 percent of the population live below the poverty line. Poverty is a well-documented determinant of poor health outcomes because poor individuals are less likely to have the financial resources to pay for health services and drugs and less likely to have less access to good nutrition and food safety. In addition, there is a perverse cycle of poverty and health: poor individuals tend to be less healthy, and unhealthy individuals are less likely to earn income.[55] Poverty is also the single largest determinant of ill-health due to communicable diseases, notably TB, generally due to the unsanitary conditions and overcrowding found in poor households. Poverty also leads to ill-health through increased environmental risks (e.g., unsafe drinking water). In Azerbaijan, health indicators of poor households correlate well with those of rural households, as well as those of less-educated individuals.

The high prevalence of poverty in Azerbaijan has a direct impact on high rates of IMR, U5MR and maternal mortality. For example, according to the MIC Survey of 2000, IMR was three times higher among poor than rich households. This finding is linked to the fact that poorer households are less able to finance "informal payments" to physicians for medical care, both during antenatal and perinatal periods. Elevated IMR among poor households is also linked to the nutritional status of mothers and children. As noted in earlier sections, malnutrition and micronutrient deficiencies (resulting in extremely high levels of anemia) play a significant role in the health outcomes of mothers and children. This is particularly true for poor households. For example, the percentage of low–birth-weight babies in poor households is more than double that in rich households. Even more telling are indicators for undernourished children. The prevalence of underweight and stunted children in poor households is more than double that in rich households. Table 1.17 below demonstrates these differences and provides information on urban-rural variations. The table also provides information on the mother's level of education, an equally important determinant for childrens' health, given that mortality rates are twice as high for infants and children whose mothers only have a secondary or high-school diploma. The same criteria holds true for low–birth-weight babies and underweight children.

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[55] WHO, *The European Health Report,* 2002.

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Table 1.17 Comparisons of IMR, U5MR and Malnourishment by Urban/Rural, Poor/Rich and Educated/Poorly Educated Households, 2000 (%s)

		Infant Mortality Rate	Under-5 Mortality rate	Low–birth-weight	Under-Weight	Severely under-weight	Stunted	Severely stunted	Wasted	Severely Wasted
	Urban	63	79	8.3	14.9	3.9	17.2	6.8	8	1.7
	Rural	92	122	10.4	18.5	4.6	21.7	7.7	7.9	2.1
	Rich	35	41	5	8.8	2	13.2	3.9	5.4	1
	Poor	102	133	12.6	21.2	5.3	26.5	8.6	7.3	1.8
	Secondary or less	92	118	11.9	23.2	6.4	24.5	8.7	10.1	3
Mother's Education	High school	84	108	9.8	18	4.3	20.8	7.6	7.3	1.5
	College/ vocational	65	80	8.1	11.6	3.3	16.5	5.5	7.7	1.9
	University	42	50	6.5	10.4	2.3	12.1	6.4	8.1	2.3

Source: UNICEF, MIC Survey.

The MIC Survey also found that only 41.3 percent of households used idiodized salt; the figure for poor households was 33.4 percent and in some areas, such as Nakhchivan, 10.6 percent. The MIC Survey also found dramatic differences in the prevalence of diarrhea among urban/rural and poor/rich households. Three times as many children in poor households suffered from diarrhea, with 60 percent more such children in rural than urban areas. One striking finding was that the percentage of children who received no treatment for diarrhea was twice as high in poor than in rich households. This is a significant finding, given that dehydration is a major cause of death among children in Azerbaijan and can be easily prevented with proper oral re-hydration.

Environmental factors

Dehydration in children and lack of treatment for diarrhea are compounded by the fact that only 75 percent of the population has access to safe drinking water, although this figure falls to only 52 percent among poor households and 57.5 percent among rural households, as shown in Table 1.18.

Overall, water supplies in Azerbaijan have been in decline since the mid-1990s. Only 50 percent of the population presently has access to piped water. The pollution of the Caspian Sea adds another serious environmental risk to water quality. According to official sources, the Baku area can be considered "dead" from the biological point of view, with clear repercussions for the fishing industry and the livelihood of large segments of the population living around the sea.[56] As mentioned previously, households (especially those in rural areas) have also witnessed a significant deterioration in the provision of other public services, such as gas and heating. Most of the population considers the deterioration of such services as the

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[56] GoA, SPPRED, 2003.

main source of the fall in their living standards over the past decade, with obvious implications for health outcomes.[57]

Table 1.18 Water and Sanitation in Azerbaijan, 2000

	% access to improved drinking water	% sanitary means of excreta disposal
Urban	92.5	89.8
Rural	57.5	70.3
Rich	100.0	100.0
Poor	51.9	75.9

Source: UNICEF, MIC Survey.

Criminal justice system

It is important to highlight that while poverty and increasing drug use and high-risk behavior among youths fuel the transmission of TB and HIV/AIDS, a dysfunctional penitentiary system further complicates transmission of these diseases. At present, this system serves as a breeding ground for infectious diseases (8.3 percent of the incarcerated population has an infectious disease). While some improvements have been made, for example, in terms of introducing DOTS for TB control, these efforts have yet to be rolled out and sustained. In addition, HIV/AIDS continues to be viewed as a criminal rather than a health issue, limiting targeted prevention activities for high-risk groups that could help to contain the spread of infection.

DETERMINANT NO. 4: HEALTHCARE

Under-funded, low-quality healthcare services and the lack of access (caused by high out-of-pocket patient fees) contribute equally to poor health outcomes in the country. A fourth determinant of health can be divided into two main elements, *availability and/or accessibility* and *quality,* which capture the essence of those factors that contribute to poor health outcomes in Azerbaijan. Inadequate healthcare provision is rooted in the collapsing, under-funded and inefficient healthcare system inherited from the Soviet Union, which remains essentially unreformed in Azerbaijan. The ills of the Soviet healthcare system were then compounded during the transition period, when health expenditures declined dramatically, from roughly 3 percent of GDP in 1991 to an estimated 0.9 percent of GDP in 2004.

While the under-funding of healthcare is not, in and of itself, the sole determinant of worsening health outcomes in the country, lack of financial resources has meant that healthcare providers have come to rely on a system of formal and informal out-of-pocket (OOP) payments. Nearly all health services are now paid for by the population in Azerbaijan, either formally or informally. Survey estimates from 2004 suggest that OOP

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[57] World Bank, PA, 2003.

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expenditures amount to 75–78 percent of total health expenditures.[58] This has had a deleterious effect on the provision of healthcare services, especially for the poor, who are at greater risk for many health problems. In addition to the introduction of informal fees for services that were previously free of charge, the physical infrastructure of health facilities has deteriorated, equipment has not been repaired and, in many cases, become obsolete. Meanwhile, the training of physicians does not conform to the latest developments in evidence-based medicine, with many physicians continuing to rely on information and educational materials issued during the Soviet period.

Availability/accessibility

The availability of health facilities and providers is quite adequate in Azerbaijan. However, the concept of accessibility goes beyond mere availability to encompass geographic, socio-organizational and economic accessibility. The ability of patients to pay OOP fees for health services determines whether or not patients can access routine and urgent care. According to the World Bank Household Budget Survey of 2002, one in three households declared that they could not use health services when needed because such services were too expensive. Many people, particularly the poor, tend to postpone seeking treatment when ill and often do not have the means to pay for preventive care.[59]

The UNICEF RH Survey indicated that the high charges for delivery at public institutions were the main reason for the high proportion of home deliveries (25 percent overall, 36 percent in rural areas). As discussed earlier, home deliveries pose a greater risk for post-partum complications and mortality, particularly when not managed by a skilled attendant. Similarly, many abortions are performed outside medical clinics because patients lack funds to pay for the procedure in a formal facility, leading in some cases to severe complications and even death. And while roughly 70 percent of women in Azerbaijan receive some prenatal care (a maximum of four visits during pregnancy, only 25 percent ever receive post-partum care, despite the fact that 38 percent of all births result in at least one post-partum complication. There is also a general lack of reproductive health care, with only 57 percent of all women reporting that they have been examined by a gynecologist at least once in their lifetime. These risks cannot be entirely explained by patients' inability to pay for services, but also by the fact that the healthcare system does not provide adequate information on the need for services such as regular gynecological exams and prenatal and postnatal care. Nevertheless, the fact that 50 percent of the population is poor, yet must pay to receive any health service, surely plays a major role in delaying visits to physicians and avoiding preventive care.

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[58] G&G Consulting, "Health Financing Study Financed under the Health Reform Project (Credit No. 35230-AZ)," interim report, 2005.
[59] World Bank, PA, 2003.

Quality

In addition to healthcare financing, Azerbaijan lacks a developed network of good-quality primary care services, including reproductive services and preventive programs to reduce the risk of non-communicable diseases. The absence of such a network poses the greatest risk for the rural population because this population tends to suffer disproportionately from various health problems.

Several examples from the RH Survey point to the very poor quality of existing reproductive healthcare services in the country. In terms of routine exams, only 2 percent of women surveyed in 2001 had ever had a pap smear and less than 1 percent had had their most recent test within the past three years. This is a staggeringly low figure. Lack of such tests significantly increases the risk of cervical cancer in women. In addition, the high incidence of pelvic inflammatory disease among married women (42 percent) points to poor hygienic conditions and inadequate standards of care received during gynecological exams, as well as a potential lack of or inadequate follow-up treatment. This finding can also be attributed in part to the low standard of care in abortion facilities: roughly 20 percent of women report immediate complications after an abortion, of which 27 percent involve pelvic infections. A few pieces of data provide a snapshot of abortion services: just 5 percent of all abortions were preceded by testing for sexually transmitted infections, 59 percent were performed without anesthesia, and only 21 percent of all women received antibiotics following such a procedure.

With respect to antenatal and postnatal care, the figures show a consistently poor picture in terms of the quality of care, as seen by the fact that only 6 percent of all births received adequate prenatal care. In addition, only 38 percent of women who attended prenatal clinics received counseling on the negative effects of smoking and alcohol during pregnancy, and only 55 percent received information about breastfeeding and delivery. Given that only 60 percent of women surveyed in 2001 had ever visited such prenatal clinics, the numbers indicate that little information is shared with pregnant women on issues related to birth, including nutritional issues related to the prevention of anemia. Morever, 38 percent of all women who gave birth had at least 1 postpartum complication and only 25 percent ever received post-natal care of any kind. Meanwhile, not all antenatal and delivery services were attended by skilled personnel. For antenatal services, only 68.7% were "skilled" although only 60% were physicians. In rural and poor areas, this number falls to roughly 58% "skilled" of which 38-48% were physicians.[60]

The poor quality of preventive reproductive services is evident in the extremely high level of abortions, which account for roughly 12 percent of all maternal deaths in Azerbaijan. The significant level of abortions is mostly due to lack of awareness of safe and effective modern methods of contraception. While 70 percent of married women surveyed did not want any more children, only 55 percent used any form of contraception—one of the lowest rates

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[60] UNICEF, MIC Survey.

among all countries where similar reproductive health surveys were carried out. It is striking, that only 12 percent of all women surveyed used modern methods of contraception, also one of the lowest figures among other countries. This usage rate is supported by the fact that only 32 percent of women ever received family planning counseling, with 75 percent reporting that they needed more information on contraception. (Based on the results of the RH Survey, a total of 53 percent of married women were estimated to have an unmet need for modern contraceptive methods.)

Table 1.19 Percentage of Married Women Ages 15-44 using Contraception in Selected Countries

Country	Any	Modern	Traditional
Russia	73	53	20
Ukraine	68	38	30
Moldova	74	50	24
Romania	64	30	34
Kazakhstan	62	55	8
Turkmenistan	55	47	8
Kyrgyz Republic	60	50	9
Uzbekistan	57	53	4
Armenia	61	22	39
Georgia	41	20	21
Azerbaijan	**55**	**12**	**44**

Source: Population Reference Bureau, "Reproductive Health Trends in Eastern Europe and Eurasia," *2003.*

Preventive services are not receiving adequate attention. While it is evident that reproductive health care services contribute to risks associated with high maternal and child mortality, other health services, particularly preventive services, have similar problems. The current health system does not place adequate attention on educating the public on health risks and behaviors (e.g., smoking, alcohol consumption and poor diet) that are important determinants of non-communicable diseases. The lack of emphasis on prevention tends to aggravate, and even promote, unhealthy behaviors that lead to illness and death. For example, no unit within MOH develops and manages health education and promotion.

Overall quality of health care is also reduced by poor or missing equipment, diagnostic kits and drugs; collapsing physical infrastructure; and the generally low availability of qualified family-practice specialists who could provide evidence-based medicine. As in the case of infectious diseases such as TB, modern approaches to diagnosis and treatment are still not in place, resulting in ineffective treatment and the potential for patients to develop multi-drug resistant TB, a strain that is both more difficult and more costly to cure. Lastly, low levels of knowledge and information-sharing on sexually transmitted infections, as well as the stigma and discrimination against infected persons, further aggravate the situation.

To conclude, several driving forces are determining health outcomes in Azerbaijan. Perhaps the most important determinant is the unhealthy lifestyle of the population, which has direct consequences for the chronic diseases that account for the majority of deaths and morbidity

in the country. The lifestyle issue is compounded by socioeconomic determinants, particularly the high level of poverty, which directly impacts the ability of families to pay for health services and afford better nutrition for their children. Likewise, urban-rural and poor-rich disparities and environmental factors also play a role in determining in health outcomes. Despite its apparent wealth in oil reserves, Azerbaijan allocates extremely low levels of funding to healthcare compared to other countries in the region. The budgetary shortfall has fostered a system of out-of-pocket payments for all health services, resulting in reduced and inequitable access—another important determinant of health, particularly when combined with inefficient use of state funding by the collapsing healthcare system.

1.5   Key Issues, Options and Recommendations

Based on the above analysis, the overall health status of the population in Azerbaijan can be characterized as poor when compared to its neighbors. It is particularly poor when compared to EU-15 countries. The leading causes of low life expectancy, mortality and poor health are non-communicable diseases (NCDs); injuries; the re-emergence of infectious diseases (the most prevalent of which is TB); very high rates of infant, under-five and maternal mortality; and malnourishment.

Patterns of morbidity and mortality in Azerbaijan are deeply entrenched in three of the four determinants of health: biological, lifestyle, and socioeconomic and environmental factors. These patterns are also affected by the fourth determinant (the healthcare system). Despite the fact that the State Program for Poverty Reduction and Economic Development (SPPRED) in Azerbaijan recommends realigning the healthcare system toward outpatient care, the system continues to emphasize curative care (i.e., hospitals and specialized services), which produces only a modest impact on the major health risks and conditions of the population.

Some of the principal risks behind NCDs, such as smoking, poor diet and alcohol consumption, cannot be "cured." They must be tackled at the primary-care level through health promotion efforts. Likewise, maternal and child health need to be approached in a comprehensive way that includes quality preventive reproductive health services, together with improved education of women on nutrition and modern methods of contraception. Similarly, communicable diseases such as TB and diarrhea can be handled most effectively on an ambulatory basis. Further, the treatment of non-communicable and communicable diseases needs to be viewed as part of a broader, multisectoral approach in which the patient, not the disease, is "treated and cared for."

The challenge for Azerbaijan is to design and implement effective, affordable public health policies and programs that lead to desired health outcomes. It is critical that these policies address lifestyle risks through prevention at all levels: individual, household, outpatient and inpatient. This new focus requires modernizing the health system and its approach to NCDs, infectious diseases and reproductive health in conformance with health-promoting practices.

It also requires upgrading the workforce to meet contemporary health needs. Such a strategy means giving primary healthcare the central role in improving health outcomes of the people of Azerbaijan. The existing primary healthcare network thus needs to be strengthened, particularly in rural areas.

More specifically, the following actions are needed to improve the health status of the population:

- The public health budget needs to be significantly increased in order to strengthen health education and promotion for clients and providers alike.

- The adult male population should be considered at high risk and targeted for prevention efforts with respect to smoking, alcohol, and drugs.

- Reproductive services need to be strengthened through: (i) improving the quality of preventive services, such as screening for cervical cancer and better diagnosis and treatment of sexually transmitted infections; (ii) improving family planning by providing families counseling and information on modern methods of contraception; (iii) improving access and quality of antenatal and postnatal care, including abortion services; and (iv) providing information on nutrition, especially for pregnant women, together with iron supplements, to reduce the prevalence of anemia in women and children.

- The physical infrastructure of facilities needs to be improved and equipment and health protocols updated.

- The skills of health workers need to be improved, particularly those in the primary healthcare network. Primary-care workers should be able to provide basic quality services, including the provision of information to patients on various issues, such as nutrition, hygiene, etc.

- Effective diagnosis and treatment of TB should be based on internationally accepted protocols (DOTS).

- The "cold chain" must be improved to increase the effectiveness of the expanded immunization program.

- Early interventions to reduce the risk of HIV/AIDS infection, such as needle exchange programs, need to be introduced for high-risk groups. Such efforts would entail a conceptual shift from regarding HIV/AIDS as a criminal justice issue to a health issue.

- Information and data on health outcomes need to be substantially improved in order to guide future interventions and investments in the health area. Such information

overhaul involves rationalizing the process of data registration, collection and analysis by various health agencies and registries, as well as upgrading and expanding the collection of data for notifiable diseases.

A number of challenges, however, go beyond the reach of the MOH alone and require multisectoral initiatives. These include:

- Public services, such as *water supply and sanitation—especially outside Baku* and in areas where IDPs reside – need to be improved in order to reduce the burden of waterborne diseases.

- *Collaboration with the Ministry of Justice and Ministry of Interior to prevent and reduce harm associated with intravenous drug use, both in society at large and prisons.* Collaborative efforts should also include prevention and control of TB and HIV/AIDS in prisons and other detention and correctional facilities. Similar efforts should be made to reduce the very high incidence of traffic accidents by reducing drunk driving (i.e., through education and law enforcement efforts, use of seatbelts, improved road signalization, etc.).

- *Environmental health* is another area that requires further study to assess the health hazards resulting from the dilapidation of defunct industries (metallurgy, dye production, etc.). Azerbaijan has significant oil and other mineral deposits, and relatively extensive agriculture, including cotton production for export. Pollution from heavy industry, mineral extraction and agriculture is a long-standing and persistent problem. This type of pollution is particularly acute in the Caspian Sea as a result of the petroleum industry. Air pollution is most acute in the major cities.

- *Closer collaboration with the food industry, the Ministry of Agriculture, and other government agencies should be secured as part of a nutrition strategy to preempt the rise of diet-related chronic diseases and to prevent and cure micronutrient, iron and iodine deficiencies among the population at higher risk (i.e., rural residents, women and children).* These strategies will decrease anemia in women, and mental retardation and arrested cognitive development in children with iron deficiencies.

CHAPTER 2. DEMAND FOR AND UTILIZATION OF HEALTHCARE SERVICES

2.1   Introduction

Understanding the main determinants of the demand for and utilization of healthcare services is essential for any policy intervention. Demand for healthcare is an expression of a perceived healthcare need. An individual demands healthcare services because he or she believes that they are needed, accessible and will help improve his or her health status. As Andersen asserts in his behavioral model, perceptions of both illness and healthcare needs can be determined either by the individual or the healthcare provider.[61] Perceptions of illness, however, vary from person to person, depending on their level of discomfort, degree of symptoms and anticipated consequences, as well as their perception of the quality and effectiveness of the healthcare delivery system in restoring health.

Evidence shows that a perceived need triggers a demand for service when the barriers to healthcare are non-existent or negligible.[62] Service use, or utilization, can be initiated by the patient or the healthcare provider. First contact with the provider, usually initiated by the patient, is a good indicator of access and is mainly determined by individual characteristics (predisposing factors), such as age, sex, marital status, education, occupation, etc. This initial contact is also determined by enabling factors, such as income, health insurance, price of health services, geographic location (rural or urban) and availability of healthcare facilities. Subsequent contacts, in addition to being conditioned by enabling factors, are also conditioned by characteristics of the provider and the health system. These contacts are a good indicator of utilization.

Use of services can be further differentiated by site (rural clinic, hospital, etc.), time interval and whether services are inpatient, outpatient, preventive, curative or follow-up (i.e., to prevent complications). It should be noted that individual decisions take place within the social, cultural, political, economic and legal context of a country, which also impact the healthcare system and, consequently, the behavior of providers.

In an ideal world, the demand for healthcare is fully met by an adequate supply. In a more realistic setting, demand and supply do not match perfectly, resulting in unmet demand for healthcare services. The reasons for this unmet demand will be described in this and subsequent chapters. First, however, it is very important to thoroughly understand how demand is determined so that policymakers can define the most suitable policies and reforms to balance this demand with adequate supply.

This chapter will use this theoretical framework to explore the demand for and utilization of healthcare services in Azerbaijan. The chapter seeks to identify the relative importance

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[61] Anderson and Newman, "Societal and Individual Determinants," 1973.
[62] E. Baris, "Patient and Provider Determinants of the Use of Ambulatory Physician Services for Chronic Illness Episodes in an Adult Population in Quebec," University of Montreal, Montreal, 1995, 18.

of predisposing and enabling factors in service use; utilization levels of different types of services and their main determinants; as well as satisfaction levels with different types of facilities. The chapter follows the conceptual framework of Andersen's behavioral model, [63] as shown in Figure 2.1.

Figure 2.1 Theoretical Framework for Demand-Utilization Analysis

Determinants		
Illness level/Perception of health		
Enabling factors		
Availability of facilities	Demand for	Utilization
Availability of healthcare personnel	Healthcare/	Curative — Inpatient, Outpatient
Health insurance	Healthcare-seeking Behavior	Preventive and other services
Income and poverty levels		Reproductive health services
Out-of-pocket expenses		Services for children
Predisposing factors		
Satisfaction with healthcare services		
Age		
Sex		
Marital status		
Education		
Location (rural or urban)		
IDP/refugee/regular citizen status		

The first section of this chapter looks at utilization, followed by an examination of healthcare-seeking behavior. Next, perceived health status, enabling factors (e.g., availability of facilities, healthcare staff, insurance coverage, etc.) and satisfaction levels are analyzed. Variations in predisposing factors (e.g., age, sex, education and citizen status) and certain enabling factors (e.g., income and insurance coverage) are explored in all sections. The chapter then concludes with recommendations.

2.2 Data Sources

This chapter draws heavily on two types of sources. Primary data is drawn from the Health Financing Study prepared by G&G Consulting (G&G Survey, 2005) and the Household Survey and Patient Satisfaction Survey prepared by Western World Consultants (WWC Survey, 2003 and 2005), which were conducted as part of the World Bank-financed Health Reform Project in Azerbaijan.[64] Other primary sources include the UNICEF Multiple Indicator Cluster Survey (MIC Survey) and the UNICEF Reproductive

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[63] Andersen and Newman, "Societal and Individual Determinants," 1973.
[64] G&G Consulting, "Health Financing Study," 2005; Western World Consultants (WWC), "Health Reform Project: Azerbaijan Baseline Study; Report on Household and Patient Satisfaction Survey," report prepared for the Bank-financed Health Reform Project, 2003; and WWC, "Health Reform Project: Evaluation Survey; Final Report on Household and Patient Satisfaction Survey," report prepared for Health Reform Project, 2005.

Health Survey 2001 (RH Survey).[65] The main sources of administrative data are the State Statistical Committee (SSC) of Azerbaijan and the World Health Organization (WHO).
It is important to note that these household surveys are not directly comparable. The G&G survey of 2005 is a nationally representative survey with a randomly selected sample, based on a category quota. It uses recall periods of six months for inpatient services, and two weeks for outpatient, preventive and other services. The survey reached around 5,500 individuals from 1,500 households. The WWC survey is district-wide representative, and is based on random multi-stage cluster sampling that uses a one-year recall period for all types of services.

The MIC Survey is a nationally representative survey of households, women and children, based on a multistage cluster sampling approach which uses the 1999 Azerbaijan census as the sampling frame. This survey reached a total of 5,861 households, including 6,959 women and 1,875 children. The RH Survey was the first population-based, nationally representative survey in Azerbaijan, which also used a stratified multistage sampling design with the 1999 census as the sampling frame. A one-year recall period was used for use of women's health services. The RH Survey reached 7,668 women age 15–44 from 11,162 selected households, including an over-sample of conflict-affected areas with a concentration of internally displaced persons and refugees (IDP/Rs).

2.3   Utilization

2.3.1   Utilization of Curative Services

Outpatient care

Outpatient contacts per person have declined over the past several years.[66] These contacts have fallen from as high as 10.1 in 1986 to as low as 4.6 in 2003 (see Figure 2.2).

The EU average in 2002 was 6.6, compared to the CIS average of 8.8. Regardless of the absolute number, it is important to note the declining trend over time. Given that there have been no healthcare reforms in Azerbaijan, nor any substantial changes to the health

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[65] UNICEF, MIC Survey and RH Survey.

[66] The WHO definition of outpatient contacts is: "The total number of primary health care (PHC) or ambulatory contacts divided by the population. An outpatient contact is one episode of examination/ consultation performed by a physician or by a nurse in the presence of a physician, in relation to one outpatient at one time and location, normally at the physician's office or the patient's home. The number of outpatient contacts includes: patient's visit to physician's office; physician's visit to patient's home or other place; call for ambulance; day-patient cases. The number of outpatient contacts excludes: telephone calls; visits for prescribed laboratory tests; contacts to perform prescribed and scheduled treatment procedures, e.g., injections, physiotherapy, etc.; visits to dentist." The WHO definition of outpatient is: "A person attending a (PHC) unit or outpatient department in an outpatient establishment and who makes use of the diagnostic or therapeutic service but does not occupy a regular hospital bed."

system, this trend is primarily caused by declining government expenditures and increasing out-of-pocket (OOP) expenditures on the part of patients, in combination with a declining quality in service.

Annual outpatient visits are higher in rural areas and for women and people with poor health; these visits increase with age. People in the highest income quintile have the highest utilization rates of outpatient care. The G&G Survey found an annual utilization rate of outpatient care lower than that found by the WHO, with 3.2 visits per persons. Annual outpatient visits for rural respondents were substantially higher than for the urban respondents (3.7 versus 2.7 per person), as well as for females compared to males (3.7 versus 2.7 per person). With increasing age, utilization of outpatient care increases from as low as 1.4 per person for the 0–4 age group to as high as 9.7 per person for the 80 and over age group.

Figure 2.2 Outpatient Contacts per Person per Year, 1985–2005
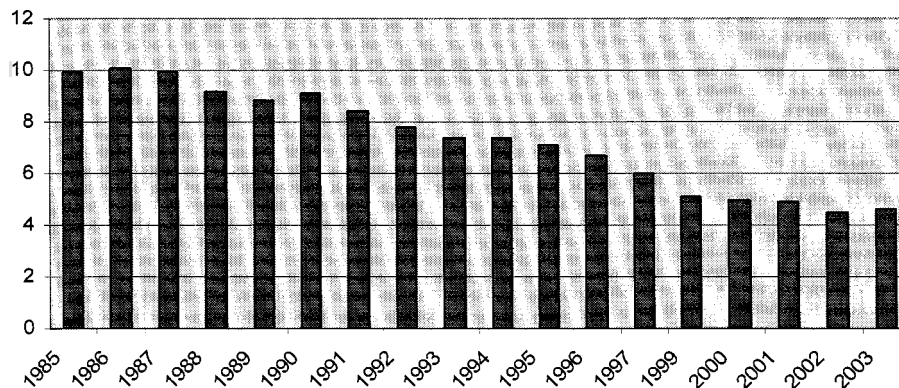
Source: WHO, "Health for All" database, 2005.

Education level does not seem to impact outpatient care utilization. Widowed and separated respondents, however, tend to utilize outpatient services much more frequently than other types of respondents. As expected, people with poor health utilize outpatient services more than those who define their health as "better" or "much better." For example, in Sabirabad, a district where the number of IDPs is high and many people perceive their health to be poor, outpatient visits per person annually (6.4) were the highest among all other districts.

It is interesting to note that respondents without health coverage tend to utilize outpatient facilities more often than people with health coverage, indicating that health coverage does not play an important role in utilization rates. Lastly, with regard to income, respondents from the top income quintile utilize outpatient facilities the most (5.3 visits per person), with the other quintiles varying from 2.8 (middle quintile) to 3.8 (lowest

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quintile), which does not suggest that income has a clear impact on outpatient service utilization.

Less than half of the population utilizes health care services when ill. Among all respondents, 86.7 percent had an illness episode, but only 48.3 percent utilized any type of private or public healthcare facility.

Most people visit the pharmacy and the district or city hospital. Respondents had almost twice as many contacts with a healthcare provider as they had illness-related utilizations (1,040 contacts versus 544 illness utilizations). Of total contacts with a healthcare provider, 38.3 percent were with a pharmacy, followed by district hospitals (20.9 percent) and general city hospitals (13.4 percent). The high proportion of people going to the pharmacy suggests that either people visited a healthcare provider and then a pharmacy, or that, patients went directly to the pharmacist given the low quality of care provided in healthcare facilities.

Visits to pharmacies accounted for the highest number of healthcare provider visits in both rural and urban areas (46.2 and 45.3 percent, respectively). In rural areas, the number of visits to pharmacies were higher than in general city hospitals (16.2 percent) and even higher than in district hospitals (13.2 percent). Twice as many people in rural than urban areas also went to traditional healers (5.9 percent). In urban areas, pharmacies were visited the most, followed by district hospitals (33.4 percent). Gender, age, education level, perceived health status and income were not determining factors of the facilities visited.

Inpatient Care

Inpatient admissions have remained the same over the past few years. Admissions are higher in rural areas (particularly in certain districts) and for women and people with poor health status. Admissions also increase with age. The G&G Survey found that the annual number of hospital admissions per person was 100/1000, compared to the WHO finding of 50/1000. The difference in these findings could be caused by differences in reporting methods and type of facilities covered. Figures were somewhat higher for hospital admissions in rural than urban areas. For example, hospital admissions in the districts of Nasimi, Xaçmaz[67] and Qusar (219.1, 216.1 and 158.5 per 1,000, respectively) were substantially higher than in urban areas, a finding that can mainly be attributed either to higher incomes or geographic difficulties in access. Geographic problems in accesing outpatient care cause more hospitalizations (under normal conditions, such cases would not have to be treated in a hospital). For example, in Nasimi, where hospital admissions were 219.1/1,000, outpatient visits were the lowest compared to other districts (0.9/1,000). In some other districts, however, hospital utilization was very low (Lankaran, Ganja, Qaradag—43.2, 46.4 and 57.7 per 1,000, respectively). In Ganja, for example,

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[67] Xaçmaz is a pilot district of the Health Reform Project.

outpatients visits were as high as 4.8 per person, but hospital admissions were only 46.4/1,000.

Similar to outpatient visits, women are admitted to the hospital more often than men. Admissions for both sexes increase with age except for people over age 80, the hospital admissions of which drop by more than 100 percent compared to the 70–79 age group. Another drop in hospital admissions occurs between the two age groups 0–4 to 5–14 years. With regard to education level, hospital admissions tend to be higher for people with higher levels of education.

Widowed respondents seem to be admitted to the hospital most often, when compared to other respondents. As could be expected, respondents who perceive their health status as "very poor" or "poor" (0.4 and 0.3 per person, respectively) are admitted to the hospital much more frequently than those who perceive their health as "better" or "much better" (0.07 and 0.04 per person, respectively). People with no health coverage are also admitted to the hospital more often than those with health coverage. Income is thus not a clear determinant of hospital admissions.

People mainly utilize public facilities, such as district and city hospitals, for inpatient care. Of the respondents in the G&G Survey who received inpatient care, 88.1 percent went to a public facility. Some 45.5 percent of this group went to a district hospital, followed by general city hospitals (29.3 percent),[68] specialized hospitals (12.1 percent) and maternity houses (5.5 percent). The remaining 11.9 percent of respondents visited a private facility, with 71.1 percent of this number visiting a private general city hospital.

In addition to the 329 hospitalization episodes documented by the survey, there were 483 utilizations (1.5 visits per inpatient episode) of other facilities for a variety of purposes. Of these utilizations, 49 percent were for the purchase of drugs (41.8 percent of which took place in private facilities), 23 percent for the purchase of medical non-durables (19.5 percent of which took place in private facilities), 10.8 percent for laboratory services (procured in both public and private facilities), 9.1 percent for diagnostic imaging services (both public and private facilities) and 8.1 percent for medical durables (both public and private facilities). High utilization of non-hospital facilities, particularly to purchase drugs and medical non-durables, suggests insufficient hospital supplies of these items.

In rural areas, people seek inpatient care predominantly in public general city hospitals,[69] while in urban areas, most people go to public district hospitals. Most

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[68] Since patients were unable to identify the exact names of the facilities that they had visited during the survey, it was difficult to categorize them according to classical MOH hospital or district (rayon) hospital categories. For this reason, the category of "general city hospital" was created. These facilities are located almost universally in major cities and have either relatively or generally better financing and staffing, plus a higher standard of rehabilitation and care, than do public hospitals.

[69] See previous footnote.

admissions to private facilities are in rural areas. Over one-third of respondents in the G&G Survey are most often admitted to a general city hospital, followed by a district hospital (15.8 percent), specialized hospital center (15.3 percent), general private city hospital (12 percent) or maternity house (8.7 percent). It is interesting to note that 78.6 percent of admissions to private general city hospitals were in rural areas, most likely due to the low quality of rural public facilities. In urban areas, on the other hand, 70.5 percent of respondents were admitted to a district hospital, followed by a general city hospital (13 percent).

With respect to private facilities, women visit private inpatient facilities more often than men. No respondent in the 0–4 age group utilizes such facilities. About half of the survey respondents went to specialized hospitals. Adults between the ages of 15 and 69 primarily use public district hospitals, while people between the ages of 70 and 79 primarily use specialized hospitals. Those who perceive their health status as "much better" visit private hospitals and public maternity houses much more often than do other respondents. In terms of income, private general city hospitals were mostly preferred by people in the highest income quintile. Lastly, people with health coverage visit specialized hospitals more often and private general city hospitals less often than those who do not have such coverage. However, utilization of public general city hospitals and district hospitals are the same for both groups.

The number of hospital beds in Azerbaijan over the past few years has remained approximately the same, indicating that there has been little rationalization of the healthcare system since the collapse of the Soviet Union. The current number of hospital beds reflects a lack of consideration for the epidemiological needs of the population. Azerbaijan has a rather high number of hospital beds: 840/100,000 population compared to the EU-25 average of 611/100,000 in 2002. This number has, however, decreased since 1989, when it was 1,020/100,000.[70]

The bed occupancy rate has fallen dramatically since independence. During the 1980s, the occupancy rate was between 70 and 80 percent. In 2000, it had fallen to 33.7 percent in Republican hospitals, 23.3 percent in urban hospitals, 31 percent in local hospitals, less than 14 percent in hospitals for infectious diseases (for adults and children), and only 6.3 percent in district hospitals.[71] Based on WHO data, the bed occupancy rate (OR) in acute care hospitals was 26.1 percent in 2003. Due to the poor condition of such facilities, including their lack of equipment and drugs, patients who do stay in the hospital often do not receive appropriate care.[72] Low ORs could also be explained by the fact that hospital patients are expected to cover almost all medical costs and other non-medical expenditures, such as food, laundry or drugs.[73] As a result, many who need inpatient care cannot afford it, a reality reflected in the low occupancy rates. In addition, since the

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[70] WHO, "Health for All" database, 2005.
[71] Holley, Akhundov, and Nolte, "Health Care Systems in Transition," 2004, p67.
[72] Holley, Akhundov, and Nolte, "Health Care Systems in Transition," 2004, p38.
[73] Tecnicas de Salud, "Health and Health Care Policy Review in Azerbaijan," 2004.

number of beds is still based on the former Soviet planning model, many beds do not get utilized.

The average length of stay in a hospital remains high. According to the WHO, the average length of stay (ALOS) in a hospital in Azerbaijan was 15.8 days in 2003, higher than in any other country in the European region (see Table 2.1). In comparison, the EU average in 2003 was 6.77 days, while the CIS average was 12.08 days.

**Table 2.1 Inpatient Facility Utilization and Performance in
Acute Care Hospitals in Azerbaijan, 1999–2003**

Item	1999	2000	2001	2002	2003
Hospital admissions per 100 population	4.7	4.7	4.7	4.7	4.8
Average length of stay in days	14.9	15.4	15.5	15.3	15.8
Occupancy rate (%)	30.0	28.5	25.7	25.6	26.1

Source: WHO, "Health for All" database, 2005.

The inpatient facility utilization results of the WWC Survey were somewhat lower: approximately 11.1 days for adults and 2.6 days for children. The higher WHO numbers can be explained by two factors: (i) given obsolete treatment protocols and the absence of necessary equipment, patients need to stay much longer in the hospital than would otherwise be necessary, and (ii) given the low salaries of health personnel, keeping patients at a facility longer than necessary allows personnel to collect higher payments. Among respondents advised to admit themselves to a hospital, 61 percent refused, either because they thought it unnecessary (mainly in urban areas) or did not have sufficient money (mainly in rural areas).[74]

2.3.2 Preventive and Other Care

Utilization of preventive and other services[75] is higher in rural than urban areas. It is also higher for women and respondents from the highest income quintile, and tends to increase with age. Annual average utilization of preventive and other health visits is 0.6 per person and is substantially higher in rural than urban areas. For example, the G&G Survey found 1.6 annual visits per person in Xachmaz (a semi-rural area), followed by 0.9 in Nasimi (an urban area) and a low of 0.05 in Qaradag (a rural area). Women utilize preventive healthcare services more than men. Utilization rates also vary with age. Utilization seems to increase with increasing age (save for the 0–4 age group) and is highest for the 60–69 age group (see Figure 2.3), while it should be higher for the younger population. Low utilization of preventive services at younger ages may lead to a future burden on the healthcare system.

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[74] WWC, "Baseline Study," 2003.
[75] Throughout this chapter, wherever the phrase "preventive services and/or care" is used, it always refers to "preventive and other services."

**Figure 2.3 Annual Preventive and Other Health Visits
per Person, by Age, 2005**
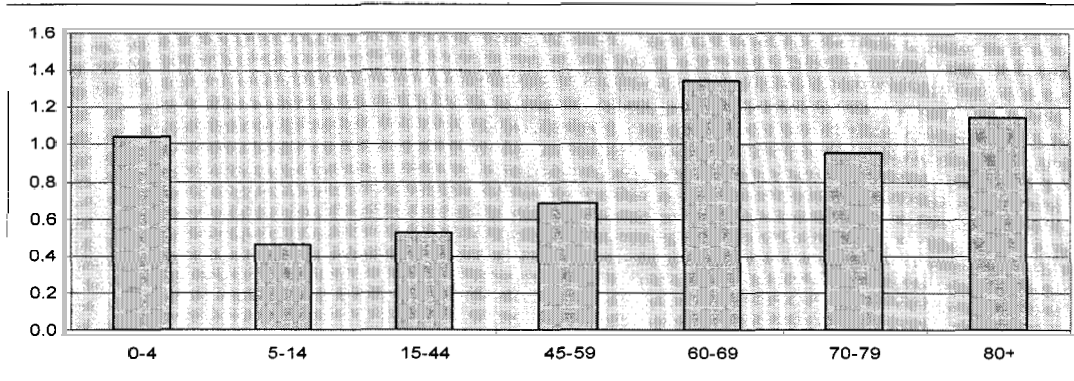
Source: G&G Consulting, "Health Financing Study," 2005.

There is no clear utilization trend related to education; although people with tertiary education utilize preventive services more often than people with lower levels of education. Of note, divorced respondents (1.8 annual visits per person) utilize preventive services six times more often than those who were never married. Again, the better a person's perception of their health, the less he or she utilizes preventive and other healthcare services. People without health coverage visit preventive service facilities almost three times more than those who have coverage. With regard to income, the higher the income, the more preventive healthcare services are utilized.

Only a small proportion of all episodes documented for preventive and other care were actually for preventive care. The G&G Survey found that only 10.6 percent of the total number of such episodes were for preventive and other health services. Medical check-ups are the most frequently utilized service, followed by dental prosthesis, immunization, eye glasses/lenses prescription, prenatal care, postnatal care and family planning. Different providers are utilized for different types of services (see Figure 2.4).

Figure 2.4 Utilization of Preventive and Other Health Services, 2005 (%)

Source: G&G Consulting, "Health Financing Study," 2005.

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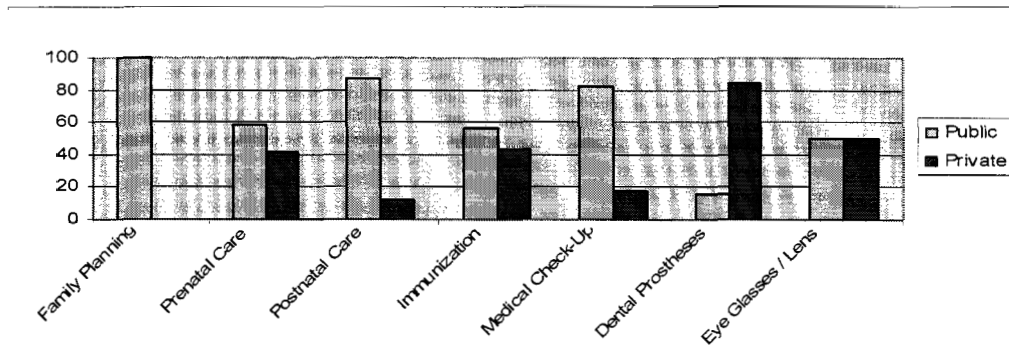
The private sector plays an important role in the provision of preventive and other services, particularly for the rural population and people from the highest income quintile. As the figure above shows, private-sector providers play a very important role in the provision of preventive services, except for family planning, postnatal care and medical check-ups. It is interesting to note that rural residents utilize mainly private facilities (25 percent go to private health diagnostic centers and 17.3 percent, to private general hospitals); only 26 percent go to public general hospitals. Urban respondents, on the other hand, go to district hospitals (44.1 percent), followed by private general city hospitals (16.2 percent) and private district hospitals (11.8 percent). Women tend to utilize public facilities more often than men. With regard to income, respondents from the highest income quintile utilize private facilities more often than respondents from other quintiles, but no definite increasing or decreasing trend can be discerned across quintiles.

2.3.3 Utilization of Reproductive Health Services

Antenatal visits and postnatal hospital stays in Azerbaijan are still very low compared to international standards, particularly for the poor and the rural population. The average number of visits for antenatal care was 2.3 (0.3 visits for the lowest income quintile and 4.5 visits for the highest), compared to the WHO norm of 4 to 6 visits overall during a pregnancy. The average postnatal stay in a hospital was 2.1 days, compared to an international average of 2.8 to 3.2 days. The number of days falls as low as 0.6 for poor households.

For both antenatal care and postnatal hospital stays, numbers are lower in rural areas. The UNICEF RH Survey in Azerbaijan found that only 70 percent of women who gave birth in the past five years had received some prenatal care, while only 25 percent had received postnatal care. Of the women who received prenatal care, the average number of visits was 4.3 visits, a higher number than the WWC Survey finding. Only 6 percent of births had, however, received adequate care based on the Prenatal Care Index (Kotelchuck Index). According to the UNICEF MIC Survey, about 87.5 percent of births occurring in the year prior to survey were attended by skilled personnel, an indicator that is strongly positively correlated with the level of the education of the mother.

In Azerbaijan, traditional methods of contraception are used most of the time. Despite a fall in the abortion rate over the past several years, abortion is also still used. According to the RH Survey of 2001, withdrawal (31 percent) and intrauterine devices, or IUDs (16 percent), are the most frequently used methods of contraception among married women aged 15–49.[76] Contraceptive prevalence of any kind in Azerbaijan is only 55 percent for married or in-union women, one of the lowest percentages among the former Soviet republics. In fact, modern methods of contraception are used by less than a quarter (22 percent) of people who use any method of contraception.

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[76] UNICEF, RH Survey; UNICEF, MIC Survey.

In addition, abortion is still frequently used as a method of contraception, although there has been some progress in reducing its use since the 1990s. Abortions are mainly carried out in district polyclinics, but are also often conducted outside public facilities by unqualified staff. Many respondents said that they do not go to health centers for abortions due to the lack of necessary health equipment. Pharmacies are the main source for obtaining condoms or pills, while public hospitals are the primary source for IUDs. IDP and refugee women were less likely to obtain contraceptives in public hospitals and clinics and more likely to receive them from health clinics run by NGOs.

2.3.4 Utilization of Services for Children

Children are predominantly treated at home. Since no family pediatrician system exists in the areas where the WWC Survey was conducted, in the majority of cases, children were treated by their parents and did not seek care in health facilities. About half of all children interviewed for the WWW Survey reported being "generally healthy," with rural children overall somewhat less healthy than urban children. Only 0.3–0.4 percent of children had gone for a general check-up. Of the children who reported themselves ill, treatment by adults in the household was the most prevalent form of treatment (60 percent), followed by no treatment at all.

When children receive treatment, they are mostly taken to a district polyclinic. According to the MIC Survey, of the 3 percent of children who reported having an acute respiratory illness (ARI) episode in the last two weeks, only 35.6 percent were taken to a health provider (22 percent to a hospital, 10.2 percent to a health center, 1.7 percent to a dispensary (for examination and treatment by a physician), 3.4 percent to a traditional healer, and another 3.4 percent to a private physician).

Home treatment of children is supported by the findings of the G&G Survey, which show that children aged 5–14, followed by the age group 0–4, have the lowest annual utilization rates of all healthcare facilities compared to other age groups: low hospital admissions (0.02 per person), outpatient visits (1.2 per person) and preventive and other health care visits (0.46 per person)—services for which utilization levels should be substantially higher in these age groups. As a component of the integrated management of childhood illnesses (IMCI), mothers in Azerbaijan were asked to name the symptoms that would cause them to seek care for their child. Some 75 percent said that they would seek care if their child developed a fever; 21 percent said if the child was becoming more sick and 10 percent said, if the child experienced difficulty in breathing and had blood in his or her stools.[77] However, as the utilization rates cited above suggest, mothers are unlikely to bring their children to the hospital. If a health care facility is visited for inpatient care, children aged 0–4 are most often taken to specialized public hospitals, followed by a children's hospital.

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[77] UNICEF, MIC Survey, 29–30.

For outpatient care, however, 43.8 percent reported that the pharmacy is the main provider of healthcare services, indicating either that many children are treated at home or that with each visit to a healthcare facility, the patient also visits the pharmacy. Roughly 18.8 percent of children visit a district hospital and around 12 percent, a diagnostic center or rural hospital. Children between the ages of 5 and 14 are taken to public district hospitals, general city hospitals or private general city hospitals for inpatient care, while for outpatient visits they are again taken to the pharmacy (46.2 percent), followed by a general city hospital (15.4 percent) and a district hospital (13.5 percent). For preventive services, children aged 0–4 are taken equally to public general city hospitals, public rural hospitals, or diagnostic centers (both private and public). For the age group 5–14, public district hospitals, followed by private general city hospitals, are visited most of the time.

Immunization rates for children in Azerbaijan, for both the initial and follow-up vaccine dose, range between 85 and 90 percent, according to the G&G Survey. Many children are immunized in private facilities, most likely because these facilities offer a wider choice and better availability of vaccines. Based on the MIC Survey, however, only 1.9 percent of children were found to have health immunization cards, so the G&G Survey results are probably estimated, based on the recall method.

2.4. Healthcare-seeking Behavior

A large proportion of the population does not seek treatment in a health facility when sick. Only 60 percent of respondents with an illness episode sought treatment in a healthcare facility. Of the 1,625 episodes reported in the G&G Survey, 89.4 percent were illness episodes[78] and 10.6 percent were non-illness utilizations of healthcare services (e.g., immunization, family planning and other services). Among respondents who reported an illness episode, almost 40 percent did nothing or underwent self-treatment. Sixty percent of household members reported utilization of facilities when ill, with a total of 1,369 health provider contacts (329 for hospitalizations and 1,040 for outpatient care). When examining outpatient care alone, the proportion of people who did nothing or sought self-care rose to 51.7 percent.

People from the lowest income quintile seek care less often than those from the highest income quintile. Figure 2.5 shows that people's attitudes toward seeking care differ across income quintiles, with 70.1 percent of the top quintile seeking care, compared to only 43 percent of the bottom quintile. People from the lowest quintile do not seek any treatment at all significantly more often than people from the top quintile (34.9 percent versus 11.6 percent). Self-treatment is also somewhat higher among the lowest than highest quintile. Overall, the fact that so many people treat themselves suggests that people in Azerbaijan have little trust in the quality of care received from the system and that high OOP costs act as a disincentive for seeking care.

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[78] An illness episode is defined as a self-reported discrete incident of illness.

Figure 2.5 People Seeking Treatment by Income Quintile, 2003 (%s)
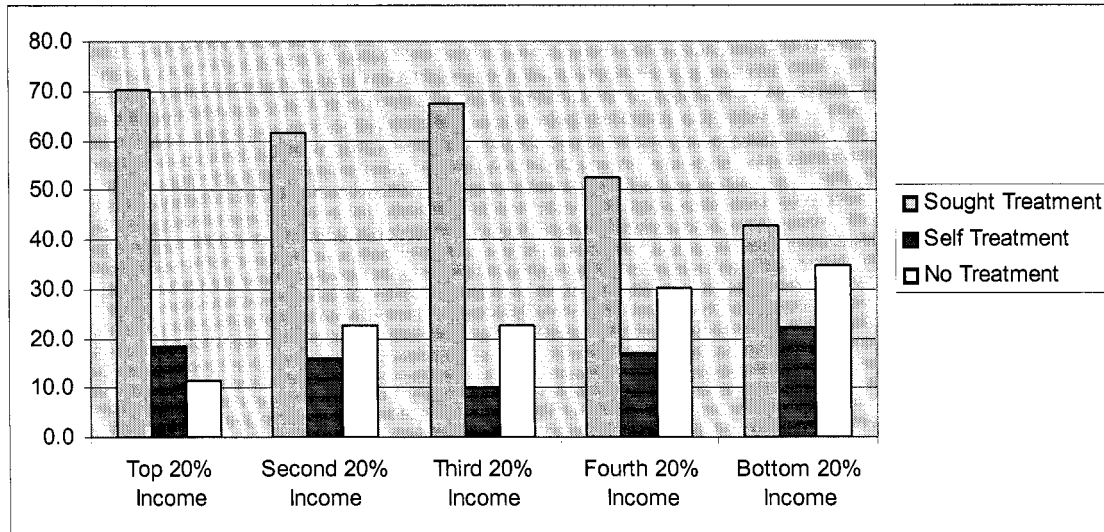
Source: WWC, "Baseline Study," 2003.

People from the lowest income quintile in urban areas, followed by people from the lowest income quintile in rural areas, seek healthcare the least. When examining the pattern of seeking care by income quintile and location, those from the lowest quintile in urban areas seek care the least, followed by the lowest quintile in rural areas. People who belong to the top quintile in rural areas treat themselves ten times more than the top quintile in urban areas, and get no treatment at all six times more often, a pattern best explained by the low quality and financial cost of healthcare services in rural areas. Almost twice as many people in the rural bottom quintile, as compared to the rural top quintile, do not seek treatment (33 and 18 percent, respectively), while the proportion of people choosing self-treatment in rural areas is about the same between the lowest and the highest quintile. People in the bottom urban quintile choose self-treatment (24.5 percent) over no treatment at all (40.7 percent) at substantially higher rates than do people from the top urban quintile.

The poor, as well as the better-off, cite lack of money as the main reason for not seeking treatment, indicating that healthcare services are not affordable for many people (see Figure 2.6).[79] Overall, financial access problems seem to play a greater role in rural areas. They clearly play a role for the poor. However, lack of money is also cited as the main reason for not seeking care in urban districts characterized by high unemployment and a large number of IDPs and low-income of households (e.g., Qaradag and Ganja). An International Medical Corps (IMC) survey also found that the poor often

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[79] G&G Consulting, "Health Financing Study," 2005.

cite lack of financing as the primary reason for not seeking care.[80] In fact, 31 percent of IDPs reported lack of finances as the major reason for their inability to access health services. Indeed, financial access was the most important deterrent across all income quintiles, with relatively less impact on the highest quintile. It is surprising that even for people from higher income quintiles, lack of money is an important factor. Regardless of whether or not people have health coverage,[81] financial access remains the major deterrent to seeking treatment.

Figure 2.6 Reasons for Doing Nothing/Not Seeking Treatment, 2005 (%)
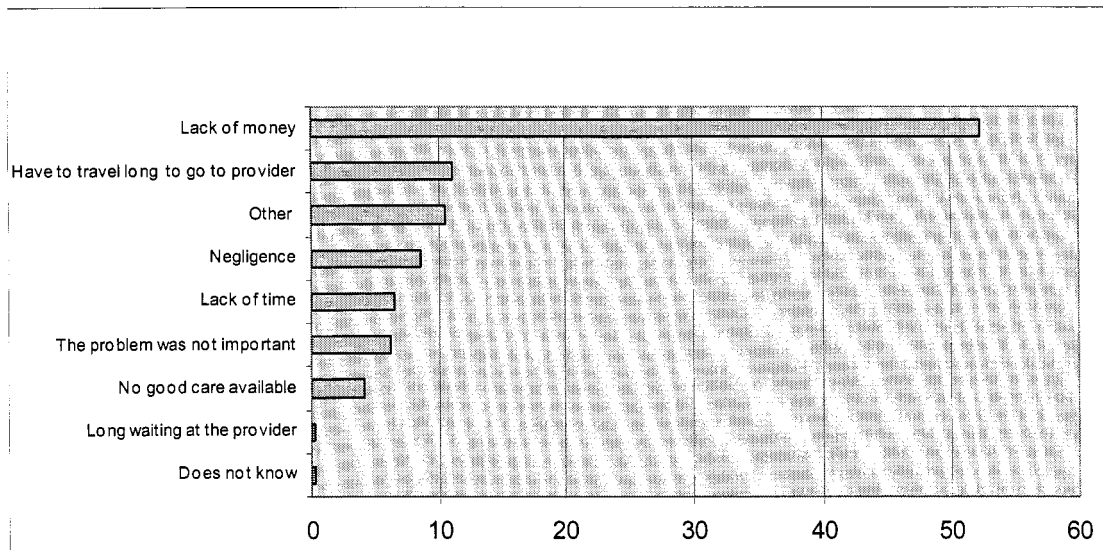
Source: G&G Consulting, "Health Financing Study," 2005.

The second most important reason for not seeking care is the extended travel needed to reach a provider. Distance and travel time to health facilities varies greatly among types of healthcare services. Most people go to the nearest facility, with the exception of a few people who travel distances up to 300 kilometers.[82] Availability of healthcare facilities is not an issue in Azerbaijan, but the distribution of these facilities and the extent and quality of care provided by them differ widely across the country. Other reasons why people did not seek care were negligence, lack of time, and a perception that the problem was not important. Lack of available good care was ranked only seventh (4.2 percent of all responses) as the main reason for not seeking care (see Figure 2.6). Even though ample evidence exists that the quality of healthcare in Azerbaijan has significantly deteriorated, respondents did not cite this fact as an important reason for not seeking

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[80] International Medical Core (IMC) "Technical Report: Population Health Needs and Health Service Utilization in Southern Azerbaijan," 2000.

[81] Most respondents in the IMC survey stated that they had no health coverage, even though everyone in Azerbaijan technically has the right to receive care from a state facility. This finding indicates that, given the problems of the healthcare system, most people do not feel covered.

[82] IMC, "Population Health Needs," 2000.

treatment. Clearly, perception of the quality of patient care is subjective and closely related both to expectations and the extent to which one feels better after treatment.

Negligence as a reason for not seeking care occurs with substantially higher frequency among people in the highest than lowest quintile, but there is no clear increasing or decreasing trend across quintiles. People without health coverage, as opposed to those with health coverage, say more often that no good care was available or that the problem was not important enough. Those who have health coverage mention "other reasons" and "negligence" more often than those without health coverage. People who preferred self-treatment either did so out of habit, knowing the treatment needed, or because they lived close to a pharmacy.

Pregnant women increasingly do not seek care in health facilities due to high out-of-pocket expenditures. Among the sample of pregnant women in the WWC Survey, the highest number delivered their babies at home (66 percent in rural and 34 percent in urban areas), followed by deliveries at FAPs (Feldsher Ambulatory Points) in rural areas and maternity wards of central district hospitals (12.8 percent, of which 51 percent was urban and 2 percent, rural). The RH Survey found that only one in four births in the past five years occurred outside of a medical facility, a finding that seems to understate the situation when compared to the results of the WWC Survey.

There is a large unmet need for family planning programs in Azerbaijan. The prevalence of use of modern contraceptive methods among women in the country is very low (55 percent). According to the RH Survey, the following are the main reasons why women do not use modern contraceptive methods: fear of side effects (90 percent), lack of knowledge (71 percent), cost of other methods (61 percent), difficult to get other methods (53 percent), partner preference (49 percent), other person's advice (26 percent), physician's recommendation (24 percent) and religious belief (15 percent). Three out of four women want more information about contraception and would like to get it from their physician.

Given that expenditures for reproductive health-related matters, including contraception, are as high as 30–40 percent of all household expenditures,[83] particularly in urban areas, the cost of these services becomes a barrier that prevents many women from getting the services they need. The RH Survey further estimates that the unmet need for modern contraception is 31 percent among all women (53 percent among married women); while about 38 percent of all women have a potential demand for contraception.[84] This potential demand is highest among married women and IDPs and increases with age. Potential demand for family planning services can also be evaluated according to fertility preference (wanting to either space or limit births). Most of the demand for methods that

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[83] WWC, "Baseline Study," 2003.

[84] The RH Survey defined the potential need for contraception as the sum of current contraceptive use (met need) plus the additional contraceptive use that would be required to eliminate the risk of unwanted or mistimed births (unmet need).

could effectively help couples limit childbearing remains unmet.[85] Only 1.5 percent of the women in the WWC Survey, for example, stated that family planning programs were available. Overall, the RH Survey concludes that the largest share of unmet need is among women in rural areas, the less educated, the poor and women with more children—a finding that indicates that access for these disadvantaged groups needs to be improved.

2.5 Determinants of Service Use

2.5.1 Perceived Health

People in rural areas perceive their health status to be worse than people in urban areas. The G&G Survey collected information about the perception of health status of household members[86] and found that almost two-thirds (60 percent) of the urban population considered their health status as "better" and "much better" than before, while only 43 percent of people in rural areas gave this answer. Twice as many rural than urban respondents perceived their health status as "very poor" and "poor" (see Figure 2.7). In Sabirabad, the proportion of people who perceived their health as poor was higher than in other districts, most likely because of the high concentration of IDPs in this district. These findings are consistent with the analysis above, which has shown that people in rural areas who perceive their health to be poor tend to utilize healthcare facilities more often. **Perceived health is thus an important determinant of utilization patterns.**

Figure 2.7 Perception of Health Status by Location, 2003 (%)
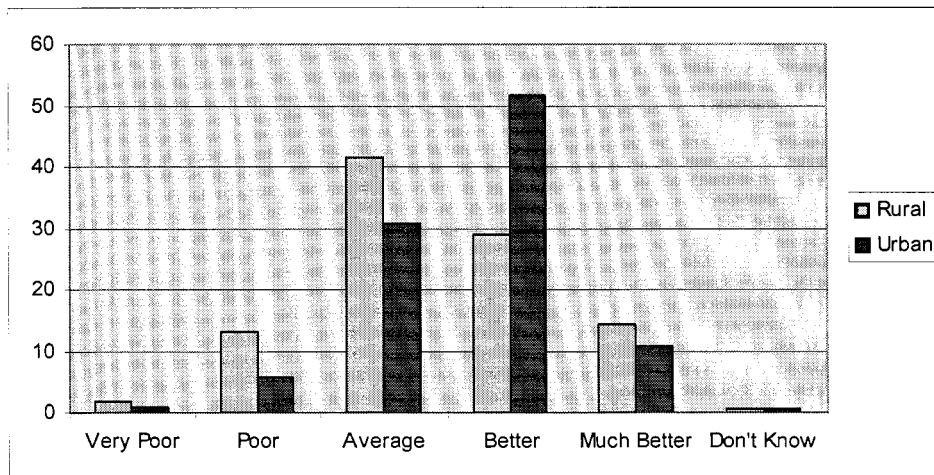
Source: G&G Consulting, "Health Financing Study," 2005.

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[85] UNICEF, RH Survey.
[86] Health status was evaluated on the following scale: very poor, poor, average, better, much better and don't know.

Perceived health status differs depending on age, marital status and income level.
Overall, women and men tend to perceive their health status similarly and all respondents perceive their health status to be worse with age. Older respondents, for example, perceive their health status to be worse than do younger respondents. Perceived health status does not seem to be affected by the educational level of an individual. People who are divorced and widowed, however, define their health status as "poor" or "very poor," and those who have never married, as "better" or "much better," to a significantly greater degree than other respondents.

People's responses were similar, regardless of whether or not they had health coverage. Only 4.8 percent of those who were covered by private insurance defined their health status as "poor," while almost 60 percent defined it as "better" or "much better." Households that benefit from health services covered by the Railways Department, Ministry of Defense, Ministry of Interior or State Oil Company defined their health as "average," "better" or "much better;" none of these respondents considered their health "poor" or "very poor." Lastly, as people's incomes increased, they tended to perceive their health less often as "poor" or "very poor," while the perception of health as "better" or "much better" did not differ significantly across income quintiles.

2.5.2 Enabling Factors

Availability of Healthcare Facilities

Overall, the availability of healthcare facilities at all levels of care is not an issue in Azerbaijan. However, the quality and types of services provided by these facilities does vary significantly across the country. There are over 2,300 health facilities in the system, a number that has not changed substantially over the past several years. Overall, the healthcare system in Azerbaijan continues to bear the characteristics of the overly centralized, inefficient planning system of the Soviet Union.

There are sufficient numbers of primary healthcare (PHC) facilities and physicians around the country, but the quality of healthcare that they provide is often very low.[87] In 2003, the extensive PHC network consisted of 1,830 FAPs (the first point of contact in a village), staffed with feldshers, midwives and/or nurses; 680 rural Doctor Ambulatory Centers (SVAs), staffed with physicians, midwives, feldshers and nurses; and 360 outpatient clinics attached to rural district hospitals (SUBs), staffed with therapists, gynecologists/obstetricians, pediatricians and dentists. Lastly, there were 112 district polyclinics (DPOLYs) managed by central district hospitals (CDH) and their maternity wards.

The physical condition of rural facilities is dismal and reflected by decreasing utilization levels of primary healthcare facilities in rural areas, a WWC Survey finding. One of the

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[87] The hierarchy and the organizational structure of the PHC system are explained in detail in Chapter 6.

reasons why people prefer to seek treatment in district polyclinics may be the deteriorating quality of service in rural clinics. Since 2003, the number of patients per month in all rural clinics has declined,[88] as has the number of patients per physician per month. Poor power and water supplies, as well as poor sanitary conditions, are typical characteristics of most primary healthcare facilities in the country. In addition, obvious infrastructure problems, such as the deterioration of buildings and lack of medical equipment and supplies, make many PHC facilities unsuitable for the provision of healthcare. The IMC Survey, for example, found that by the end of 1990s, 70 percent of the facilities surveyed lacked such basic requirements as a clean piped water supply.[89]

Azerbaijan continues to have an oversupply of hospital infrastructure. There are approximately 735 hospitals in the country: 63 central district hospitals (with an average of 233 beds), about 360 rural hospitals (with an average of 32 beds), 90 specialized dispensaries, 21 teaching hospitals and 25 private hospitals.[90] District hospitals offer various medical and surgical specialties, whereas rural hospitals generally offer basic inpatient care and minor surgery, all provided by the surgeon or pediatrician in the facility. Specialized dispensaries and specialist Republican hospitals, mainly in Baku and major administrative districts, focus on a sole condition, such as tuberculosis, dermatology or sexually transmitted diseases.[91]

In addition to these facilities, Azerbaijan has a large number of sanatoria, which offer rehabilitative services to supplement primary and secondary care. These facilities consist of 132 sanatoria for adults, 18 inpatient medical sanatoria for children and a number of "preventoriums," rest homes and tourist centers that offer some healthcare. Such facilities are owned by the MOH, other Ministries, enterprises or unions. They are generally short of funds and do not offer more than occupational and physical therapy or curative baths.[92]

In addition to MOH facilities, parallel health systems, NGOs and the private sector also provide health services. In addition to facilities of the Ministry of Health, there are polyclinics and inpatient facilities operated by the parallel health services of the Ministries of Railways, Defense and Oil. These facilities only serve about 5 percent of the population and their services are somewhat better-tailored to the needs of their target population. Nevertheless, they use very little epidemiological data in planning and make virtually no yearly adjustments to reflect uptake of services or unmet needs. In addition, a few NGOs in the country provide healthcare services. In fact, these organizations were the first to try to adapt healthcare service delivery to health needs. Although NGOs focus on local population needs, their drawback is that they have not yet managed to scale up their services.

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[88] WWC, "Baseline Study," 2003.
[89] IMC, "Population Health Needs," 2000.
[90] MOH web site, www.mednet.az (accessed March 2005).
[91] Tecnicas de Salud, "Health and Health Care Policy Review," 2004.
[92] Holley, Akhundov, and Nolte, "Health Care Systems in Transition," 2004.

Finally, the private sector tailors health services better to patients' needs and demands than does the public sector, but only people with sufficient means can afford to go to private healthcare providers. So far, only dentistry and pharmacies have been privatized. The privatization of state-owned facilities has been very limited. There are now 25 private hospitals and one large operator, MediClub (which functions like a health maintenance organization), that owns 6 hospitals. These latter hospitals, which offer both inpatient and ambulatory care, function on the basis of walk-in fees, annual fees and co-payments.[93]

Availability of Healthcare Staff

The availability of physicians and nurses does not seem to be an issue in Azerbaijan (see Chapter 5 for details). In fact, the country has a 30 percent surplus of physicians at the national level. However, the ratio of healthcare staff to number of residents varies significantly across different regions and income groups. Rural areas, particularly those below the district level, tend to experience shortages of staff, while staffing is excessive in urban areas. The legacy of the Soviet period means that physicians are very narrowly specialized, with an oversupply of certain specialties and an undersupply of others. Due to the excess number of physicians, nurses often have limited skills and provide only very basic support to a physician.

While patients had an assigned physician during the Soviet era, the 1997 law "About the Protection of Health of the Population" gave people the choice of selecting a preferred provider. Primary physicians, however, rarely treat a patient, usually referring him or her immediately to a specialist. Given that there is no tradition of family medicine training in Azerbaijan, primary care in general is of low quality. The country has not yet adopted an integrated family medicine model. Most services are still provided by specialists, even in places were a primary-care physician would be sufficient, resulting in low productivity and high costs. Knowing the system, patients often bypass the primary level and go directly to a specialist in a hospital, particularly since they expect to pay for any service and this strategy may reduce the total cost of treatment. Specialists, therefore, play the role of the primary-care physician and gradually lose more specialized skills, particularly at the polyclinic level. The WWC Survey found that the urban poor either do not seek care at all or go directly to the hospital in their district, bypassing the primary-care level altogether. For the poorest in the population, even primary-care services, often of low quality, are beyond their financial reach, causing them to seek untrained help instead or to forgo services altogether.[94]

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[93] This paragraph relies heavily on the information from Tecnicas de Salud, "Health and Health Care Policy Review," 2004.

[94] Holley, Akhundov and Nolte. "Health Care Systems in Transition," 2004, p32.

Health Insurance Coverage

The concept of health insurance coverage is not clearly understood in Azerbaijan.
About two-thirds of the population in Azerbaijan (74.7 percent in rural areas and 59.4 percent in urban areas) reported that they did not have institutional coverage. This finding is difficult to explain, given that, in theory, everyone in the country has coverage. However, in light of high OOP payments, most respondents perceive themselves to be without health coverage. This is why health coverage does not appear to have a clear cut impact on utilization levels. It should be noted that a small proportion of the population has private insurance (0.36 percent) or is covered by a parallel healthcare system (e.g., those provided by the Railways Department, MOI, etc.).

According to the WWC Survey, willingness to pay a premium for health insurance is zero in Azerbaijan. In the case of a premium payment for prescription drugs, about 1 percent of the population is willing to pay. In the same survey, respondents mentioned that informal payments collected at healthcare facilities create financial barriers to access. They noted that they would be more willing to pay for health insurance if they received a proper explanation of the nature of the system, the amount they would need to pay (with the assurance that no informal fees would be collected), and a guarantee of improved quality of service.

According to an International Medical Corps (IMC) survey, on the other hand, approximately 49 percent of the population is willing to contribute regular payments to a scheme that assures convenient access to healthcare and drugs.[95] The poor, however, are less willing to contribute to such a scheme than the better-off. Among those willing to contribute, 47 percent were willing to pay at the time of receiving care, indicating that the concept of health insurance is not well understood. Another 28 percent were willing to pay once a year, 6.4 percent, quarterly; 8.2 percent, monthly; and 2.6 percent thought healthcare should be free of charge. Factors that determine a willingness to contribute financially to health insurance were improved quality of services, convenient access to drugs and services, increased professionalism of providers and better-quality medical equipment.

Income and Poverty Levels

Low income is an important determinant of healthcare-seeking behavior in Azerbaijan.
With a GDP of US$1,022 in 2004,[96] Azerbaijan is one of the lowest-income countries in Europe and Central Asia. Poverty is widespread in the country. The 2002 Household Budget Survey found that almost 46.7 percent of the population were living below the

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[95] IMC, "Population Health Needs," 2000. This difference can most likely be explained by the fact that the IMC survey was designed differently, that households were better informed about the benefits of insurance schemes, and that the survey was undertaken in Southern Azerbaijan, where districts had already participated in projects sponsored by ICM and UNICEF.
[96] GoA, "State Budget Proposal," 2005.

national poverty line (defined as less than AZM 175,000 per month per capita) and 8.8 percent were living in extreme poverty, consuming less than AZM 125,000 per month per capita.[97]

As discussed earlier, lack of resources is the main reason why people do not seek healthcare, particularly people in the lowest income quintile. Figure 2.8 below shows the distribution of the rural and urban population by income quintile and location. In rural areas, the proportion of people in the top income quintile (quintile 5) is the biggest. In urban areas, the trend is reversed. This pattern of income distribution means that more people with low incomes live in urban rather than rural areas, which is typical of the FSU countries.

Figure 2.8 Distribution of Urban and Rural Populations by Income Quintile and Location, 2005 (%)
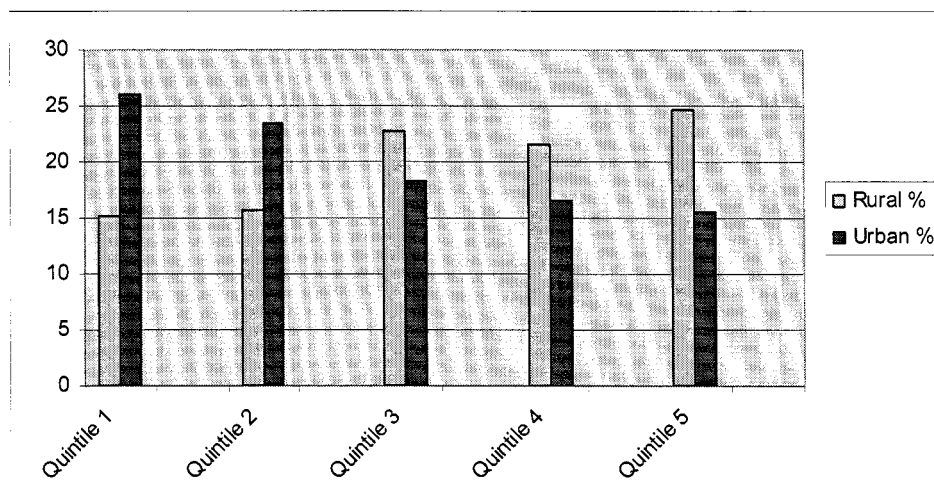
Source: G&G Consulting, "Health Financing Study," 2005.

Out-of-Pocket Expenditures

Out-of-pocket expenditures (OOP) have increased over the past several years and, together with low incomes, they are the most important determinants of healthcare utilization. According to the findings of the G&G Survey, OOP expenditures have risen from AZM 88,908 in 2003 (documented by the World Bank Household Budget Survey of 2002) to AZM 479,446 per capita in 2005. OOP payments now account for 75–78 percent of total health expenditures. Interestingly, the rural population spends more on such payments than does the urban population for all types of care. Transportation expenditures for the rural population are also higher than for the urban population. People with poor health spend the most on healthcare, compared to people whose health status is better. For preventive services, people of average health tend to spend almost as

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[97] World Bank, PA, 2003.

much on healthcare as those who perceive their health to be poor. OOP expenditures also rise with age, both for outpatient and inpatient care (except for the group aged 80 and above). It is important to note that expenditures for preventive care are the highest for ages 60–69, but very low for younger age groups.

In terms of overall income, people in the highest income quintile spend substantially more on OOP payments. It is important to note that people in the lowest two quintiles spend about the same for hospitalization, but the amount paid is nevertheless more than that paid by people in other quintiles, pointing to the relatively high burden of OOP payments on poor households. For preventive services, people in the highest quintile spend twice as much as the average for all five quintiles. However, one should bear in mind that it is difficult to know whether all such payments were made for necessary treatments. On the other hand, those in the lowest two quintiles spend very little on preventive care. Utilization of preventive services by these quintiles is also low; indicating that poorer segments of the population usually cannot afford preventive care and seek only curative care, resulting in health problems for the poor that could have been prevented. Those who report having government coverage spend less on outpatient and preventive and other services, but more on hospitalization, than those with no institutional coverage. Out-of-pocket payments for preventive and other services were low among respondents with government coverage.

Out-of-pocket payments can be broken down as follows: 10.9 percent is spent on hospitalization, 20.5 percent on preventive care and 68.6 percent on outpatient services. Overall, 58 percent of OOP expenditures are made in cash to pay a provider bill and almost 20 percent are made in cash to health personnel. Almost one-third of all OOP expenditures are informal payments, of which 63.1 percent are cash payments to health personnel for services other than the provider bill and 33.6 percent are "donations" to the facility. OOP expenditures are predominantly for *outpatient care*, with drugs and medical goods representing the highest expenditure category (70.5 percent of formal payments), followed payments to providers (11.9 percent). Informal payments for outpatient care represent 35.2 percent of all OOP expenses. A very high proportion of these informal payments go to health personnel. It is interesting to note, however, that a certain proportion of the OOP payments for drugs and goods are also informal.

For *inpatient care*, 33 percent of OOP payments are paid in cash to health personnel, followed by 32 percent for medicine procured outside the provider and 16 percent for the provider bill. Roughly 40 percent of all OOP payments for hospitalization are informal payments, of which almost 33 percent is paid in cash to health personnel. These are not "gratitude" payments, but payments required to receive treatment.

One-fifth of OOP expenditures for *preventive services* are informal, of which 85.7 percent goes to health personnel. Most official OOP payments for preventive services are for dental prosthesis, medical check-ups and eye glasses or lenses. Overall, OOP payments cover both the salaries of health personnel and resource shortages in facilities

for all types of care. Given that people cite lack of money as the main determinant of not seeking treatment, OOP payments have a significant impact on people's access to healthcare.

With regard to facilities, most OOP payments for hospitalization were made in public facilities (generally a general city or district hospital, followed by specialized hospitals). The amount of OOP payments in private institutions was low (6.8 percent), reflecting low utilization rates in these facilities. For outpatient episodes, most spending in private facilities was largely for pharmaceutical expenses. For preventive services, most payments were made in private facilities.

According to the IMC survey, a quarter of all private transactions were made in-kind, by giving jewelry, cattle, carpets or other household items.[98] Some 85 percent of households were forced to sell livestock or exchange valuable items in order to pay for treatment and the services of medical staff. Only 14.1 percent of households cover health expenses from household savings. The cost of services and high OOP payments (both formal and informal) clearly affect access to healthcare services.

2.5.3 Attitudes, Beliefs and Satisfaction with Healthcare Services

People who live in pilot project areas seem to be quite satisfied with the health services that they receive. However, levels of satisfaction differ slightly depending on whether services are inpatient, outpatient or preventive. According to the WWC Survey, the overall satisfaction level of hospitalized patients in both public and private institutions is almost 66 percent in Azerbaijan, while dissatisfaction is 19 percent.[99] For some facilities, the satisfaction level was as low as 25 percent (private specialized hospitals) while for others, it was as high as 100 percent (public health dispensary, general/city hospital of Caspian Shipping Company, or military hospital). The satisfaction level for outpatient services was as high as 55 percent, compared to a dissatisfaction level of 22 percent. Satisfaction with public children's hospitals, hospitals of the State Railway Administration and State Oil Company, private district hospitals and private outpatient clinics was 100 percent, and around 80–90 percent for public outpatient clinics and military hospitals. About 66 percent of respondents were satisfied with traditional healers, whereas 22 percent did not know and only 12 percent were dissatisfied. Lastly, for preventive services provided by public and private institutions, overall satisfaction level was very high (75 percent), with the exception of military hospitals (33 percent).

2.6   Key Issues, Options and Recommendations

The main impediment to people's demand for and utilization of healthcare in Azerbaijan is high OOP expenditures, both formal and informal, particularly for outpatient care.

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[98] IMC, "Population Health Needs," 2000.
[99] WWC, "Baseline Study," 2003.

OOP expenditures have been increasing over the past several years and impose a significant burden on the population. People spend large amounts on both drugs and payments to health personnel. Informal payments as a component of total OOP expenditures are also high, suggesting a significant burden on the poor, particularly for inpatient care.

Although poorer segments of the population are most affected by OOP payments, it is important to note that the better-off also report lack of money as their main reason for not seeking healthcare. Only 6.5 percent of all respondents found their problem not important enough to seek care, indicating that if they could afford it, the majority of respondents would have gone to a healthcare provider. High OOP expenditures also seems to strongly affect reproductive health practices, as reflected in the high proportion of women delivering babies at home and the inability of many people to afford contraception. Children, moreover, are mostly treated at home by their parents.

The urban population, followed by the bottom income quintile of the rural population, seek treatment the least and often cannot afford any treatment at all, particularly preventive services that would likely decrease the future burden on the healthcare system. Rural residents visit private facilities more often than their urban counterparts, indicating either low quality or unavailability of public services in rural areas. Overall, people most often visit general public hospitals and district hospitals for care.

Interestingly, the low quality of health services did not seem to be very important for respondents of the G&G Survey, based on the fact that people reported rather high levels of satisfaction with healthcare services. However, other surveys found that the quality of health services is one of the main conditions that make people willing to pay for health insurance. The WWC Survey showed that the willingness to pay a health insurance premium was zero, indicating low confidence in the entire system. One of the main conditions that make people willing to contribute to a health insurance scheme is the assurance that that no informal fees will be collected, together with a guarantee of improved service quality. Other conditions that determine a willingness to contribute to health insurance were convenient access to drugs and health services, increased professionalism of providers and better-quality equipment. In general, however, the poor are less willing to contribute to a health insurance scheme than the non-poor.

Healthcare utilization rates in Azerbaijan, as shown by outpatient contacts per person, are low and have been gradually declining over time. Furthermore, the occupancy rate of hospitals is falling, admissions rates are low and the average length of stay remains high. These trends can be best explained by several factors: (i) only 60 percent of illness episodes result in the utilization of healthcare facilities, with many people treating themselves at home due to lack of money; (ii) many patients only visit a pharmacy for drugs rather than see a healthcare provider; (iii) more often than before, people visit private as opposed to public providers to receive better-quality care; and (iv) facilities are deteriorating and many do not have the equipment necessary to provide treatment.

Utilization of preventive services is high among older age groups. If this trend is not reversed and younger people do not start using preventive services more often, the country will have to bear significant curative costs in the future. Lastly, utilization rates differ widely across the country, indicating that serious distributional issues need to be tackled.

In order to improve access to and appropriate use of healthcare services, there is a need to:

- Reduce OOP expenditures, including informal payments.

- Increase public spending on health, targeting these outlays to outpatient and preventive services, particularly for women and children.

- Define an essential basic package of services and provide it free of charge to mitigate the financial risk of illness, prevent catastrophic destitution in times of illness and increase utilization of outpatient (especially PHC) and preventive services.

- Actively promote preventive services to increase utilization rates and therefore prevent a large future burden of curative services on the health system.

Chapter 3. Health System Stewardship

3.1 Introduction

This chapter describes stewardship of the health system in Azerbaijan, with a view toward understanding the current stewardship environment and the sociopolitical and economic feasibility of proposed health sector reforms. The World Health Report 2000 defines stewardship as "the careful and responsible management of the well-being of the population." More specifically, it refers to good principles of health and healthcare governance, a responsibility that is usually assigned to the Ministry of Health.[100] Stewardship is considered a core function of healthcare, together with financing, human resource generation and service delivery (the latter are addressed in detail in Chapters 4, 5, and 6, respectively).

3.2. Analytical framework

Four conceptual issues are important to stewardship: (i) the specific functions of stewardship; (ii) the contextual factors that enable or hinder the fulfillment of these functions; (iii) the actors and/or stakeholders involved in stewardship; and (iv) the level of governance where roles and responsibilities of specific functions are assumed and executed.

The domain of stewardship and its dimensions have been open to debate with limited consensus, mostly due to the semantics, but also as a result of the confusion between core functions of which stewardship is part, and the lower functions thereof. In this chapter, we propose the following four lower level functions for discussion and assessment of the fulfillment of the core stewardship function in Azerbaijan: (i) providing strategic direction for policymaking in health and healthcare; (ii) established and enforcing a legal and regulatory framework, as well as mechanisms and tools for the operationalization and implementation of policies; (iii) ensuring a coherent institutional and organizational structure and culture to support the achievement of policy objectives; and (iv) generating intelligence to monitor and evaluate policy implementation.[101]

Policymaking in healthcare is an integral part of stewardship. However, policymaking is often described in terms of content, without reference to the context in which policies are designed and made, the roles played by various stakeholders in adopting and implementing policies, or the process of policy implementation. Policy can simply be defined as a guided action to achieve an aim, often of a social nature, for the well-being of the population. Its pursuit is often driven by the prevailing values of a given society,

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[100] P. Travis et al., *Towards Better Stewardship: Concepts and Issues in Health System Performance Assessment; Debates, Methods and Empiricism,* edited by C.J.L. Murray and D.B. Evans (Geneva: Switzerland: World Health Organization), 2003.

[101] R.B. Saltman and O. Ferrousier-Davis, "The Concept of Stewardship in Health Policy," *Bulletin of the World Health Organization* 78, no.6 (2000):732–9.

especially in the domain of health and healthcare. Accordingly, in a fundamentally egalitarian society where health and access to care are perceived as fundamental rights, health and healthcare policies are expected to be equitable. That is, these policies are expected to be driven by a conscious effort to reduce inequities in access to care, especially those of a financial nature. Azerbaijan is, or at least aspires to be, an egalitarian society. The right to health and healthcare is enshrined in the 1995 Constitution (Article 41) and detailed in the Law on Public Healthcare (see Box 6.1 in Chapter 6 for more details regarding the state's responsibility for free healthcare services in the country). Moreover, a law on mandatory health insurance was passed in 1999, although it has not yet been implemented.

Most reform initiatives in the health sector begin with a policy statement in the form of a "White Paper," itself the product of serious deliberations by various stakeholders in the healthcare system. A White Paper either seeks to build broader consensus for reform and to galvanize momentum and resources, or presents an established consensus to a wider audience that has already been reached by stakeholders closely involved in the process. A legislative and/or regulatory process then follows suit, often resulting in institutional and organizational changes, as well as the adoption of new mechanisms, tools and operating procedures. Finally, more rigorous policy changes require that a monitoring and evaluation process be established to document the extent to which intended outcomes are attained. Two conclusions can be drawn from this short description: (i) the four aforementioned lower-level functions of stewardship are closely intertwined, with a certain degree of inherent sequencing; (ii) policymaking related to health system stewardship requires an understanding not only of the policy content, but also of its context, processes and above all the roles that different actors play in seeking and reaching a consensus on the policy agenda and content (see Figure 3.1).

Figure 3.1 An Alternative Framework for Health Policy Evaluation
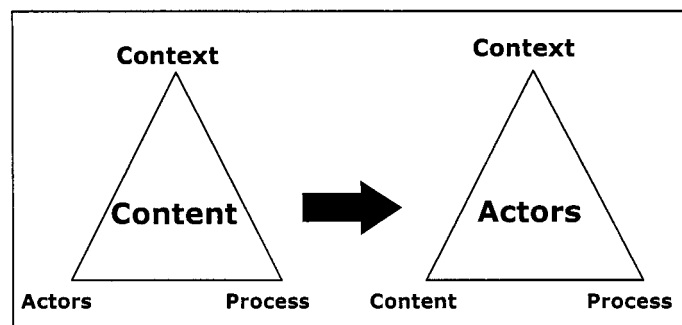
Source: Adapted from G. Walt, *Health Policy,* 1994, 226; and Walt and Gibson, "Reforming the Health Sector," 1994.

Section 3.3 describes the political economy of Azerbaijan and how it influences both the health sector and the macro-context of policy and reform issues. Section 3.4 then turns the reader's attention to the actors, or more specifically, to the roles and degree of involvement of various governmental, professional and international entities in

policymaking and health sector reforms in Azerbaijan. Section 3.5 addresses the issues of process, including opportunities for and threats to a fundamental overhaul of the healthcare system. Specifically, this section addresses the current and predicted future policy space for reform and how the Government of Azerbaijan (GoA) is expected to implement healthcare system reform. Finally, Section 3.6 summarizes the main issues involved in reforming healthcare stewardship in Azerbaijan and proposes two reform agendas, each with its own content and process mix.

3.3 Political Economy and the Health Sector

Any description of the macro context in Azerbaijan must begin with a reference to the triple challenge of transition: the socioeconomic and political consequences of the breakup of the FSU, the switch from a state-planned to market-driven economic model, and ongoing political transition. Azerbaijan's transition has proven all the more challenging due to armed conflict with Armenia, which resulted in the *de facto* loss of about 20 percent of its territory and the uprooting and migration of about one million people. The costs of the conflict have been considerable: major economic decline, hyperinflation and political instability. Indeed, it is remarkable how quickly the country recovered from the damage of war in macroeconomic terms, with a resumption of growth, reduced inflation and improved budgetary discipline. However, the socioeconomic costs of the transition and the war have proven more enduring, seen in widespread poverty, growing inequalities in income and access to social services, reduced purchasing power of people with regular incomes, decreased social spending and reduced state subsidies.

The failure to achieve peace and recover occupied land continue to mar prospects for greater democracy and pluralism in the post-conflict period. Azerbaijan could be considered a late reformer at best, and a reluctant one at that. In brief, power remains concentrated in the hands of a few. There is limited oversight of the executive branch of government by legislative and judicial entities. While many political parties vie for power and presidential and local elections were recently held in the country, representative democracy with a true opposition has yet to flourish in Azerbaijan. Participation in policy and political processes by professional associations and civil society remains rudimentary and ineffectual, with a consequent lack of transparency, limited media freedom and endemic corruption.[102]

All these contextual factors have a bearing on the health sector. One obvious challenge is the lack of a policy development process that involves various stakeholders. Despite the economic transition towards a market economy and ever-increasing private sector

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[102] According to Transparency International, Azerbaijan in 2005 scored only 1.9 out of a maximum score of 10 on the Corruption Perception Index and ranked 140th out of 146 countries on a listing of most corrupt countries, with 146th country being most corrupt. For purposes of comparison, Georgia, Russia and Turkey scored 2.0, 2.8 and 3.2, respectively, giving them respective rankings of 133, 90 and 77. For details, see the *Global Corruption Report 2005* at http://www.globalcorruptionreport.org.

involvement in healthcare, a bureaucratic proclivity for top-down normative planning and budgeting continues to impact the health sector.

Last but not least, purported corruption in the health sector compromises a level playing field, undermines system authority and public confidence, and seriously constrains access to care, especially by the poor, the under-privileged and those who lack proper "connections."[103] One could add to this list the challenge of governing a healthcare system in a country where close to 15 percent of the population live in temporary settlements. Not only do such people have greater healthcare needs, which are both more difficult and expensive to provide, but their temporary status presents a major obstacle to systemic policy reform and planning.

While most of these contextual factors apply equally to all core functions of healthcare (financing, resource generation and service delivery), cross-cutting macro-environmental and sector-specific issues are particularly relevant to the stewardship function in Azerbaijan.

3.3.1. Macro-environmental Factors and Health System Stewardship

At least five factors influence health system stewardship at the macro level. The first factor relates to governance, specifically, the limited degree of pluralism and transparency in policy- and decision-making in the country in general. Top-down, authoritarian decision-making is rooted in seventy years of monolithic socialist ideology and a hierarchical, one-party government political system—the so-called Soviet legacy. In the post-Soviet era, such decision-making may also stem from a desire to maintain political stability in the aftermath of armed conflict with Armenia.

Although a special advisory body to the Cabinet of Ministers (CoM), called the Science, Culture, People's Education and Social Problems (SCPESP) Unit, is nominally responsible for health issues, there is no indication that this unit plays an important role in health sector stewardship, whether with respect to policy development or reform initiatives. Nor is there any indication that the unit coordinates its activities with the Ministry of Health. The latter has been remarkably successful in maintaining the status quo, not only in terms of safeguarding the roles and responsibilities defined for the ministry during the Soviet era, but also in keeping most of its senior management intact.

The second factor that impacts health system stewardship in Azerbaijan is the strategic decision to develop a market economy. Azerbaijan is implementing the first stage of

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[103] According to the results of Transparency International's "Country Corruption Assessment: Public Opinion Survey in Azerbaijan, 2004," public confidence in the MOH is about 30 percent, on par with confidence in the road police, tax and customs agencies, and the Privatization Committee—the so-called "fourth group" that enjoys the least amount of public confidence, less than the Cabinet of Ministers in general and other ministries (MOE, MOI, MOSP, etc.) in particular. For details, see http://www. transparency-az.org.

market reforms and developing corresponding, requisite institutions. As a result, capital inflows have reached 20 percent of GDP, the highest foreign direct investment (FDI) rate among Low-income Countries under Stress (LICUS). Its economy is the fastest-growing in the CIS, with average annual GDP growth of 9 percent between 1997 and 2002, followed by 11 percent growth in 2003. In the health sector, transition to a market economy has meant opening up the market to private providers, following the passage of two laws, one on private medical practice and one on facilities. (To date, the latter law has mainly been confined to pharmacies, medical laboratories, diagnostic centers and dental services). The amount of investment in private hospitals and polyclinics remains limited. Although the state is gradually withdrawing from numerous economic and commercial sectors in Azerbaijan, it is nevertheless increasing both its presence in and commitment to the delivery of health services.

The third factor impacting health system stewardship is overall macroeconomic management in the context of rising oil revenues. While the oil sector accounts for 40 percent of the economy and the GDP growth rate is expected to reach 13.5 percent between 2004 and 2006, Azerbaijan's external debt ratio reached 21 percent of GDP in 2003. The current account deficit is even greater, at 37 percent of GDP in 2004. Oil resources are, however, expected to be depleted by 2024. The impending depletion of these resources is the reason for the creation of the State Oil Fund (SOFAR), which retains the majority of oil revenues outside of the consolidated budget, thus preserving them for future investments. In addition, new budget laws in 2002 and 2003 put an end to extra-budgetary expenditures and consolidated the budget under the national Treasury. A public investment program (PIP) with multi-year budgeting was also put in place.

Thus, while government revenues are projected to increase 180 percent in 2010, relative to 2002, non-oil GDP growth and revenues and, consequently, capital and recurrent expenditures, will grow more gradually. Despite pressing social and infrastructure needs, government investment and expenditures must be kept in check due to limited absorptive capacity and the risks of inflation, exchange-rate appreciation and loss of competitiveness in the non-oil segment of the economy. As a result, the public expenditures envelope is expected to increase slightly more than revenues, or about 160% from AZM 5,403 billion in 2002 to AZM 14,185 billion in 2010.[104]

In conjunction with the real increase in public expenditures, which will undoubtedly benefit the social sector, including health, it will be important to empower the line ministries, especially the MOH. The adoption of the Medium-term Expenditure Framework (MTEF) for budgeting purposes and the move towards performance-based budgeting (in place of current normative budgeting) is expected to allow implementing units, whether at the center or the periphery, more flexibility to allocate resources. This process will also entail (i) harmonization of investments among line ministries, together

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[104] For more details, World Bank and IMF, *Poverty Reduction Strategy Paper Assessment: Azerbaijan, 2003–2005* (Washington, DC: World Bank and IMF, 2003).

with harmonization of operational expenditures among local public administrations (e.g., municipalities and districts); (ii) transparency of inter-governmental fiscal transfers (i.e., fiscal decentralization); and (iii) a clear delineation of the role of municipalities in the health sector. Specially, the latter should not duplicate or assume the healthcare delivery function already subsumed by public district authorities, nor fragment it further to lower levels of municipal governance. Instead, municipalities should focus on broader public health functions, such as environmental health, food hygiene, etc.

The fourth factor that impacts health system stewardship is the government's commitment to the State Program for Poverty Reduction and Economic Development (SPPRED) and the State Program for Socio-economic Development of the Regions. SPPRED has six strategic goals. The first two aim to create an enabling environment for income-generating opportunities and maintain economic stability. The remaining four are geared towards improving the standard of living of the Azeri population in general and of IDPs in particular, including improved quality of and access to basic health and education services.[105]

As mentioned earlier, poverty is widespread in Azerbaijan: 46.7 percent of the population lives on less than AZM 175,000 per capita per month, and 8.8 percent, on less than AZM 125,000—the threshold for extreme poverty.[106] The most recent World Bank public expenditure review asserts that "the main challenge for Azerbaijan is to design and implement a policy agenda that leads to poverty reduction and improves incomes as well as equity, while maintaining macroeconomic and financial sustainability." This goal is especially important in view of rising oil and gas revenues on one hand, and the pressure for more government investment and expenditures (particularly in the health sector), on the other. Overall, poverty reduction is based on the direct relationship between health, poverty and socioeconomic development. Indeed, poverty reduction in Azerbaijan, especially in rural areas, is tightly linked with the provision of essential health (and education) services.[107]

The fifth factor that impacts health system stewardship is the proposed reform of the civil service, which has serious implications for health sector governance and the health sector workforce. The proposed reform would decompress public salary scales, monetize in-kind benefits as supplements to salaries and build transparency and a level playing field through performance-based incentives. Although such measures would benefit all civil servants, they should especially benefit health sector employees, given their high degree of specialization (in terms of required skills and competence), the current asymmetry of information between providers and users, and the ability of providers (especially

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[105] GoA, SPPRED, 2003–2005.

[106] World Bank, PA, 2003.

[107] See the main pillars of World Bank-funded Poverty Reduction and Support Credit (PRSC), which include (i) creating sustainable non-oil sector economic opportunities and jobs; (ii) increasing accountability and improving governance; and (iii) promoting social inclusion and improving service delivery, including enhancing access to healthcare services.

physicians) to earn more outside the confines of civil service positions. Therefore, it is all the more crucial to find an appropriate mode of payment and constantly fine-tune it to reach a desirable level of productivity, ensure efficiency and keep both the providers and users satisfied with the quality of services.

3.3.2 Sectoral Factors

There is no tradition of policy-based system reform due to the legacy of the Soviet system. Most key decisions in the FSU were made centrally in Moscow and planning was normative in nature. A close look at the organizational chart of the MOH does not reveal any division or unit tasked with policymaking or monitoring and evaluation. A Collegium exists, but its responsibilities do not include policymaking. Rather, it is tasked with playing an advisory role on administrative matters.

The first real attempt at healthcare policy reform in Azerbaijan was the Presidential Decree No. 760 of March 1998, which allowed for the establishment of a State Commission on Health Reform for advisory purposes. To date, it is unclear whether the Commission has ever convened, produced a policy paper or assisted the MOH to prepare one. One noteworthy attempt in this direction was a statement of objectives for health sector reform prepared by the MOH in 1999. A closer look at this document, however, reveals that it does not go further than simply listing a number of broad and often disparate objectives, with no implementation strategy or timetable (see Box 3.1).

Box 3.1 Health Sector Reform Objectives Proposed by MOH, 1999

- Reform the management system
- Develop new economic mechanisms
- Organize and develop medical insurance
- Reform primary care
- Accredit, certify and license health providers
- Privatize healthcare
- Develop medical science
- Introduce staff, education and training reforms
- Reform of the pharmaceutical sector
- Rationalize the hospital network and number of beds
- Improve sanitary/epidemiological services
- Reform the field of informatics and statistics

Source: MOH, "Reorientation of the System of Health and Reforms," 1999.

The involvement of healthcare professionals and consumers is visibly absent in the prevailing bureaucratic system of governance. In the Soviet era, the state was presumed to represent all parties equitably, obviating the need for the involvement of stakeholders and/or interest groups. Professional associations in all countries of the FSU countries thus have a very limited voice in major reform issues and policymaking. In addition, the habit of state paternalism—looking after all citizens—is a major obstacle to instituting a

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pluralistic system of governance in Azerbaijan. All current laws and regulations are prepared by the relevant unit of the MOH and may be circulated internally for comment before being passed on to the Prime Minister's office. However, many laws and regulations do not even go through this internal process; instead, they are promulgated as presidential decrees. Professional associations and civil society in general are completely uninvolved. Accordingly, the legitimacy of legislative actions is questionable, accountability is poor and, more importantly, enforcement is weak.

3.4 Role of Stakeholders in Healthcare System Stewardship

Pluralistic healthcare systems are characterized by four main stakeholders, each of which represents a specific function (see Figure 3.2): the population and/or "consumers" are at the receiving end of health services, for which they pay directly out-of-pocket or indirectly through taxes and contributions. ***Providers of care*** represent the "supply" side of the equation and charge patients directly or through a ***third-party payer***. The latter can be a public or a private entity (either for-profit or not-for-profit) that collects premiums from enrollees or taxation from the population and, in turn, pays service providers according to various modes of payment (including reimbursement).

Figure 3.2 The Nexus of Stakeholders in Healthcare
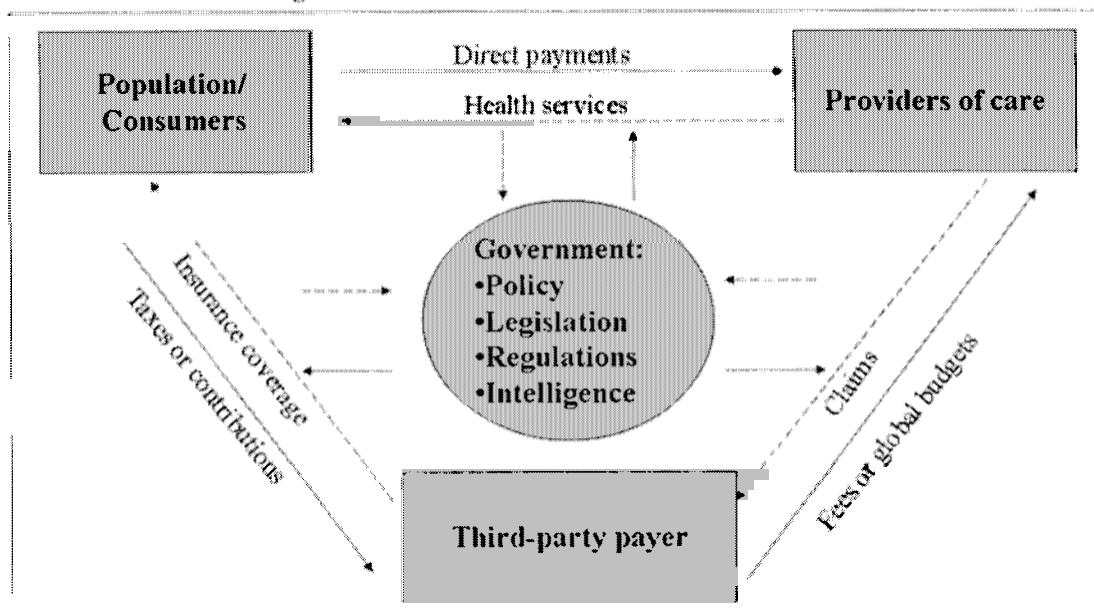
Source: Adapted from U.E. Reinhardt, *In OECD: Health Care System in Transition* (Paris, OECD: 1991)

In a truly pluralistic system, ***the state,*** the fourth stakeholder, is often confined to making policies, legislating and regulating transactions among the three parties and collecting information to ensure that each party respects the rules and regulations (i.e., payment

compliance, quality of services, etc.). This role in turn requires the active involvement of all stakeholders in system governance and management.

It is difficult to speak of such pluralism in healthcare in Azerbaijan. First, the population (i.e., consumers) has very little involvement in system governance or policymaking. While Article 24 of the Law on Public Health Care has a clause on patient rights, this clause refers mostly to freedom of provider choice; confidentiality; informed consent before medical procedures and treatment; and an individual's right to refuse medical intervention, access information about his or her status and practice his or her faith while in a health facility. Apart from a few pilot initiatives to empower communities in the management of local health centers, no mechanism exists for public participation in system governance in general, or that of health facilities in particular. Accordingly, their involvement is reduced to paying taxes and premiums for social protection services, as well as formal and informal out-of-pocket payments to healthcare providers.

The role of providers in system governance is also very limited, indeed to an extent almost unheard of in any democratic system. Provider associations remain very weak, with no say in policy decisions affecting them directly (e.g., human resources policy and planning; salary negotiations; curriculum development; licensing, certification and registration; definition of financial and non-financial incentives; development and enforcement of ethical standards; malpractice issues; and the management of patient grievances.

As explained in greater detail in Chapter 5, physicians, nurses and other health professionals are very poorly paid and have no voice in decisions affecting either their professions or compensation levels. Accordingly, those who can generate revenues outside the confines of civil service positions (mostly physicians, but to a lesser extent nurses and midwives), resort to charging informal fees, a practice that undermines the authority and legitimacy of the healthcare system. While better-skilled physicians leave the public sector entirely and practice only in the private sector, a very large majority remain on public payroll, mainly for job security, a pension and other fringe benefits, which, although they do not amount to much, offer a continuous albeit meager income. Most importantly, remaining in the public sector provides healthcare workers the bare necessities for their own, on-the-side private practices.

The state, mainly the MOH, plays the dominant role in health system governance because no separate entity (such as a third-party payer) pays for or oversees the quantity and quality of service provision in Azerbaijan. A few private health insurance companies do exist, but their market penetration is less than 1 percent of the population. The state both governs the system and pays for the services provided in its own health facilities. (See Chapter 4 for a detailed explanation of how the system is financed and pays for services.) From the stewardship perspective, it is worth noting that all financing and payment decisions are made by the MOF, except for certain investment decisions in the health sector that involve MED. Indeed, what seems to be a consolidation of power

by the state is, in reality, a fragmentation of the public realm, with different stakeholders assuming separate functions. MOH is not, for example, directly involved in resource allocation, despite the fact that it is the main provider of services and enforcer of laws, rules and regulations governing healthcare. The exclusion of MOH from budget allocation decisions is a major impediment to policymaking and long-range, rational planning.

U.N. agencies and an array of national and international nongovernmental organizations (NGOs) are advocating for improved system stewardship. While their financial clout is not substantial, a mere 1.8 percent of total health expenditures (8 percent of total public expenditures)[108]—these organizations exert considerable influence over the definition of healthcare priorities, whether for programs, services or districts.[109]

Finally, the level of system hierarchy at which policies are made, rules set, resources allocated, and intelligence processed, is very important. Although the various layers of authority established subsequent to the dissolution of the Soviet Union were intended to improve system governance, they instead increased its fragmentation. Two issues here deserve special attention: (i) the prominent role of the Office of the President, the Office of the Prime Minister, the Council of Ministers, the MOF and MED in health policy and resource allocation decisions in Azerbaijan, relative to the role of the MOH; and (ii) the extensive roles and responsibilities of the regional authorities, namely the Local Executive Committees and their local Heads, appointed directly by the President, in relation to health and other sectors, and the consequently limited role of the Chief Doctor, him/herself appointed by the Minister of Health in a context where financial resources to districts (rayons) are allocated by the MOF, with very little involvement of the Ministry of Health. One could add municipalities to this list, the healthcare roles and responsibilities of which remain to be defined (in the future, their role will most likely be limited to environmental health and public hygiene).

3.5.   Content and Process of Health Sector Reform in Azerbaijan

The design and implementation of health sector reform is a long and often tortuous process. This is especially true when the scope of reform is ambitious, the political will to implement reform is not evident and the consensus of all major stakeholders is not secured ahead of time. Once the implementation phase is launched, however, the reform process takes on a whole new dynamic. Success comes to depend less on the content and more on the timing and sequencing of various reforms. It also comes to depend on how well the reform process is managed overall, that is, how momentum is sustained,

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[108] See in particular Table 4.1 in Chapter 4.

[109] A survey of NGOs operating in the health sector in Azerbaijan revealed that 12 NGOs were running some 31 projects, mostly on community health, primary healthcare, tuberculosis, HIV/AIDS, reproductive health, health education, child health and general public health. This list excludes programs run by U.N. agencies and directly by aid agencies of individual countries (e.g., the GTZ-financed TB control program).

stakeholders kept engaged and committed, public support galvanized, and political capital retained (the latter can be lost as a consequence of managing the reform process).

Health sector reform can be systemic, programmatic, organizational or instrumental, depending on the objectives and breadth of reforms.[110] The objective of *systemic reform* is to achieve equity. As a result, the scope of systemic changes is very broad, encompassing almost all principal institutions and functions of the healthcare system. Systemic reforms often introduce universal or expanded health coverage, change the role and mission of the MOH, and realign the functions of existing institutions. Three conditions are of paramount importance when launching systemic reforms: (i) a broad-based consensus on system diagnostics; (ii) an explicit reform agenda shared by most stakeholders; and (iii) political will and leadership. Even if these three conditions are present, systemic reforms nevertheless take years, sometime a decade, to be fully (if ever) implemented.

The preoccupation of *programmatic reform* is to improve allocative efficiency, i.e., how best to distribute existing resources to produce better health. Such reforms are less ambitious in scope and do not attempt to change the roles and functions of the building blocks of the healthcare system. Rather, they focus on setting priorities, based on cost-benefit tradeoffs. These types of reform aim either to establish a better balance between preventive, curative and rehabilitative care services, or to assemble an essential package of services to be provided free of charge by the state. Such reforms also require a shared viewpoint on system diagnostics and broad-based consensus (although not to the same extent required by systemic reform) among stakeholders, whose power base, position and income will be directly affected by implementation of the reform agenda.

Organizational reform aims to increase technical efficiency, i.e., how best to use existing resources in a given facility to produce more and better quality services, and thus, user satisfaction and health. The focus of reform is narrower in scope, confined to improving productivity and quality of care. Such reforms focus on provider payment mechanisms, the referral chain, team composition and management, etc. While certain changes require leadership from the top (depending on the degree of system centralization), and the agreement of healthcare professionals (mostly physicians), many organizational reforms can be implemented without major disruption to the way in which the system operates.

Finally, *instrumental reform* aims to improve day-to-day management of the healthcare system. More specifically, it seeks to improve the human, financial and physical resources of the system. Examples of instrumental reforms that seek to enhance the management of healthcare institutions include improved health management information systems; various programs for better cost-accounting; introduction of tools to collect data on diseases, procedures and expenditures; and measures to control and assure quality, such as accreditation of facilities, licensing of health professionals and assessment of health technologies. These changes are much less controversial in nature than the types of

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[110] J. Frenk, "Dimensions of Health System Reform," *Health Policy* 27 (1994):19–34.

reform described above and, while they require a certain degree of acquiescence on the part of stakeholders (accreditation and licensing are prime examples), their implementation often takes less time to complete.

The process of health care reform in Azerbaijan began in the late 1990s with the passage of a series of laws and presidential decrees. At first sight, the scope of these reforms appeared quite ambitious and comprehensive (see Box 3.1). However, the state has shown no concrete willingness to institute systemic reform. A review of legislation and presidential decrees reveals that these reforms principally covered the regulation of private practice; the production, importation and sale of pharmaceuticals; the donation and use of blood products; organ transplantation; and HIV/AIDS prevention and care.[111] Similarly, the reform agenda predicated by the PRSP Health Sector Working Group is confined to improving access to healthcare services and their quality. These reforms mainly focus on PHC-level interventions and public health programs, with some reference to improved management and provision of drugs.

Despite the organizational nature of the existing reform agenda, progress to date has been slow, patchy and devoid of momentum. Several attempts have been made to improve the delivery of primary healthcare services with financial support from the World Bank, U.N. agencies (most notably, UNICEF) and NGOs such as the International Medical Corps (IMC), but these efforts have thus far remained confined to a few selected districts. While many donors are interested in further strengthening primary health care services, the MOH has not explicitly stated its intention to roll these projects out to other districts, or scale them up in terms of momentum, scope and coverage.

The process of healthcare reform in Azerbaijan is protracted—reforms are not being implemented. Indeed, Azerbaijan is one of the last countries of the FSU to begin health sector reform in earnest. On the positive side, one could interpret the current situation as one of gradual maturation, building momentum for systemic reform, which, although acknowledged as indispensable by all major stakeholders, requires the trigger of leadership and a public expression of political will.

The time has come for a demonstration of political commitment to healthcare reform in Azerbaijan. Promising conditions for reform include a positive economic outlook, relative socio-political stability, experience gained in several small-scale pilot projects, increased familiarity with international agencies, and lessons learned in other FSU countries. Perhaps most important, however, public opinion and senior government officials appear aligned on the need for reform. Other circumstances that contribute to the window of opportunity for reform are the country's formal commitment to the Poverty Reduction Strategy Paper (PRSP) process and its implementation mechanisms (SPPRED) and tools (PRSC). The challenge will be to decide who will spearhead the

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[111] For a detailed list of laws and decrees, see Holley, Akhundov, and Nolte, "Health Care Systems in Transition," 2004.

process and how ambitious the initial scope and timing should be in order to achieve cumulative, sustained momentum.

3.6. Key Issues, Options and Recommendations

At present, the health status of Azerbaijan's population is poor, both in absolute terms and relative to other countries with a similar socioeconomic level of development. However, two caveats need to be made. First, unlike many other countries, the Azeri health sector cannot be considered an underachiever because major structural and financial obstacles currently prevent the healthcare system from functioning properly. To put it differently, the governance and financing of the system is anachronistic in view of the significant progress made towards a functioning market economy and the major reforms already undertaken in other areas of the public sector.

Second, the amount of funds allocated to the healthcare sector by the state is so meager that it barely covers the wage bill. Wages are, moreover, at a level well below any reasonable pay scale one would expect in a relatively well-endowed healthcare setting. In short, the question is not whether efficiency can be improved in any significant way, or better value obtained for current investment. Rather, *the question is what volume of funding, in addition to organizational and financial restructuring, is needed to make the system function.*

Given the close relationship between health and the economy, a phased reform is proposed to foster a virtuous cycle of investment and improved health.[112]

Phase I would focus on programmatic issues. Specifically, it would concentrate on defining healthcare priorities and improving the day-to-day functioning of the system to enhance access and quality of care. In this step, affordability would cease to be the major impediment that prevents people from seeking healthcare. This phase would involve the establishment of an essential package of clinical and public health interventions and build the mechanisms and tools to deliver them effectively. Effective delivery of this package will require a number of actions, including identification of the major causes of the existing disease burden; standardized diagnostic, treatment and referral protocols; costing of interventions, training and certification of primary care physicians and allied personnel; mechanisms for quality control and assurance, including the information management system; and the legal and regulatory basis to assign roles and responsibilities, together with the necessary financial and non-financial incentives for effective delivery. Phase I would focus almost entirely on primary healthcare, with changes to inpatient care limited to those needed to introduce effective delivery of the essential package.

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[112] See Frenk, "Comprehensive Policy Analysis for Health System Reform," *Health Policy* 32 (1995):257–77.

If implemented properly, *the main advantages of Phase I* would be:

- public health interventions that are easier to design, pilot and implement, with a potentially high impact in a decentralized setting;

- minimum disruption to the current organizational setup, making the initial reform phase more politically palatable;

- an opportunity to build on ten years' experience in PHC;

- an opportunity to showcase real improvements in access to care;

- a pro-poor orientation;

- affordability (only minimal capital investment would be required and only modest recurrent costs incurred);[113] and

- momentum for more comprehensive reform in the medium term would be preserved, while gradually strengthening the stewardship capabilities of MOH.

Disadvantages could include a public perception of "too little too late" and tinkering at the edges of the system without commitment to comprehensive reform (i.e., redefinition of the roles and responsibilities of MOH and other key institutions, as well as financial reform). Phase I would, in fact, retain current system segmentation; the better-off would continue to be privately insured and/or use private facilities. This initial phase of reform would, however, allow the GoA to begin experimenting with contracting service delivery to the burgeoning private sector—the so-called "public contract model."[114]

Phase II would still be programmatic, but wider in scope. It would encompass the reform of both inpatient and primary-level healthcare facilities and services. This phase would focus on improving allocative and technical efficiency. It would include all elements of Phase I, albeit with additional capital investment in hospital infrastructure and equipment aimed at rationalizing inpatient care facilities. Additional investment would, in all likelihood, require a sharp reduction in the number of hospitals on the basis of a nationwide mapping exercise. Such an exercise should be preceded by a thorough assessment of inpatient and outpatient healthcare needs and the existing supply and utilization of hospital beds and other inpatient services.

Subsequent changes will, however, still be needed. Specifically, payments must become output-based, at least initially, until sound cost-accounting practices are developed and implemented, and the real cost of a comprehensive set of hospital services can be determined. In addition, sound decentralized management practices need to be instituted in hospitals, together with a referral chain from the primary to secondary level of care.

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[113] Phase I would be in line with the proposed mandatory health insurance system that would cover essential services.

[114] See J-L Londoño and J. Frenk, "Structured Pluralism: Towards an Innovative Model for Health System Reform in Latin America," *Health Policy* 41 (1997):1–36.

Overall, the system must adopt a family medicine organizational model, including changes in the way family physicians are employed and compensated.

The advantages of Phase II are:

- a more complete organizational overhaul of the healthcare system and its provision of healthcare services;

- the potential for improved efficiency in the medium and long term;

- stronger support from providers, most of whom are specialists accustomed to working in a hospital-based delivery model;[115]

- stronger popular support, as the population perceives a far-reaching attempt to improve quality of care; and

- endorsement by stakeholders who seek greater autonomy in the management and funding of healthcare facilities.

The disadvantages of Phase II include the need for major investment in the hospital sector; the complexity of changes in hospital management and funding; the likelihood that additional public outlays may be needed as a result of potential increases in the volume and intensity of services;[116] and a longer time frame, and the added complexity of reforming formal medical education and in-service training. It is imperative to properly sequence Phase II to rebuild system authority. In addition, Phase II would require much stronger, sustained political will to see the implementation process through and ensure much-needed regulatory changes in hospital accreditation and provider licensing.

Phase III would be more systemic, encompassing all reforms undertaken under previous phases, plus restructuring the existing institutional framework. More concretely, MOH would revise its mandate and business processes and define its functions, roles and responsibilities within a new institutional framework. Accordingly, MOH would mainly become a policymaking, planning, regulating and monitoring agency without direct involvement in the financing and provision of curative services. However, MOH would retain its responsibility for the provision of public health services, including disease prevention and health promotion (which would be provided through the reformed primary healthcare level).

In terms of financing, MOF, in coordination with MOH, would design a mechanism to allocate resources according to the needs-based formula described earlier. Ultimately, a separate fund could be established to pool resources and assume the purchasing function of healthcare services as a true Health Insurance Fund. However, this last step may not materialize until the tax base in Azerbaijan becomes broader, or people become more

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[115] The extent of support may vary depending on the type of specialist and where the specialist works, e.g., rural hospitals, central district hospitals, or tertiary and specialized hospitals.

[116] A large portion of these services may have to be financed through a health insurance scheme.

willing to make earmarked contributions to a fund. In any case, more research is needed on potential revenues and expenditures to determine the long-term fiscal sustainability of such a fund.

All phases presented above are implicitly sequenced, so that Phase II cannot be successfully implemented without first undertaking the necessary reform steps required under Phase I, and so on. One may, therefore, view Phase III as the long-term goal of comprehensive reform.

It is noteworthy that Phases I and II do not go beyond the programmatic level and, therefore, would not involve a major realignment of existing government institutions (particularly MOH). Nor would these phases redefine roles and responsibilities within the healthcare system along functional lines, with a strict separation between stewardship and financing on one hand, and delivery on the other. Equitable access to care would not be guaranteed, nor would a universal health system be instituted. However, the reforms would create sufficient room for the private sector to flourish, given a level playing field.

However, the first two phases, especially Phase II, would pave the way towards eventual system pluralism. MOH would build its regulatory capacity, especially vis-à-vis the private sector. The government would define the boundaries of its involvement in healthcare based on its fiscal capacity and abandon a centralized command and control structure. Providers would organize themselves in effective interest groups to play a greater role in future policy- and decision-making. Given the limited scope of change in overall system governance, as well as the constrained environment for consensual policymaking in Azerbaijan, the proposed reconfigurations are more realistic and therefore more likely to be implemented.[117]

Successful implementation of all phases of healthcare reform requires proper sequencing. The first step of the process would be to re-activate the Health Reform Commission and give it an explicit mandate and timetable to prepare the white paper discussed earlier in this volume, followed by a consensus-building exercise among all stakeholders in the healthcare system. The second step would be to issue the White Paper, followed by a timed-delimited, costed implementation plan. (This crucial step is already envisaged in the upcoming PRSC, a step to which the GoA has explicitly committed itself).

Both of these steps, which are mainly political in nature, should have the backing of the President and supported by an Inter-Agency Steering Committee and technical groups.

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[117] In their paper, "Structured Pluralism" (1997), Londoño and Frenk classify four policy configurations: (i) "isolated" strategies that have a low level of consensus and are partial in scope, which they deem irrelevant; (ii) "piecemeal" strategies that have a high level of consensus but are partial in scope, which they deem inconsequential; (iii) "non-consensual comprehensive" strategies, which they deem non-implementable; and, finally, (iv) "fully consensual comprehensive" strategies. The challenge, then, is to find a middle ground, or balanced configuration, that is both consequential and implementable.

The main task of the Committee and technical groups would be to synthesize the wealth of information on unmet healthcare needs and their determinants, specifically those related to weaknesses of the healthcare system that are amenable to intervention, and then identify specific courses of action. The array of reform options should be fed back to all stakeholders to facilitate agreement on the timing, sequencing and financing of their implementation, as well as the pre-requisites for their introduction (e.g., required legislation, regulation and training). Recommendations should include a cost-effective essential service package, pilot projects in family medicine, and revised hospital payment modalities, among other changes. Four or five districts that have demonstrated a high level of commitment to the reform process should then be selected to pilot the reforms.

Finally, a public information campaign, preferably conducted through the media, should be developed and properly financed. This campaign should explain to the population the main tenets of the reform, the nature and timetable of reform activities and emphasize those actions likely to produce tangible results in the short run (e.g., improved access to and quality of care, as well as reduced out-of-pocket expenses for essential services). This step is very important to galvanize public support and help people understand and endure the distortions that are likely to occur during the implementation phase. A similar approach will be needed to fully inform health professionals and thus lessen misconceptions, alleviate fears, mitigate bureaucratic and professional resistance and assure cooperation. Last but not least, collaboration with international partners throughout the process will be needed to secure their political, technical and financial support.

CHAPTER 4. FINANCING HEALTH CARE IN AZERBAIJAN

4.1   Introduction

The aim of this chapter is to present an analysis of healthcare financing in Azerbaijan. The structure of the Azeri health system still largely resembles that of the former Soviet model inherited at independence in 1991. This structure, once fully financed by public funds—at least officially—has grown increasingly dependent on extra-budgetary funds derived from formal user charges and/or informal payments for treatments, which are paid directly by patients. Most patients now pay for all types of health services, from simple consultations to sophisticated interventions. In addition to paying for medical services, the population also typically pays for medications, which account for an increasing share of household expenditures on healthcare.

The framework used for this analysis uses four sub-functions to describe the system of health sector financing:[118] (i) collection of funds; (ii) pooling of funds; (iii) purchasing of services; and (iv) provision of services. Collection of funds refers to sources of pooled revenue, contribution mechanisms and the agencies that collect these revenues; pooling of funds concerns the accumulation of prepaid health revenues on behalf of a population; and purchasing of services refers to the allocation of revenues to healthcare providers (provider payment mechanisms). The provision of services involves the existence of a benefit package (services that are paid from pooled and/or prepaid resources) and patient cost-sharing (either in the form of copayments for services included in the benefit package or out-of-pocket payments for services not included in the benefit package). This framework allows for a thorough description of the present healthcare financing system in Azerbaijan (based on currently available data and the compatibility of different information sources), as well as an identification of preliminary policy options.

4.1.1   Background

Health expenditures in Azerbaijan have been declining as a percentage of GDP and as a share of total government spending. Following independence, Azerbaijan saw a virtual collapse of public finances. Although at present, real GDP is approaching its pre-independence level, health expenditures in Azerbaijan have been declining both as a percentage of GDP and as a share of total government spending (see Figure 4.1). In 1990, almost 3 percent of GDP (9 percent of total government spending) was allocated to health. In 2004, official estimates put total health expenditures at 0.9 percent of GDP (3.5 percent of public spending). See Table 4.1 for recent estimates of healthcare expenditures and revenue.

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[118] See J. Kutzin, "A Descriptive Framework for Country-level Analysis of Health Care Financing Arrangements," *Health Policy* 56, no. 3 (2001):171–204.

Table 4.1 Total Health Expenditures and Revenues, 2001–2004
(as % of GDP)

	2000	2001	2002	2003	2004
Total consolidated budget expenditures	20.8%	18.7%	27.7%	28.9%	26.6%
Total consolidated budget revenues	21.2%	18.7%	27.3%	27.1%	27.3%
Statistical discrepancy	1.0%	0.4%	0.1%	-0.5%	0.5%
Deficit/surplus	-0.6%	-0.4%	-0.5%	-1.2%	-0.3%
Public spending on health	0.864%	0.791%	0.739%	0.789%	0.944%

Sources: Azerbaijan Ministry of Health; IMF staff estimates.
Note: GDP rose from AZM 23, 591 billion in 2000 to AZM 41,873 billion in 2004.

Figure 4.1 Health Expenditures in Azerbaijan as % of GDP and
Total Government Spending, 1990–2004
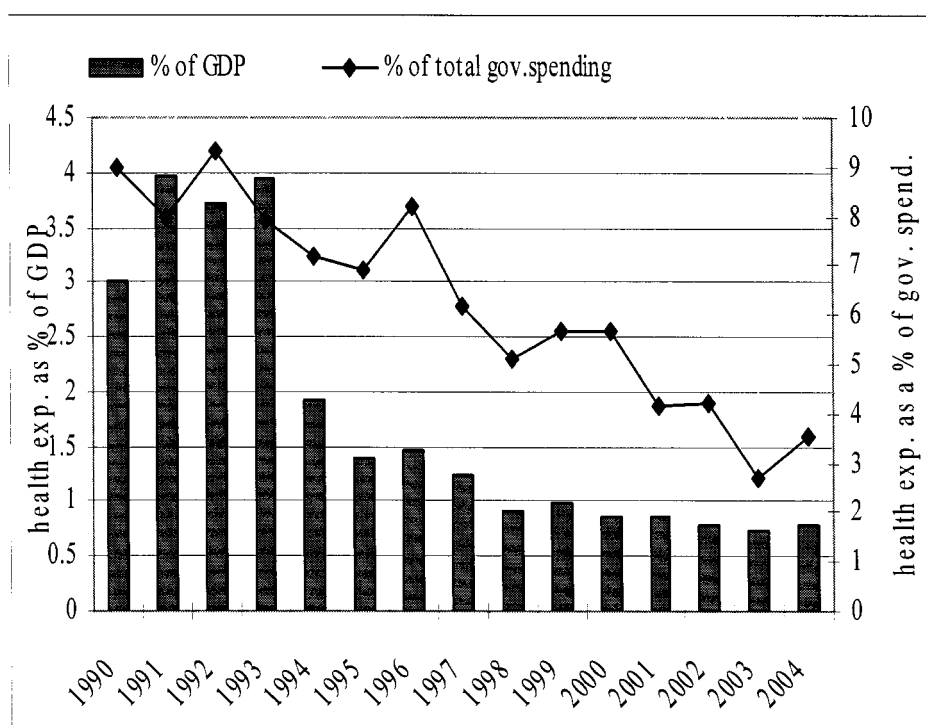
Source: World Bank, World Development Indicators, 2005; Azerbaijan Ministry of Finance.

**Figure 4.2 Health Expenditures in Selected Countries of Europe
and Central Asia, as % of 2003 GDP (or latest available year)**

Health expenditure as a % of GDP, 2003 or latest available year
(in parenthesis)

Country	% of GDP
EU-15 (2002)	9
CIS	2.9
Turkey (2000)	6.6
Lithuatnia (2002)	5.7
Latvia	5
Albania	2.3
Kyrgyzstan	2
Kazakhstan	2
Azerbaijan (2004)	0.9
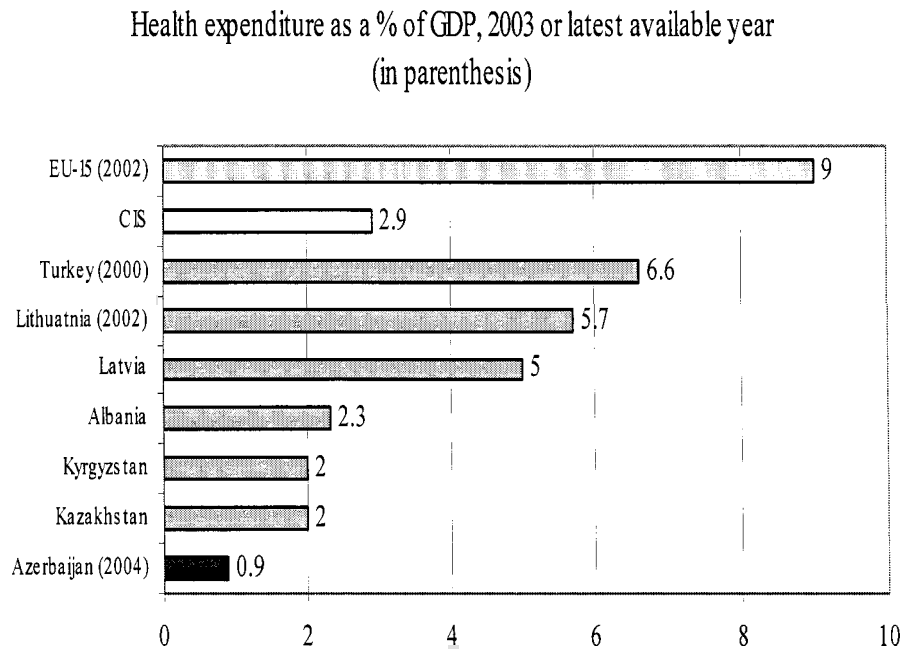
Source: WHO, "Health for All" database, 2005.

Data on the level of out-of-pocket (OOP) expenditures, however, indicates that official figures seriously underestimate actual levels of expenditure. A health expenditure study undertaken in 2004, for example, estimated total health expenditures between 3.3 percent and 4.1 percent of GDP in 2002, with a public-to-private ratio of between 25 percent (20/80) and 33 percent (25/75).[119] As a result, the official figure of 0.9 percent of GDP seems to include only public expenditures. Public expenditures on health have remained relatively stable as a percentage of GDP in the past five years, compared to total budget expenditures, which declined as a percentage of GDP by 10 percent in 2001, then rose by close to 48 percent in 2002 (see Table 4.1). This data suggests that the government placed a low priority on the health sector. In 2004, however, public health expenditure as a percentage of GDP rose by almost 20 percent (from 0.78 percent to 0.94 percent of GDP, respectively). In real terms, health expenditure in Azerbaijan dropped from US$148 per person per year in 1991 to US$18 in 1997, then rose slightly to approximately US$26 in

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[119] Official estimates report the ratio of public-to-private expenditures to be 40/60, however, the author is unaware of the methodology used to calculate these estimates. For more information on the data and assumptions used to calculate estimates of the public-to-private ratio in the health expenditure study, see G&G Consulting, Table 4.2 and Final Report in "Health Expenditure Analysis Carried Out Under the World Bank Second Institution Building Technical Assistance (Credit No. 3663)," final report prepared as part of the Health Reform Project in Azerbaijan, 2004.

2002 (a figure far below the European regional average of just over US$1,398 in that same year).[120]

The government's relative share of healthcare financing is also much smaller than in other neighboring countries of the Commonwealth of Independent States (CIS), where an average of 2.9 percent of GDP is spent on health (see Figure 4.2). The relatively low level of public resources devoted to the health sector, combined with a mandate to provide all health care services for free, suggests lack of public resources, deterioration of medical buildings and equipment, and shortages in the supply of basic medicines.

The current dependence of health spending on private payments is closely related to national income and the ability of the government to spend on health. The dependence of Azerbaijan on OOP payments is consistent with experience of other countries in the Caucasus (Armenia and Georgia), as well as that of Tajikistan in Central Asia (see Figure 4.3). These are poor countries in an extreme situation: direct out-of-pocket payments by patients account for over 70 percent of total health spending in these countries. In such an extreme situation, it is not only poverty that needs to be taken into account, but also the country's ability to spend on the health sector. (see Figure 4.4). The countries of the Caucasus and Tajikistan have suffered a more severe economic transition than other CIS countries, experiencing a dramatic collapse in public revenues that severely affected public spending and, consequently, health spending. This collapse has caused patients to pay for health services themselves. Azerbaijan's performance in this regard raises questions about its finances; although total government spending as a percentage of GDP is not the lowest in the region, OOP payments in the country nevertheless acount for the highest percentage of total health spending.

Figure 4.3 OOP Payments as a Percentage of Total Health Expenditures, WHO European Region, 2002

GDP per capita, adjusted for purchasing power
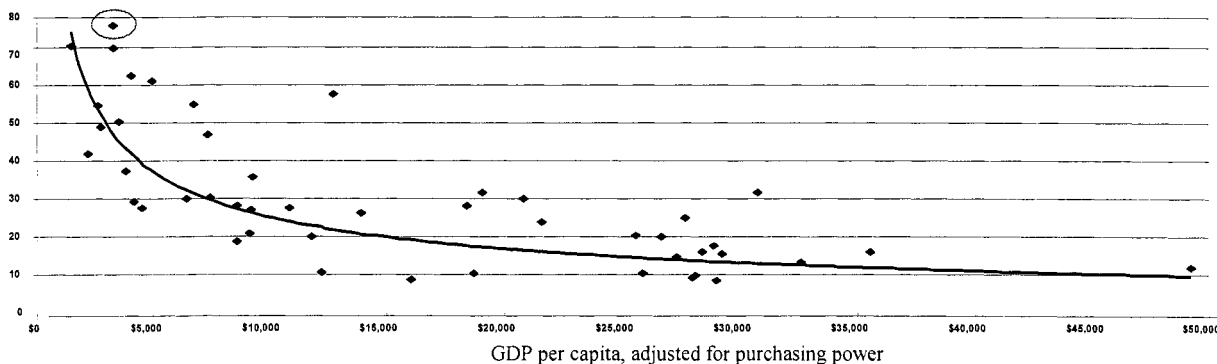
Note: Circled data point represents Azerbaijan.
Source: WHO, *World Health Report 2005* (estimates for 2002).

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[120] WHO, "Health for All" database, 2005. This figure includes state and donor funding, as well as direct payments by patients.

Poor people are adversely affected by increasing out-of-pocket health expenditures.
Theoretically free, universal access characterized healthcare delivery during the Soviet era. Today, increasing formal and informal OOP payments for health care have negatively affected access to, as well as the utilization and quality of, care—especially for the poor. This finding is of particular concern because the World Bank Poverty Assessment estimated that almost 4 million people, or about half of the population of Azerbaijan, lived in poverty in 2002,[121] and approximately 650,000 people (8.8 percent of the population) lived in extreme poverty.[122] As a result, there has been a sharp decline in life expectancy and a rise in the prevalence of diseases more common in developed countries (cardiovascular disease, cancers, etc.), together with a rise in infectious diseases.[123]

Figure 4.4 OOP Payments and Total Government Spending in Selected Countries of the FSU, 2002
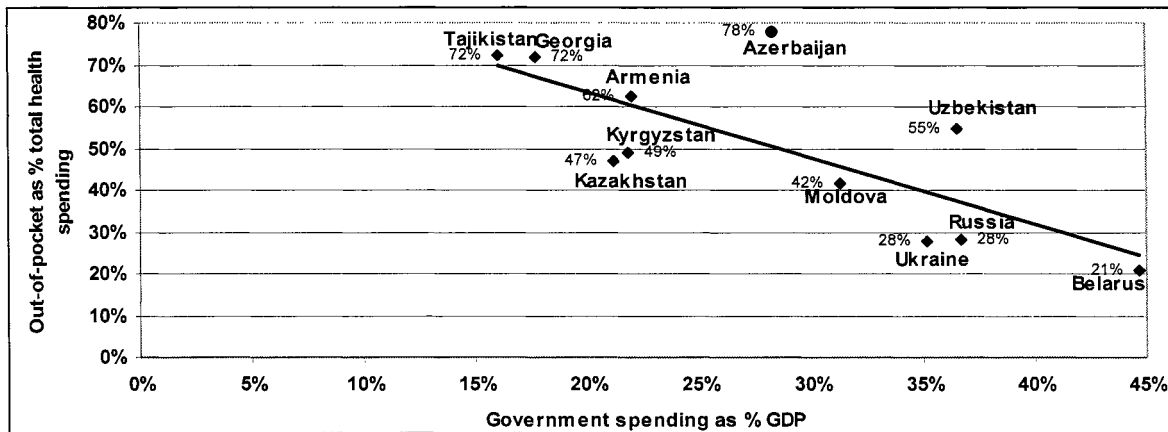
Source: WHO, World Health Report 2005 (estimates for 2002)

An input-based financing model leads to inefficient use of public resources in health.
In addition to the low level of public financing and the system of informal payments (which reduce the poor's access to health services), key weaknesses of the Soviet model

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[121] World Bank, PA, 2003.

[122] Recent World Bank estimates of poverty levels in the country show that in 2003, almost 40 percent of the population was poor and 22 percent, extremely poor (World Bank, "Azerbaijan Programmatic Poverty Assessment FY05-07; A Concept Note," World Bank, Washington, DC, April 2004). Both overall and extreme poverty incidence declined significantly in 2003 in comparison to 2002 (when almost 45 percent of the population was poor and 27 percent, extremely poor). Due to substantial changes in the Household Budget Survey introduced in 2002, the 2001 data set is not comparable to the data produced by subsequent rounds of the survey. According to estimates presented in the Government of Azerbaijan's SPPRED Annual Report for 2003, overall poverty incidence in Azerbaijan in 2002 was estimated at 46.7 percent and extreme poverty incidence, at 8.8 percent. The difference between government and World Bank estimates is mainly due to the use of different poverty lines.

[123] Health status indicators vary depending on the source of data, with official statistics often showing improvements not necessarily reflected in other data sets. Some have suggested that the improvements may only reflect underreporting of certain statistics, which can be seen in comparisons between survey estimates and administrative databases. Also see Chapter 1 of this volume.

remain. Despite certain reform attempts and innovative projects to strengthen primary care, considerable strengthening and restructuring of the healthcare system is needed, especially with respect to budget allocation. At present, the system lacks inherent incentives for increasing allocative and technical efficiency,[124] a problem largely related to an input-based normative financing model that rewards large facilities with lots of beds and a high staff count. This approach to financing has not helped to reduce excess hospital capacity and associated headcount created during the Soviet era, nor has it created a link between curent financing and the health needs of the population.

The remainder of this chapter looks at the four sub-functions of the Azeri healthcare financing system (revenue collection, pooling of funds, purchasing of services and service delivery). This analysis includes an examination of policy and practice with respect to the benefit package and OOP payments. Later sections present equity and efficiency considerations, followed by a discussion of key issues and recommendations.

4.2   Revenue Collection

Collection of funds refers to sources of pooled revenue, contribution mechanisms and the agencies that collect these revenues. It is frequently stated that healthcare is financed through a combination of public and private resources.[125] Public resources mean the government budget, while private resources mean direct OOP payments made by the individuals upon receipt of health services, as well as private insurance schemes. Nevertheless, one needs to acknowledge that the initial source of all of these funds are individuals, with the exception of international donors. Either as employees, employers or independent professionals, individuals pay direct, indirect and/or payroll taxes that constitute the main source of public revenue. In some cases, where national mandatory health insurance schemes exist, individuals also pay compulsory health insurance contributions.

In the case of taxes, these resources are collected by the central government (e.g., the Ministry of Finance or a special tax authority) and local governments. In the case of compulsory contributions, these resources are collected by a social security agency or a health insurance fund; in private insurance schemes, they are collected by commercial insurance companies and in the case of OOP payments, by healthcare providers. This section analyzes the sources of pooled funds; Section 4.5 will examine OOP payments as a cost-sharing mechanism that has become part of the service delivery function.

The Azeri health system is financed by general taxes; loans and grants from foreign governments and multilateral agencies; and voluntary private health insurance

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[124] Allocative efficiency is linked to the question of where funds in the health sector can be directed to produce the greatest gain (for example, primary care versus hospital care), while technical efficiency evaluates how allocated resources are used.

[125] This paragraph draws substantially from Kutzin, "Framework for Country-level Analysis," 2001, as do the introductory paragraphs of Sections 3, 4 and 5 of this chapter.

contributions. The 1997 law, "About the Protection of Health of the Population," sets out legislative arrangements for the financing of the health sector.[126] Article 9 states that the health system shall be financed from the state budget, mandatory medical insurance, voluntary allocations, donations by legal and physical persons and other sources not explicitly prohibited by the legislation. Despite the fact that mandatory medical insurance is mentioned in the legislation and a law on a national health insurance system was passed in 1999, this system has not yet been introduced. Three types of pooled resources remain: public resources financed through taxation and collected by the Ministry of Taxation; voluntary private health insurance contributions collected by private insurers; and loans and grants from foreign governments and multilateral agencies. While the Ministry of Taxation is the collecting agency, the MOF is responsible for budget formulation and execution.

Only 20 to 25 percent of total health expenditures are financed by public resources (general taxes). The ratio of public resources to total health resources depends on estimated levels of OOP expenditure. The Azerbaijan health expenditure study shows that only 20 to 25 percent of total health expenditures were financed by public monies in 2002 (see Table 4.2).

Table 4.2 Composition of Total Health Expenditures, 2002

Type of expenditure	AZM (billions)	% of Total	Source/Assumption
Government Expenditure			
District health sector expenditure	179.5	14.9	Form 50 calculations by consultant[127]
MOH	50	4.2	Latest figure from MOH interview
Rail, Police, Oil (250,000 pop.)	10	0.8	Assume AZM40,000 per capita per year
Total Government Expenditure	**239.5**	**19.9**	
Private Expenditure			
User charges	13.7	1.1	Form 50 calculations by consultant
Informal payments for services	270	22.4	Informal payments are 3 times the average government salary
Private health services	60	5.0	SSC – 25% of gov. expenditure
Drug direct payments	600	49.8	MOH estimate – US$130 million per year
Total Private Expenditure	**943.7**	**78.4**	
Expenditure by aid agencies	**21.1**	**1.8**	8.8% of total gov't expenditure (WHO)
Total Health Expenditures	**1,204.3**	**100.0**	

Source: G&G Consulting, "Health Expenditure Analysis," 2004.

These public funds were intended to pay for services that are provided free of charge, such as vaccinations and maternal and child healthcare, as well as services for which

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[126] Holley, Akhundov and Nolte, "Health Care Systems in Transition," 2004.

[127] Form 50 is an MOH document that presents actual expenditures of state hospitals and polyclinics by city and district.

official user charges were introduced in 1998. Certain groups of individuals are exempt from these official charges; the Government is responsible for paying for all healthcare services provided to these groups. Resources are allocated both at the central level (MOH) and the district level (district administrations). In addition, the MOF allocates funding to several other ministries for the operation of parallel healthcare systems. These ministries include the State Railways Department, Ministry of Interior, Ministry of Defence, the State Oil company, plus autonomous facilities.

Voluntary health insurance contributions represent only a small portion of total health expenditures. Voluntary health insurance (VHI) was first introduced in Azerbaijan around 1995, but the market remains small, with approximately 20,000 people (less than 0.2 percent of the total population). Data on the exact amount of voluntary prepayments is not available. Estimates on payments for services provided by private providers suggest that such payments represent only 5 percent of total health expenditures in the country (see Table 4.2). It is assumed that the amount of private services financed through VHI is even smaller.

At least six companies now offer private insurance in Azerbaijan. The law stipulates that these insurers must be majority-owned by Azeris. VHI is currently very expensive for the average Azeri and mostly covers expatriates or individuals who work for large companies, in particular, companies in the oil industry. The rates on policies offered by private companies vary. A basic VHI package can cost anywhere from US$65 per year (covering basic out-patient benefits) to US$800 per year (covering most in-patient user charges). More comprehensive packages that cover most basic services, but exclude a number of major conditions (e.g., alcoholism, cancer, venereal disease, tuberculosis, diabetes) can cost US$5,000 or more per year. Considering that the average salary in Azerbaijan is about US$70 per month, VHI is far beyond the means of most of the population; private insurers have thus not been interested in expanding coverage.

Foreign aid accounts for approximately 1.8 percent of total health expenditures. The crisis of internally displaced persons (IDPs) during the 1990s led to a considerable inflow of external assistance (loans and grants from donors and development banks). Donors have supported a number of reform projects in the country, many of which are tied to primary healthcare. UNICEF began a primary healthcare (PHC) project in three districts in 1995. The World Bank-assisted Health Reform Project, which began at the end of 2001, provides funds to reform primary care and other aspects of health service delivery. NGOs such as the International Medical Corps have also provided support to PHC projects and have been active in developing new models of primary care in several rural areas. It is estimated that these activities account for approximately 25 percent of overall state expenditures at the primary care level; however, it is rather difficult to be precise about levels of donor funding (see Table 4.2).

Pooled resources can be increased either by shifting resources from other sectors to the health sector or by increasing tax and/or other revenues. The fact that the amount of pooled resources that currently finance the health sector does not exceed 27 to 32 percent of total health expenditures raises the question of how additional resources can be drawn into the sector. The most direct solution is to increase the allocation of public resources for healthcare. The latter can be achieved either by shifting resources from other sectors to the health sector or by increasing general tax and/or other revenues. As far as tax revenues are concerned, developing countries appear to have a lower capacity to increase their tax revenues than do developed countries. High-income countries mobilize around 40 percent of GDP in tax revenues, middle-income countries, about 30 percent, and low-income countries, about 20 percent.[128] In line with other developing countries, Azerbaijan collected tax revenues representing 16 percent of GDP in 2004,[129] allowing limited space for a general increase in tax revenues. Alternatively, the government could fund an increase in total health expenditures with revenues derived from the oil sector.

The government has announced an increase in public funding for healthcare by 2005. In response to the low level of public financing, the Government of Azerbaijan has announced some important initiatives. In particular, the reform strategy set out in the State Program on Poverty Reduction and Economic Development (SPPRED) envisages an increase in expenditure on the health sector.[130] Health expenditures are projected to increase slightly to 1.2 percent of GDP by 2005. From the low base of only 3.8 percent of total expenditures in 2001, expenditures on the health sector were projected to increase to 5.4 percent by 2005, a nominal increase of 140 percent (a real increase of 118 percent). The budget for 2005 confirms that an increase of 128 percent is foreseen, accounting for 4.3 percent of the overall consolidated budget.

4.3   Pooling of Healthcare Revenues

The term "pooling" refers to the accumulation of prepaid healthcare revenues on behalf of a population. Essentially, individuals prepay a certain amount of resources and expect to receive specific coverage in return. Revenues can take the form of general taxes (direct and indirect), earmarked taxes for health, health insurance premiums (voluntary or compulsory), grants, loans, etc. In most cases, individuals can choose the pooling organization (e.g., a private insurance company), implying that more than one pooling agency can be active in the same market. Examples of pooling agencies are the MOH (at the central level), local health authorities (at the district or regional level), social insurance funds and private insurance companies.

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[128] G. Schieber and A. Maeda, "A Curmudgeon's Guide to Financing Health Care in Developing Countries," in "Innovations in Health Care Financing: Proceedings of a World Bank Conference, March 10-11, 1997," edited by G. Schieber, World Bank Discussion Paper No. 365, World Bank, Washington, DC, 1997.
[129] This figure was provided by the Ministry of Finance, 2005.
[130] GoA, SPPRED, 2003.

Pooling organizations allocate financial resources based on various allocation mechanisms. In the case of government revenues, allocation mechanisms can vary from historical patterns related to infrastructure to utilization patterns to a needs-based weighted capitation formula for different regions to subsidized premium payments for otherwise uninsured individuals. When earmarked or compulsory contributions are considered, allocations can be based on a risk-adjusted formula (with insurers receiving a higher amount for purchasing the same benefit package for the elderly, women and children) or individuals may have the choice to opt out (not contribute to the public system) and insure themselves with a private company. In the case of private insurers, premiums are usually rated according to individual or community risk.

Health-related revenues in Azerbaijan are pooled by multiple agencies, both at the central and district levels. While the collection of public revenues in Azerbaijan is conducted by a single agency, the Ministry of Taxation, the accumulated funds are divided among a number of entities. The two most important of these entities are the MOH and district administrations (see Figure 4.5). The healthcare budget for MOH and district administrations is set by the MOF according to fiscal priorities established by the Cabinet of Ministers (CoM). The annual, line-item budget allocation is based on the previous year's reported expenditures, with forecasted budgets reviewed by MOF and CoM, then approved by Parliament. For the most part, central funding covers specialized hospitals, maternity homes, research centers, sanitary and epidemiological stations and training. Local budgets cover district hospitals, ambulatory and PHC facilities, among other items. Approximately 75 percent of the public budget for healthcare is devoted to the management of facilities run by districts and large cities, while the remainder covers facilities operated by MOH (see Table 4.2).

Parallel health systems are operated by the State Railways Department, the Ministry of the Interior, the Ministry of Defense and the Government Oil Company. As already mentioned, MOF also allocates resources directly to these entities. Data on the budgets and expenditures of these parallel structures is limited. The healthcare budget for the Railways Department in 2002 was AZM3.2 billion, which covered 180,000 employees and their dependents.[131] With the possible exception of the military, the budget of which is unknown, parallel healthcare systems are generally small, together representing around 1 percent of total public health expenditures (see Table 4.2).

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[131] G&G Consulting, "Health Expenditure Analysis," 2004.

Figure 4.5 Financing Flows in the Health Sector of Azerbaijan
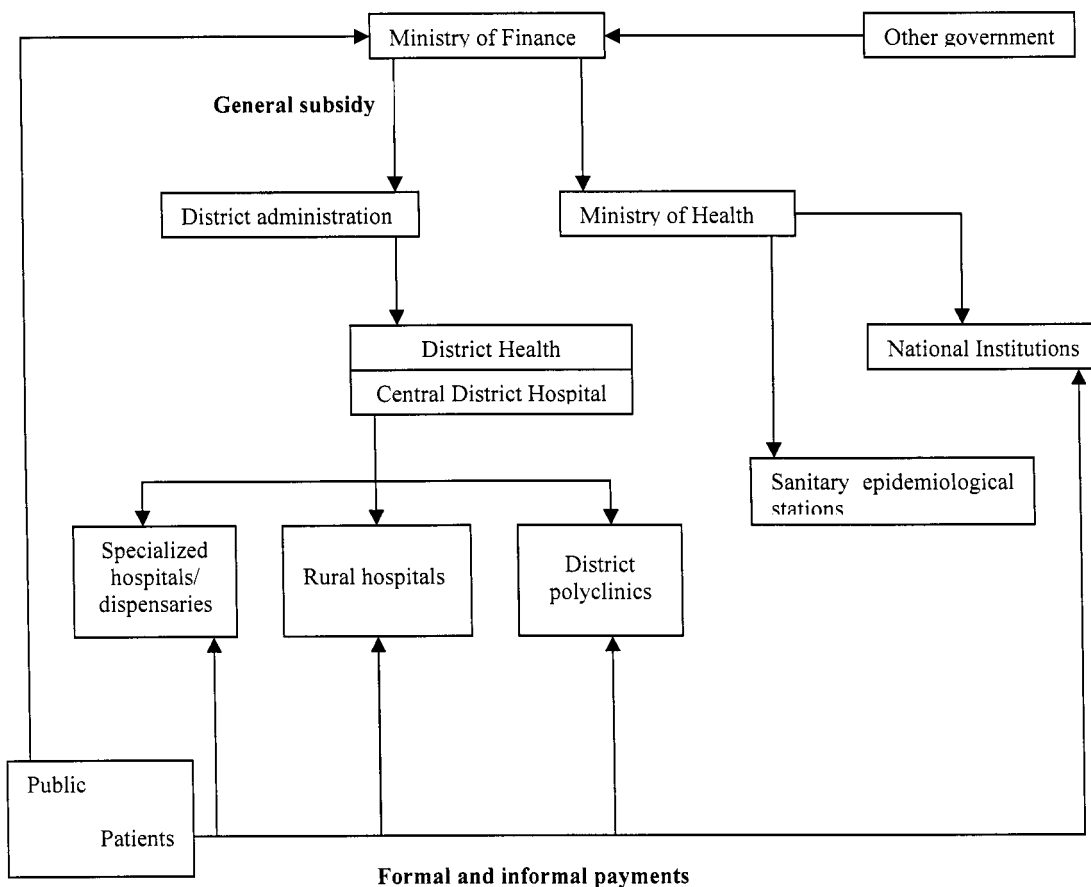
Source: Holley, Akhundov and Nolte, "Health Care Systems," 2004.

Most public funds are spent on inpatient care and staff salaries. In functional terms, the largest share of public funds goes to inpatient care (around 65 percent); with only 35 percent to outpatient care (see Figure 4.6). These figures do not include donor funds. External resources are generally aimed at the primary-care sector rather than the hospital sector, resulting in additional funding of 30–40 percent for primary care. In economic terms, salaries account for more than half of public spending on healthcare, other current expenditures, 45 percent, with less than 5 percent devoted to capital investments (see Figure 4.7). Although disaggregated current expenditures were not available for the years 2000 and 2005, in 2002, only 14 percent of all expenditures were for drugs, implying that the majority of current expenditures are fixed costs (i.e., electricity, heating, etc.) In effect, the government provides physical infrastructure and some basic financial support. Funding for maintenance and equipment is inadequate and working conditions for staff are poor. At the same time, the level of OOP payments for drugs and medical services suggests that public resources for these are also limited (see Table 4.2).

Figure 4.6 MOH Budget Allocations by Type of Institution, Selected Years
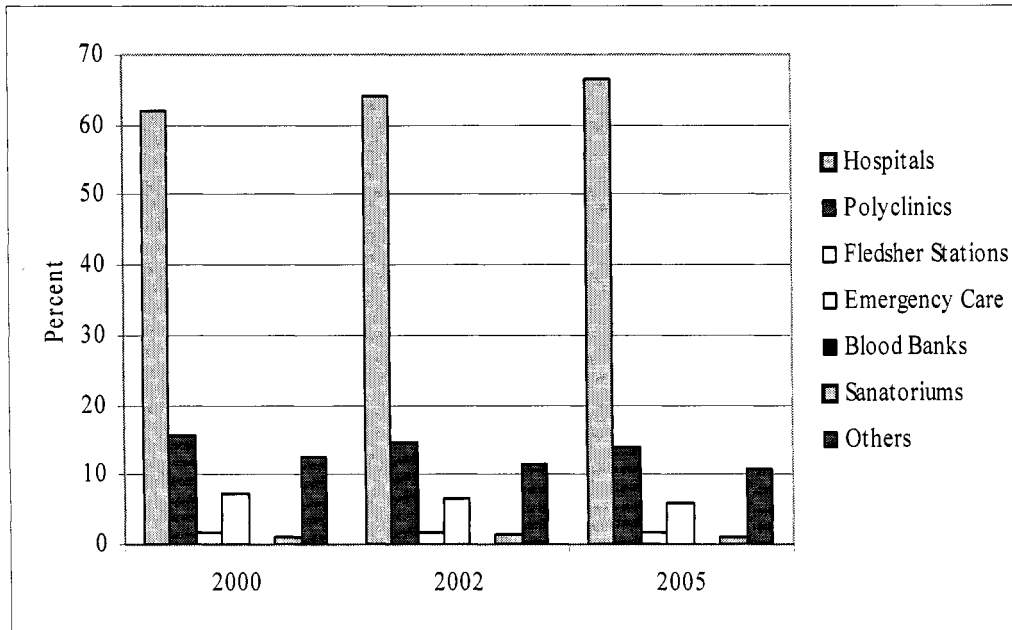
Note: Figures for 2005 are estimates.
Source: Ministry of Health, as cited in G&G Consulting, "Health Financing Study," 2005.

The current approach to budget allocation at the central and district level does not link funding to the healthcare needs of the population. Financial resources are mainly used to pay salaries and utilities and, at a second stage, medical supplies and drugs. Districts with large hospitals receive larger allocations regardless of occupancy rates and changing health needs. In an effort to connect these two elements, countries such as United Kingdom allocate public resources to territorial health authorities based on the relative size of the population living in the area. These per capita allocations are then adjusted using various indicators of healthcare needs (for example, percentage of the population living below the poverty line, mortality and morbidity in an area, etc.).[132] This financing approach aims to provide territorial entities with enough resources to meet the health needs of their risk pool. If adopted in Azerbaijan, such an approach would require close coordination between MOH and MOF.

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[132] OECD, "The Reform for Health Care: A Comparative Analysis of Seven OECD Countries," *Health Policy Studies* 2, OECD, Paris, 2002.

Figure 4.7 MOH Budget by Type of Expenditure, Selected Years

The introduction of a single funding pool for healthcare in Azerbaijan could faciliate better planning, as well as the introduction of selective contracting. Fragmentation of pooling among MOH and district authorities creates a situation where, MOH has little knowledge of the financial resource flows going to the district level, which, in turn, creates major difficulties in planning healthcare at the national level. To improve the current situation, in 2001, the government introduced a financial reporting reform in the healthcare system, causing districts to report data to MOH. This is an important step towards the development of an effective financial management system, but according to ministry officials, district reports are sent to the MOH only once a year, *ex post*, and frequently feature incomplete data.

The introduction of a single pooling agency could enhance planning in the health sector. Such a function could be exercised either through a department of the MOH or a separate entity. A single purchasing agency should also be given the authority to do selective contracting (i.e., contract with only some providers, whether public or private) and thus increase technical efficiency and promote the gradual downsizing of the number of healthcare facilities. The probability of selective contracting usually increases with the introduction of a new pooling agency, since the latter leads to the separation of the purchasing and delivery functions in healthcare (see Section 4.4).

Possible ways of bringing more pooled resources into the system are better tax collection, compulsory public health insurance and/or voluntary private health

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insurance. Although the structure of pooling public resources is an important issue, it involves only 20 to 25 percent of total health expenditures in Azerbaijan. The remaining majority of funds spent on healthcare are unpooled OOP payments. A possible way to bring part of these resources into the main pool under the current system would be through better tax collection and more efficient use of available funds, including a reduction of fixed costs. An alternative approach would be to introduce a universal health insurance scheme that covered a specific package of services. The two options could be combined in voluntary complementary insurance, which would cover services not included in a "basic" benefit package provided in a country.

4.4   Purchasing and Provider Payments

The term "purchasing" refers to the process whereby poolers of prepaid funds transfer resources to healthcare providers. In this sense, a pooler can also be considered an insurer in a general sense. Examples of purchasers are the MOH, territorial entities (at the regional and/or district level), social health insurance funds and private insurance companies. It should be noted that in many cases, the purchaser is also the pooler.

In Azerbaijan, the MOH and district administrations are the purchasers of healthcare services. In most cases, the purchaser is also the provider of services, since hospital and primary healthcare facilities are part of the public health sector. As a result, there is no purchaser-provider split to enhance efficiency of resource utilization. Such a split is a necessary but insufficient condition for better allocation of resources and improved quality of service.

The experience of the Republic of Georgia, which has an entity (the State United Social Insurance Fund, SUSIF) separate from the MOH for purchasing healthcare services, has shown the importance of selective contracting, as opposed to budgeting based on historical data. As long as SUSIF was permitted to contract with 3 out of the 13 maternity hospitals in Tbilisi, the utilization rates of these facilities rose by 20 percent, unit costs decreased by about 20 percent and the average workload for a physician increased by 19 percent.[133] However, initial progress was reversed when political pressure caused the purchasing entity to contract with all maternity hospitals. Under the current system in Azerbaijan, there are multiple purchasers who do not compete with one another (the MOH operates at the central level, district administrations at the district level, etc.); these purchasers are obliged to contract with all public healthcare providers.

"Provider payment" refers to the method or mechanisms by which resources are allocated to healthcare providers. There is great variety in methods used to allocate resources to healthcare providers. Most countries use a mixture of methods, that is, they use different allocation mechanisms for different types of providers (hospitals, primary

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[133] J. Kutzin, "Principles of Health Care Financing Reform in Georgia: A WHO Perspective," WHO/ Regional Office for Europe, 2004.

healthcare providers, specialists, etc.).[134] The purpose of provider payments is to shift some of the financial risk from the purchaser to the provider, and/or to enhance the quality of services provided. For example, use of a capitation formula (a specific amount of resources assigned to each enrolee or members of a catchment population) to pay primary healthcare providers assumes that all costs will be covered by the primary unit, irrespective of the number of individuals who seek care. In the case of hospitals, a combination of case-based payment (a treatment comprising a certain number of interventions during a hospitalization) and budget ceilings is used for cost containment. In the case of Azerbaijan, payment mechanisms differ among hospitals and medical personnel in the public sector.

4.4.1 Payment of Public Hospitals

Hospitals obtain the majority of their funding from budgetary allocations of the MOF, paid through the MOH or district administrations, according to line-item budgets. These allocations are intended to cover major cost items, namely, staff salaries, pharmaceuticals, equipment, maintenance and infrastructure. In addition, some hospitals also levy formal charges for health services directly on their patients. Income from user fees is mainly used to supplement salaries and, on the rare occasion where there is a surplus, to pay for drugs and/or improvements to a given facility. A small number of the most prestigious hospitals in Baku also receive payments from private insurance.

Line-item budgeting does not guarantee access to healthcare services. The use of line-item budgets as a payment mechanism for public hospitals poses a number of problems. First, this type of budgeting assumes that individuals will seek care in the facilities to which resources have been allocated and, consequently, receive those services. Yet there is no obvious incentive on the part of the facility to provide these services, given that the budget is allocated *ex ante* and not related to current service utilization. Second, in a system where public resources are enough to pay for fixed costs (salaries and utilities) and a small fraction of medical supplies and drugs, the first priority of a health institution is to ensure payment of its medical personnel, then to finance the provision of services on a residual basis.

4.4.2 Payment of Medical Personnel

The great majority of medical staff in Azerbaijan are salaried state workers. Their salaries are among the lowest in the country, independent of specialization and hierarchical level (see Table 4.3). In 2003, the average monthly wage of a medical staff worker was just AZM108,900 (about $US22), only 28 percent of the national average monthly wage of AZM338,100 (about $US69).[135] In an effort to improve this situation, salaries of state-funded employees in the health sector were increased by 50 percent as of June 2003. However, this measure did not bring the salaries of medical personnel in line

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[134] See, for example, Table 4 in Kutzin, "A Descriptive Framework," 2001, and the references cited therein.
[135] Holley, Akhundov and Nolte, "Health Care Systems," 2004.

with the national average. As a result, medical personnel have a strong incentive to charge patients both formally and informally. This situation is accepted as a coping mechanism not only by medical professionals, but also by patients, who understand that official salaries are only part of fair remuneration. State salaries, however small, formally link healthcare staff and the institutions where they work. Working as an employee of these institutions, however, gives staff a quasi-license to impose informal charges on patients. This situation leads to rent-seeking behavior throughout the hierarchy, with health professionals having to make significant payments (i.e., payments representing several years' pay) to even more senior executives.

Table 4.3 Average Salaries in the Health Sector (as of October 2001)

Average Monthly Salary	AZM	US$	as % of national average wage
National average (2000)	205,225	42.76	--
Ministry of Health	75,808	15.79	36.9
Ministry of Health – Males	125,253	26.09	61.0
Ministry of Health – Females	66,550	13.86	32.4
Specific positions			
Surgeons	83,510	17.40	40.7
Pediatricians	81,360	16.95	39.6
Therapists	75,715	15.77	36.9
Dentists	73,174	15.24	35.7
Gynecologists	74,489	15.52	36.3
Mid-wives	74,489	15.52	36.3
Graduate Nurses	52,041	10.84	25.4
Junior Nurses	42,132	8.78	20.5
Feldshers	118,242	24.63	57.6
Laboratory Technicians	47,749	9.95	23.3
X-Ray Technicians	57,813	12.04	28.2

Note: Exchange rate is AZM 4,800 to US$1.
Source: State Statistical Committee, 2003.

Fee-for-service is the de facto payment mechanism for public healthcare providers. Given that informal payments represent a high percentage of total health expenditures in Azerbaijan, one can argue that the most common provider payment mechanism is fee-for-service, i.e., direct payments from patients to medical professionals.

4.4.3 Private Health Care Facilities

Fee-for-service is also the payment mechanism of private healthcare providers. Private medical facilities were introduced with the passage of Law on Private Medicine in 1999. The objective of this law was to formalize private delivery of healthcare and subsequently, reduce the state's role in the sector. The law facilitated the establishment of private health facilities and stipulated operating standards for them. Private facilities

must be licensed and MOH is the sole licensing authority. Around 300 licenses have been awarded to date to private sector entrepreneurs involved in dental clinics, diagnostic laboratories and outpatient clinics.

4.5   Benefits and Patient Cost-sharing

A benefit package can be perceived as services paid for by pooled resources. There are two main questions with respect to a benefit package: who is covered (breadth of coverage) and what is covered (depth of coverage). The first question refers to who in the population has the right to receive the benefit package. Systems funded by general tax revenues tend to offer benefits to the entire population. The second question refers to the type of services included in the package. These services can be covered free of charge (total coverage) or based on a cost-sharing agreement with the patient (partial coverage).

A constitutional guarantee of healthcare in a country with limited public resources does not usually translate into full population or service coverage. In a country with limited public resources, a health system could offer some basic healthcare services (primary and some secondary care) free of charge or under a low cost-sharing agreement, with remaining services financed by OOP payments or forms of complementary insurance.[136] This framework implies a benefit package with full population coverage, but limited service coverage. However, many middle- and low-income countries have a constitutional guarantee to healthcare which is translated into both full population and service coverage. Given limited public resources, however, this coverage becomes theoretical and patients end up paying high informal OOP payments for services that are included in the benefit package.

In Azerbaijan, a number of services are provided free of charge, while copayments apply to others. Public funds are intended to pay for services provided free of charge (see Box 4.1), as well as services for which official user charges were introduced in 1998 (see Table 4.4). Certain groups of individuals are exempt from official charges; the government is responsible for paying for all health care services provided to these groups. A copayment has two components: one for the person providing the service (which supplements his/her salary) and the other, for the institution (which may use the money to supplement salaries and/or purchase drugs). The exceptionally low level of user fees as a percentage of total health expenditures (1.1 percent in 2002) reflected in official figures suggests serious underreporting (see Table 4.2).

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[136] A broader benefit package should be provided to the poorest segments of the population.

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Box 4.1 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

Source: Holley, Akhundov, and Nolte, "Health Care Systems" 2004.

Informal payments, which in many cases are the result of the regulatory regime, are widespread. The low level of public expenditures devoted to health has increased the private cost of these services over time. This trend has also been exacerbated by the regulatory regime, which promulgates troublesome norms for treatment by specialized doctors and decrees (such as one that forbids family members from visiting hospitals, creating an incentive to levy informal fees for each family visit).[137] Informal payments can take two forms: (i) payments made outside of official channels that are made directly to healthcare workers in government health facilities, and (ii) the purchase or provision of inputs (e.g., drugs and medical supplies) needed for care in government health facilities, inputs that are supposed to be included in the services to which the population is entitled.[138]

Out-of-pocket payments as a percentage of total health expenditures are very high. Based on official data, estimates of OOP payments for health services vary between AZM707 billion and AZM934 billion in 2002. Estimates of informal payments cannot easily be obtained. Out-of-pocket payments for healthcare reported by household surveys can include both formal and informal charges. Based on the data of the Household Budget Survey of 2002, average per capita OOP spending on healthcare per month was AZM6,970 (around US$1.4)[139]—approximately three times what the government spends on healthcare per capita per year. Survey estimates suggest that direct OOP accounted for AZM707 billion in 2002, or 75 percent of total health expenditures. This is the lower

[137] World Bank, *Azerbaijan Public Expenditure Review* (Washington, DC: The World Bank, 2003).

[138] M. Lewis, "Informal Health Payments in Central and Eastern Europe and the Former Soviet Union: Issues, Trends and Policy Implications," in *Funding Health Care: Options for Europe,* edited by E. Mossialos, A. Dixon, J. Figueras and J. Kutzin (Buckingham, England: Open University Press, 2002).

[139] SSC, "Main Results of Household Budget Survey in 2002" (Baku: Government of Azerbaijan, 2003).

estimate of the 2004 health expenditure study; the highest estimate was AZM934 billion, which would increase the share of OOP in total health expenditure to 78 percent (see Table 4.2).[140]

Table 4.4 User Fees for Selected Services, 2004

Service	User fee (AZM)	User fee (US$)
Outpatient Visit	10,000	$2.00
Lab Tests		
General Blood	5,000	$1.00
Urine Analysis	5,000	$1.00
Blood Group and RH	6,000	$1.20
Injections	1,000	$0.20
Trauma		
Dislocations	20,000	$2.00
Plaster Casts	20,000	$2.00
Surgeon	150,000–450,000	$30–$70
Surgeon's Assistant	100,000–250,000	$20–$50
Anesthesiologist	150,000–250,000	$30–$50
Therapist	100,000–200,000	$20–$40

Source: Ministry of Health, 2004.

Out-of-pocket expenditures can exceed official figures by a factor of five. A household survey on OOP payments in Azerbaijan was undertaken by G&G Consulting in 2004 as part of the World Bank-financed Health Reform Project.[141] According to the survey, the level of OOP expenditures appears to be much higher than that reported in national household budget surveys, with annual per capita OOP expenditure reaching AZM479,446—approximately five times previous official figures, which were AZM83,600 for 2002 and AZM88,908 for 2003. These figures are not surprising, given that household health expenditure surveys tend to show higher expenditure than general consumption surveys (where health expenditures represent only part of the entire consumption pattern). This finding has two important policy implications. First, taking into account the survey's estimate of OOP health expenditure, total health expenditures are rising sharply, and second, the share of OOP spending is also increasing.

More informal payments are made to health personnel than to health facilities. In addition, more of these payments are made in cash than in kind, and more are made for hospitalization than for primary or preventive care. Recent survey results distinguish between: (i) cash payments for items other than the provider bill (i.e., "donations"); (ii) payments in cash to health personnel other than the provider; (iii) payments in kind (valuables or gifts) to health personnel; and (iv) payments for goods (drugs and medical supplies) and procedures (lab tests) procured outside the

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[140] G&G Consulting, "Health Expenditure Analysis," 2004.

[141] G&G Consulting, "Health Financing Study," 2005. The sample size of the OOP health expenditure survey was 1,500 households (around 6,500 individuals), compared to 8,000 households in the Household Budget Surveys. The OOP health expenditure survey aimed to be representative at both the national and district level.

government healthcare facility. Regarding the latter, the survey did not provide information on the extent to which inputs purchased outside a state healthcare provider were expected to be included in services to which the population is entitled free of charge.

Altogether, informal payments represented 31.4 percent of all OOP payments (see Table 4.5) in 2004. The majority (63 percent) of these payments were made in the form of cash payments to health personnel. Payments out of gratitude (in the form of gifts) were small, suggesting that informal payments are not made willingly by patients to show satisfaction with services provided. Informal payments were, moreover, higher for hospitalization than for outpatient or preventive services. In the case of hospitalization, payments for medicines or procedures (e.g., lab exams, diagnostics, medicine, etc.) procured outside the provider represented 44 percent of total OOP payments. Expenditures on drugs obtained outside the provider represented the second-highest category of OOP spending (32 percent of total payments), indicating an insufficient stock of drugs in hospitals.

Table 4.5 Formal and Informal Payments by Type of Service, 2005

	Type of service (% of total payment)			*Total*[*]
	Hospitalization	*Outpatient*	*Preventive*	
Formal payments	15.8	64.8	78.1	58.1
Payments to personnel outside official channels	40.2	35.2	21.9	31.4
Payments for goods/procedures outside the provider	43.9	1.1	-	5.4

Note: [*]In order for the last column to add up to 100 percent, one needs to add in the 5.1 percent of total OOP expenditures that represent payments for self-treatment.
Source: G&G Consulting, "Health Financing Study," 2005.

4.6   Equity Considerations

Poverty is not a criterion for exemption from formal healthcare payments. As already mentioned, according to legal statutes, healthcare in Azerbaijan should be provided free at the point of use, save for certain services for which a fee is designated. A number of groups are exempt from these charges but, with the exception of IDPs and refugees, poverty is not a criterion for exemption from formal payments. However, it is believed that anyone who cannot pay is exempt from formal user charges, although they may still be required to pay some informal fee (possibly at a "reduced" level). *In fact, rich people make larger and more frequent OOP payments than do poor people, but OOP expenditures (mostly for hospitalization and drugs) represent a higher share of the income of poor households.* (See Figures 4.8, 4.9 and 4.10). It is estimated that about 28 percent of the population did not seek treatment when ill in 2001, primarily because health services were too expensive, a figure that rose to 39 percent among the poorest

households.[142] This finding was also supported by the 2004 survey on OOP health expenditures.[143] *While decreased utilization of health care services due to high OOP payments may not have an impact on levels of morbidity and mortality in the short term, the impact may grow exponentially over time.*

Box 4.2 Groups Exempted from Official Healthcare Charges
• Servicemen and veterans of wars and their families
• Physically disabled persons
• Victims of Chernobyl
• People with diabetes
• Elderly persons without family
• Adolescents and military recruits
• Refugees and internally displaced persons (IDP)
• Medical professionals
• Educational professionals
• Pensioners (above 65 for male, above 60 for female)
• Pregnant women and new mothers (for post-natal care)
Source: Holley, Akhundov and Nolte, "Health Care Systems," 2004.

Figure 4.8 OOP Monthly per Capita Health Expenditure by Income Quintile, 2002 (AZM)
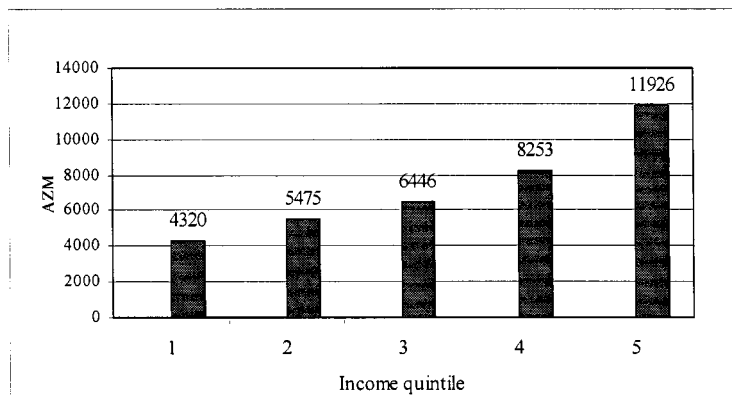
Source: SSC, Household Budget Survey, 2002, as cited in G&G
Consulting, "Health Expenditure Analysis," 2004.

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[142] World Bank, PA, 2003.
[143] G&G Consulting, "Health Financing Study," 2005.

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**Figure 4.9 Per Capita Annual MOH Expenditures
per Location, 2002 (AZM)**
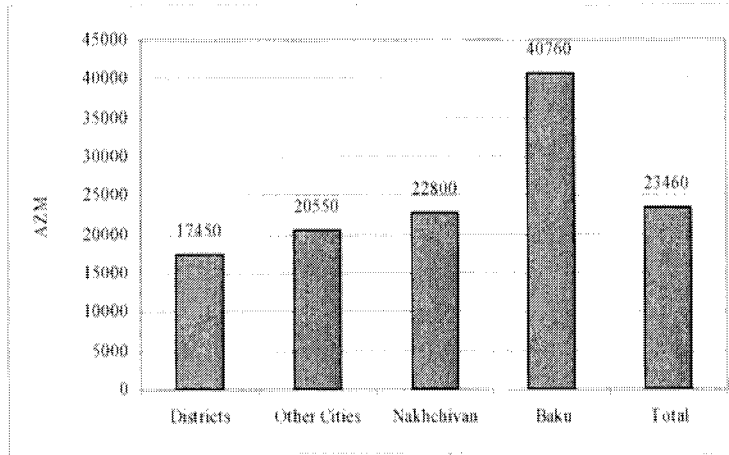
Source: G&G Consulting, "Health Expenditure Analysis," 2004.

**Figure 4.10 Household Health Expenditure by
Income Quintile in 10 Districts, 2003**
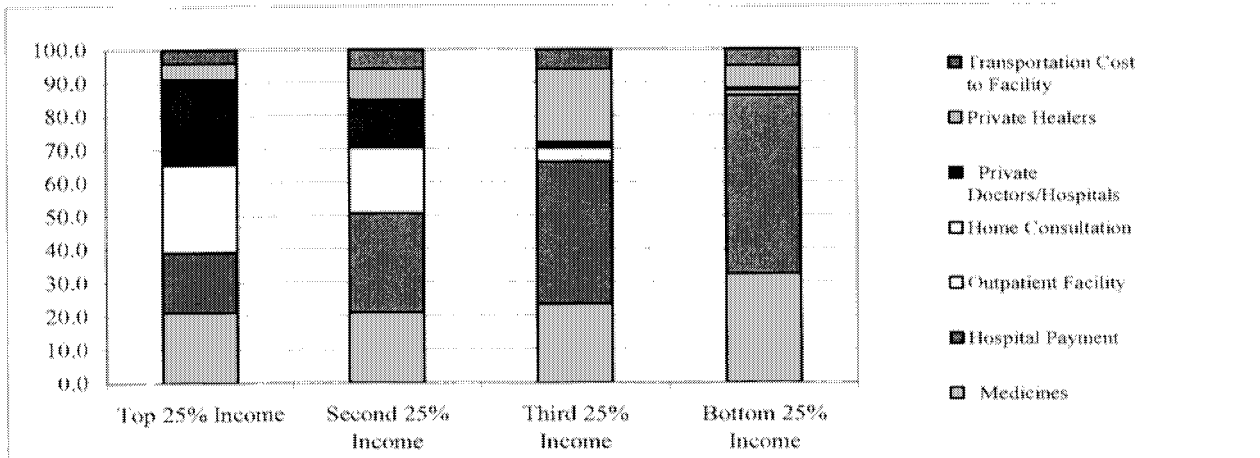
Source: Western World Consultants, "Baseline Study," 2003.

The Law on National Health Insurance foresees a safety net for the poor. A national health insurance scheme that includes a safety net for the poor has been under consideration since the passage of the corresponding law in 1999, but has not yet been implemented. During 2000 and 2001, US$2.2 million was budgeted for this purpose, but because there was no mechanism to take advantage of these funds, they were eventually returned to the Treasury unspent. It is anticipated that introduction of such insurance will be gradual and incremental.

**Figure 4.11 Per Capita Monthly OOP Health Expenditure
by Region, 2002 (AZM)**
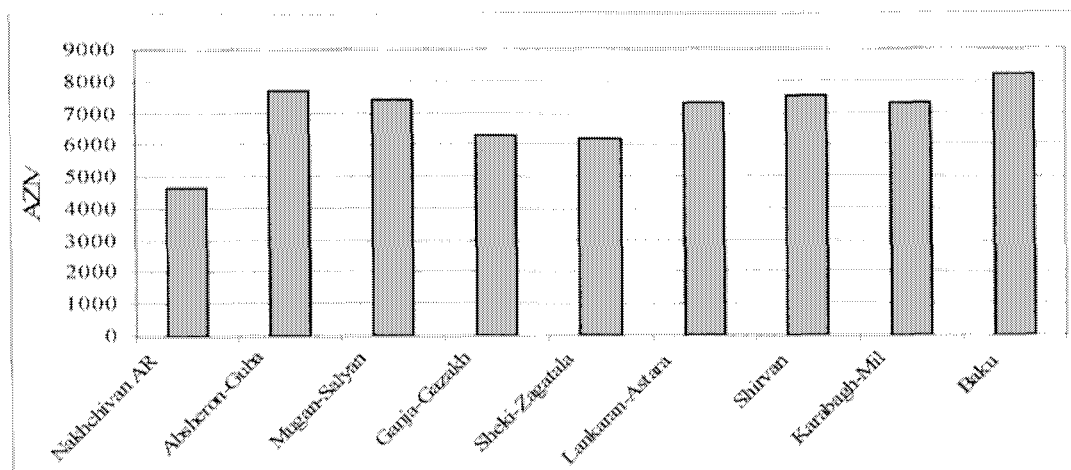
Source: SSC, Household Budget Survey, 2002, as cited in G&G Consulting, "Health Expenditure Analysis," 2004.

The allocation of public funds and distribution of OOP health expenditures among regions is inequitable. The allocation of public funds among different locations is becoming increasingly inequitable. MOH facility expenditure is, for example, much higher (almost double) in Baku than anywhere in the country (see Figure 4.9). This is because current allocations continue to reflect historical norms, such as the number and size of hospitals in a location and/or district, and may have little direct bearing on current patient needs or utilization. Regional inequities are also observable in the distribution of household OOP payments (see Figure 4.11). There are considerable differences among regions, possibly reflecting different income and poverty levels, as well as different degrees of the provision of government services.

4.7 Efficiency Considerations

The low level of public funding of the healthcare system in Azerbaijan is exacerbated by inefficient budget management. In addition to low public spending, there are discrepancies between the planned and executed national budget for healthcare (see Figure 4.12), with all types of expenditure, even salaries, appearing lower in the executed budget. Consultations with MOH officials could not provide a clear explanation of these discrepancies. One plausible explanation could be problems in the MOF's release of the budgeted amount in the first place. A second explanation could be that personnel expenditures are not calculated accurately during the budget preparation process.

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Figure 4.12 Ratio between Planned Expenditure and Budget Execution by Type of Expenditure, Selected Years
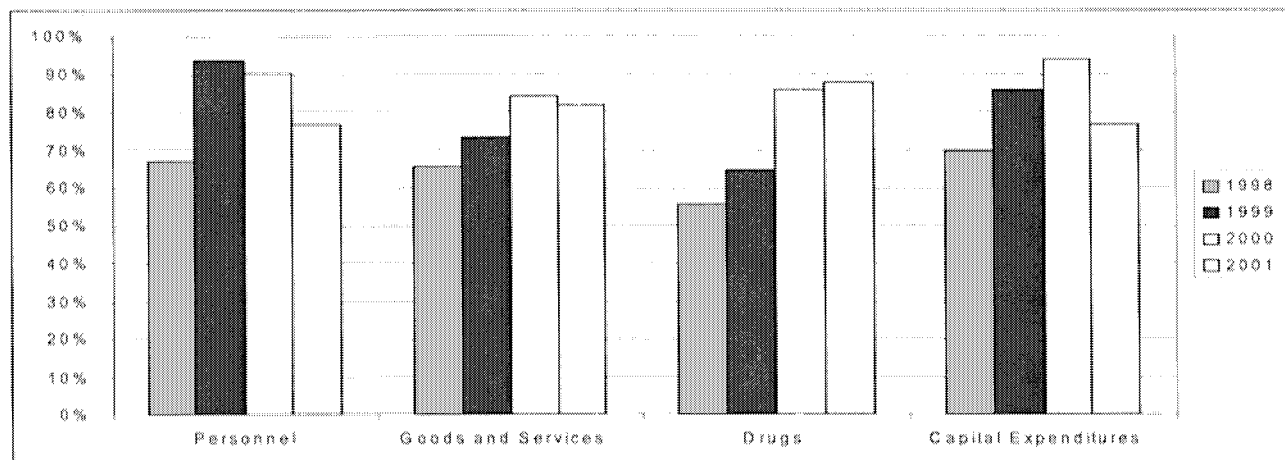
Source: World Bank, *Azerbaijan Public Expenditure Review,* 2003.

A disproportionate share of public resources is devoted to hospital care and salaries. These levels of expenditure are high compared to those of other FSU countries (see Figures 4.13 and 4.14). For example, the share of inpatient expenditures as a percentage of total health expenditures in Azerbaijan (62 percent) is higher than that of either Kazakhstan (54 percent) or Estonia (30.5 percent). If Azerbaijan seeks to move towards a family-based PHC model, where individuals can in most cases be treated by a general practitioner, *a shift of resources from inpatient to outpatient primary care is advisable.* Although a high share of resources devoted to hospital care may not be inefficient *per se,* the very low utilization rates of hospital facilities in Azerbaijan suggests that these resources are being spent on underutilized facilities. Similarly, although total healthcare staffing is not excessive compared to other countries, the fact that hospital facilities are empty indicates that hospital personnel are also underutilized.

Hospital spending crowds out spending on public health and primary care. PHC facilities currently tend to be underfinanced. The lack of a sustainable system to finance these facilities impacts the effectiveness of PHC providers and the availability of resources, such as pharmaceuticals and medical supplies, essential to their operation. In general, PHC funds are only sufficient to cover salaries. Of particular concern is the sustained viability of those PHC facilities that have been rehabilitated and newly equipped. If current financing arrangements are maintained, these rehabilitated facilities will not have budgets adequate to cover their recurring costs.

Figure 4.13 Inpatient Expenditure as % of Total Health Expenditure, Selected Countries and Years

Country (Year)	Percent
Kyrgystan (2000)	67
Azerbaijan (2000)	61.8
Latvia (2003)	60.3
Kazakhstan (2000)	53.6
Finland (2002)	39.2
Estonia (2002)	30.5
Czech Republic (2003)	36.2
Hungary (2002)	29
Turkey (2000)	19.9
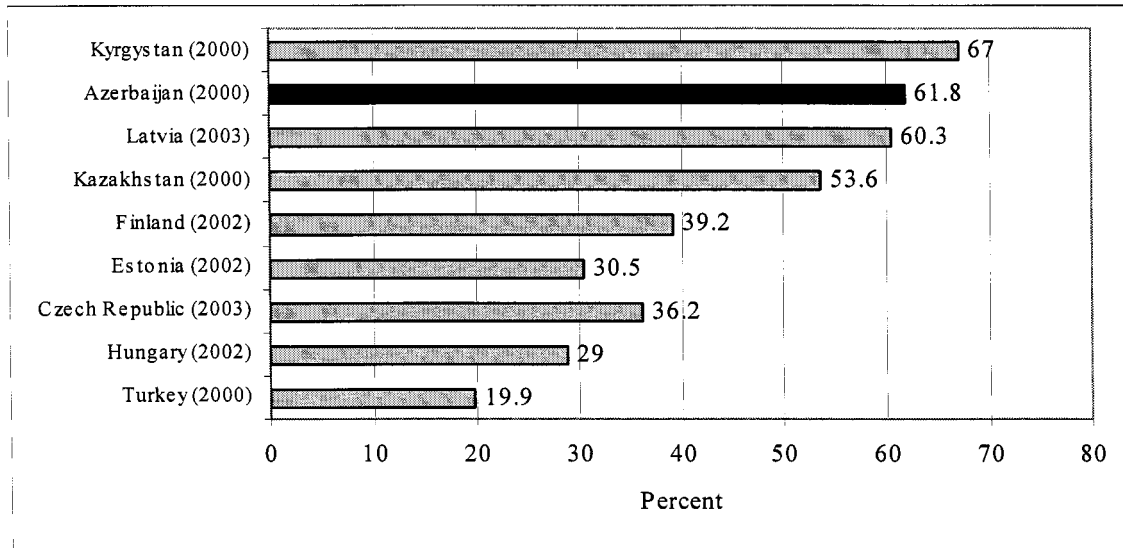
Source: WHO, "Health for All" database, 2005.

Figure 4.14 Salaries as % of Total Public Health Expenditures, Selected Countries and Years

Country (Year)	Percent
CIS (2001)	37.75
EU-25 (2001)	29.11
Kyrgyzstan (2002)	38.6
Azerbaijan (2003)	38.3
Belarus (2003)	36.6
Estonia (2002)	34.9
Latvia (2003)	34.6
Tajikistan (2003)	25.8
Czech Republic (2003)	18.2
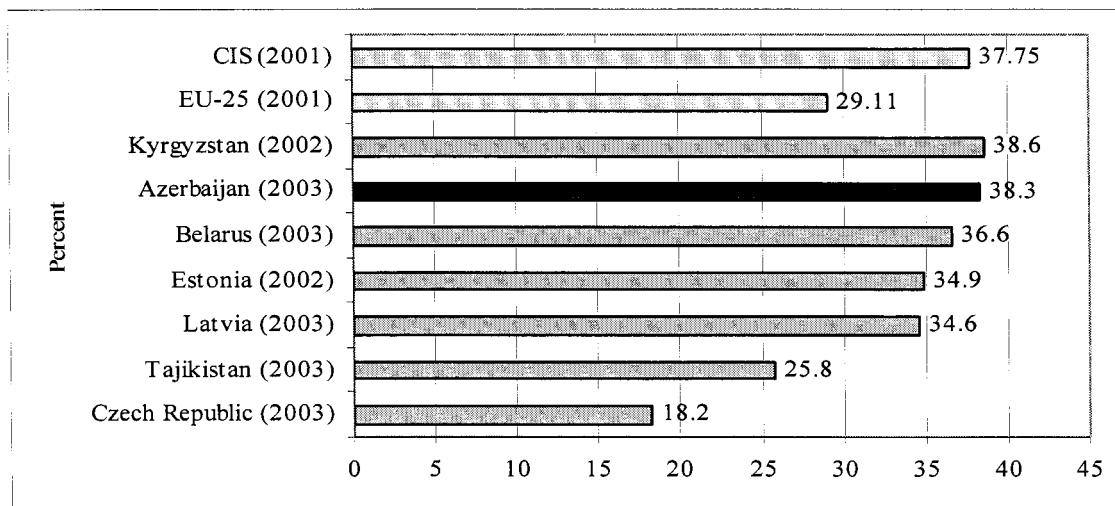
Source: WHO, "Health for All" database, 2005.

Spending on wages negatively impacts spending on drugs and medical equipment. Wage costs also negatively impact the cost-effectiveness of service delivery, which is determined not only by overall spending, but by the mix of spending (which affects the availability of drugs and medical equipment). Wages are essentially a fixed cost that

must be financed regardless of the amount of medical supplies or other health production inputs. As a result, *only about 14 percent of the state health budget is spent on medicines and medical supplies* (see Figure 4.15), indicating that most health facilities lack adequate supplies of medicines and that patients themselves must pay for the medicines they need. Many providers are also unable to carry out basic facility maintenance and renovation and face serious difficulties in paying public utilities.

Figure 4.15 MOH Budget by Economic Classification, 2002
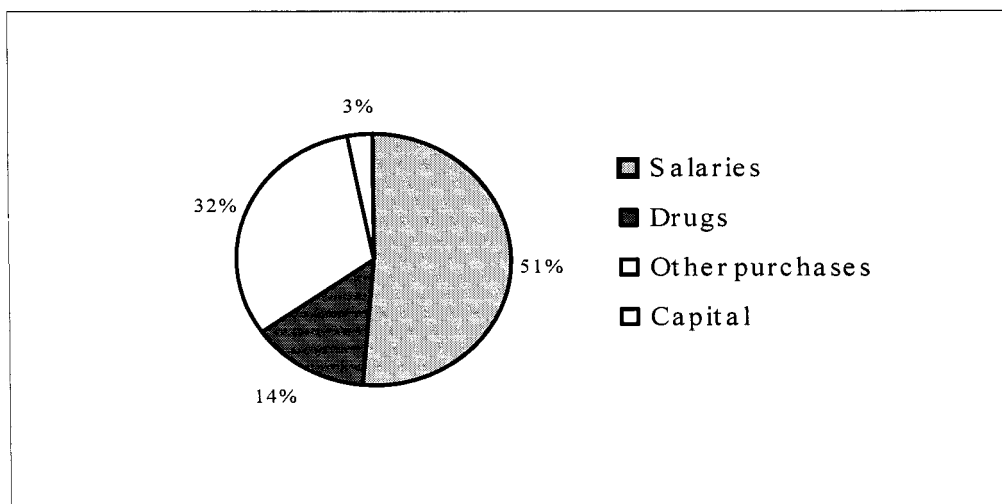
Source: G&G Consulting, "Health Expenditure Analysis," 2004.

4.8 Key Issues, Options and Recommendations

A number of keys issues impact healthcare financing in Azerbaijan, including (i) the low level of public spending on health care; (ii) the fragmentation of pooled revenues; (iii) the allocation of resources according to historical budgets that favors large facilities with a high number of beds and personnel; (iv) the absence of links between allocation of funds and achieved outcomes; (v) the significant role of informal payments in financing the health sector and their adverse effect on utilization of healthcare services, especially by the poor; (vi) growing inequities in the regional allocation of health funding; (vii) discrepancies between planned and actual health expenditure; and (viii) the disproportionate share of resources devoted to inpatient care and salaries.

The recommendations presented below focus on:

- increasing the budget allocation for health, particularly for PHC services
- creating a single pool of health revenues
- allowing for a provider-purchaser split and selective contracting

- promoting the allocation of healthcare funds based on the health needs of the population
- using performance-related payments for all health providers
- ensuring access to health services for the poor and to basic services for all, and
- rationalization of the current provider network.

A consensus on these recommendations is shared by several stakeholders active in the health sector in Azerbaijan and, although certain progress has been made towards their implementation, further efforts are needed.[144]

There is a clear need to increase governmental spending on the health sector. The low level of public resources devoted to the health sector has had a negative impact on access to, and utilization of, services. The collapse of public health spending over the past ten years has also had a negative effect on the equity and quality of health services. Without increased government expenditure, health service utilization across income groups will become even more skewed towards the better-off.

Public resources should be allocated by linking the budget with the healthcare needs of the population. Health funding could be allocated on a per capita basis, with adjustments made for patient characteristics, including demographic, epidemiologic, socioeconomic and other relevant factors. Further refinements could include adjustments for the cost of delivering care to more remote areas, with other important risk adjustments added over time.

The creation of a single pooling entity could result in better planning in the health sector and allow for selective contracting. A single entity, either within the MOH or a separate entity, could lead to better planning for the health sector. Given that MOH and district authorities are presently the owners of healthcare facilities, the introduction of a separate entity would allow the purchasing and service delivery functions to be separated, thus increasing the probability that selective contracting would occur.

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[144] In response to the consensus on these concerns, the government has already announced some important initiatives. In particular, the reform strategy set out in SPPRED in 2003 envisages an increase in expenditure on the health sector, including wage increases. Health expenditures are projected to increase slightly, to 1.2 percent of GDP by 2005. Allocations for personal emoluments will be sharply increased, to 64 percent of a much larger overall allocation by 2005. The budget for salaries and wages will increase by about 32 percent in each of the next three years. The wage increase is justified by some downsizing in the number of employees. At the same time, a system of flexible budgeting is planned to ensure that rationalization efforts are not penalized by subsequent reductions in budget allocations. The government also recognizes that health expenditures need to be refocused on providing improved primary healthcare. The system of targeted exemption for paid medical services will accordingly be reviewed to improve the targeting of the poor. The government has also committed itself to gradually assume responsibility for financing the expanded immunization program and plans to increase financing for other important programs, such as those that address malaria and tuberculosis, child and maternal health and healthy lifestyles.

An important way to improve the budget process is to ensure that historical budget and activity data are accurate. This data is important in formulating health plans and budgets for future years. Activity data and budget information also needs to be more comprehensive, so that planners and finance staff can gain a more accurate picture of the overall health sector. This means incorporating data from all MOH operations. This process will require significant time and has already begun with the reporting of district administrations to MOH.

Improvements in technical efficiency, cost containment and quality could be achieved through performance-related payments to primary care providers and hospitals. Primary care facilities could receive payments on a per capita basis, with flexibility for generating savings that could then be reallocated for pharmaceuticals and equipment purchases. Such an approach could improve quality through improved levels of equipment and supplies, as well as national training programs for physicians and nurses. This strategy would need to be combined with a more systematic approach to monitoring user charges and wages in the public healthcare system.

Performance-related payments should also be used for hospitals. Gains in efficiency could be made by replacing current budgeting with payment mechanisms at the hospital level that reward higher throughput while motivating a decrease in cost per case. The experience of other countries shows that performance-based payments are best applied within a global budget (see Box 4.3). Decreases in both staffing levels and the average length of stay could reduce the cost per case and result in overall savings within such a budget.

The package of services financed through general tax revenues should be revised so that public resources cover the cost of provision of these services. The issue of the breadth and depth of the benefit package merits particular attention. At present, there is a package of services that is fully covered by public resources in Azerbaijan, while other services are only partially covered. However, high OOP payments for all types of services suggest that the real cost of providing these services differs from the public funds allocated for them. The gap between real costs and reimbursement rates is currently financed by individual patients on a fee-for-service basis. One way to address this issue would be to revise the specific package of services, based on the amount of public resources available in the system.

Targeting mechanisms for reaching the poorest population groups need to improve. Poor individuals should be exempt from copayments for services that are partially covered, as well as payments for services that are not covered at all. However, exemptions should be targeted to *individuals* in need, not to heterogeneous groups that might comprise worse-off and better-off individuals at the same time.

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┌────────────────────────────────────────────────────────────────────────────────┐
│           Box 4.3  Rewarding Hospital Providers:  Lessons of the Performance-based Approach  │
│                          to Healthcare in Transition Countries                   │
├────────────────────────────────────────────────────────────────────────────────┤
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In many transition countries, the need to decentralize management, improve efficiency and contain costs in the healthcare system has encouraged a movement away from line-item budgeting towards performance-based payment mechanisms for inpatient care. Subsequently, payment systems became activity based. That is, payments were based on measurable units of hospital outputs in the early stages of transition and included per diem and "simple" per case payment not adjusted for patient severity. These models required little data and were relatively easy to implement. Providers responded to these incentives by decreasing the average length of stay. However, any savings were offset by increases in the volume of cases admitted (e.g. Croatia, Czech Republic, Hungary, Russian Federation), especially easy cases that were less costly. In response, many countries are now adjusting levels of payment relative to severity, or combining activity payments with volume controls. Models include:

- *facility adjusters,* which adjust the level of payment for categories of facilities as a proxy for overall case severity (e.g. Croatia, Hungary, Kazakhstan , Latvia, Slovakia, Russian Federation);

- *outlier payment features,* or paying a higher rate for statistical outlier cases (as measured by standard deviation from the mean) for such measures as cost or length of stay (e.g. Lithuania, Hungary);

- *global budgets,* which are used to cap hospital expenditures with case-based payments (e.g. Albania, Armenia, Czech Republic, Estonia, Hungary, Lithuania, Romania, Slovenia, Slovakia, Poland, Russian Federation).

Sources: J.C. Langenbrunner et al., "Rewarding Providers," in *Purchasing Health Services,* edited by J. Figueras, R. Robinson and E. Jakubowski (Buckingham: Open University Press, 2004).

Another approach would be to introduce a compulsory social health insurance system in which individuals in both the formal and informal economies would pay monthly insurance contributions in return for a basic benefit package. The government could pay the insurance contributions of the poor. Copayments based on individual income could be introduced to control demand for healthcare services and raise additional revenues.

In a social health insurance system, special attention needs to be paid to entitlement. Individuals who are able to contribute and do not do so should not be entitled to receive any free care or qualify for low copayments. Rather, they should pay in full. Other issues that need to be addressed are the capability of the government to enforce and collect social insurance contributions and the ability of a relatively large sample of the population to pay these contributions. A compulsory social insurance scheme could also be used to introduce supplementary coverage. The latter could be offered through either the private insurance market or various forms of "local" prepayment schemes.

For all these measures to work, the restructuring of the healthcare provider network, especially public hospitals, is crucial. This process would involve the gradual merging and consolidation of hospital facilities in order to reduce the total number of hospital facilities in the country. This reduction would allow for a more efficient use of public resources and the provision of better-quality services. As a result, hospitals would

increase their occupancy rates, individual patients would pay less out-of-pocket and health personnel would receive higher salaries.

Nevertheless, if efficiency gains are to be made at the facility level, managerial autonomy is necessary to use funds in a way that addresses local needs. Increased autonomy over purchasing, personnel management and service provision means greater accountability of hospitals for their own institutional decisions. A compatible human resource strategy should be developed that considers staff levels, as well as staff training and re-training in response to emerging needs.

Each of the above measures is one piece of the greater puzzle of health reform. None of these pieces can, in isolation, be expected to provide *the* solution to the multiple challenges faced by the Azeri health system, or any other health system for that matter. Only their simultaneous implementation will initiate changes toward more equitable, efficient and better-quality health services.

CHAPTER 5. HUMAN RESOURCES IN AZERBAIJAN

5.1   Introduction

The purpose of this chapter is to assess the current status of the health workforce in Azerbaijan and to make recommendations to assist the Ministry of Health (MOH) and the districts to improve their institutional capacity for human resource policy and planning.

Accordingly, the chapter includes: (i) a strategic quantitative assessment of the clinical workforce with respect to the current population, health provider network and healthcare strategy; (ii) an assessment of the roles and responsibilities of key institutional stakeholders, such as MOH, MOF, MOE, professional associations and district health offices (this assessment considers human resource development functions within the current policy context of marginal reform, limited decentralization, private practice, urban/rural differentials and expected changes in health financing); (iii) a review of prevailing financial and non-financial incentive schemes for physicians, particularly regarding mobility and practice in remote areas; and (iv) recommendations for new or modified institutional frameworks and opportunities for developing in-service training in health administration and clinical practice.

5.2   Analytical Framework and Sources of Data

The chapter relies heavily on: (i) an understanding of best practices and lessons learned elsewhere, especially in transition countries; (ii) a review of relevant, country-specific literature available in English and official documents and reports produced by government and non-governmental agencies relating to the healthcare reform process in Azerbaijan; (iii) extensive consultation with key stakeholders and visits to districts; and (iv) feedback provided by various stakeholders on a draft version of a report on human resource development (HRD) in Azerbaijan prepared for presentation, discussion and consensus at the health conference sponsored by the Ministry of Health and the World Bank in Baku in December 2004.

5.3   Assessment of the Capacity of Current Healthcare Workforce

The assessment of the current health workforce capacity is based on the following dimensions:

- number of staff vis-à-vis selected international comparators;
- the equity of workforce distribution by population density, and between urban and rural districts;
- the balance between hospital and primary-care staff below the district level; and
- a profile of the workforce in terms of its sub-specializations.

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5.3.1 Overall Staffing Numbers

Azerbaijan is relatively well provided for in terms of physicians, yet total healthcare staffing is not excessive. In 2002 there were 110,000 health professionals working in the MOH health provider network in Azerbaijan (see Table 5.1). This is not the entire healthcare workforce in the country. There are also a number of other government institutions, such as military hospitals, and the private sector—both of which employ significant numbers of staff. It is estimated that, similar to other CIS countries, these sectors would add an additional 10 percent to MOH staffing figures.

Table 5.1 MOH Workforce by Staffing Category, 2004

Position	Number	%
Physician	26,832	24.4
Feldsher	9,217	8.4
Midwife	10,033	9.1
General nurse	31,367	28.5
Laboratory assistant	3,431	3.1
X-ray assistant	453	0.4
Physiotherapist	324	0.3
Other paramedic	4,600	4.2
Dentist	2,325	2.1
Administrative/technical	21,418	19.5
Total	**110,000**	**100**

Source: MOH data, 2004.

There are just over 140 total MOH health staff per 10,000 resident population. This compares with 200 in England, which also has a predominantly public health sector, and is an average spender on health within the OECD.

Physicians

There are roughly 29,500 designated physicians in the MOH provider network, a category that includes doctors, dentists, physiotherapists and some managers trained in medical academies. Of this number, close to 27,000 are physicians, or 33 per 10,000 population, a number that represents 24 percent of the total health workforce. Physicians are specialized in some 70 sub-specialties. As Figure 5.1 shows below, MOH staff alone places Azerbaijan in the upper quartile of international comparators for this indicator.

Figure 5.1 Number of Physicians in Selected OECD and CIS Countries, 2004
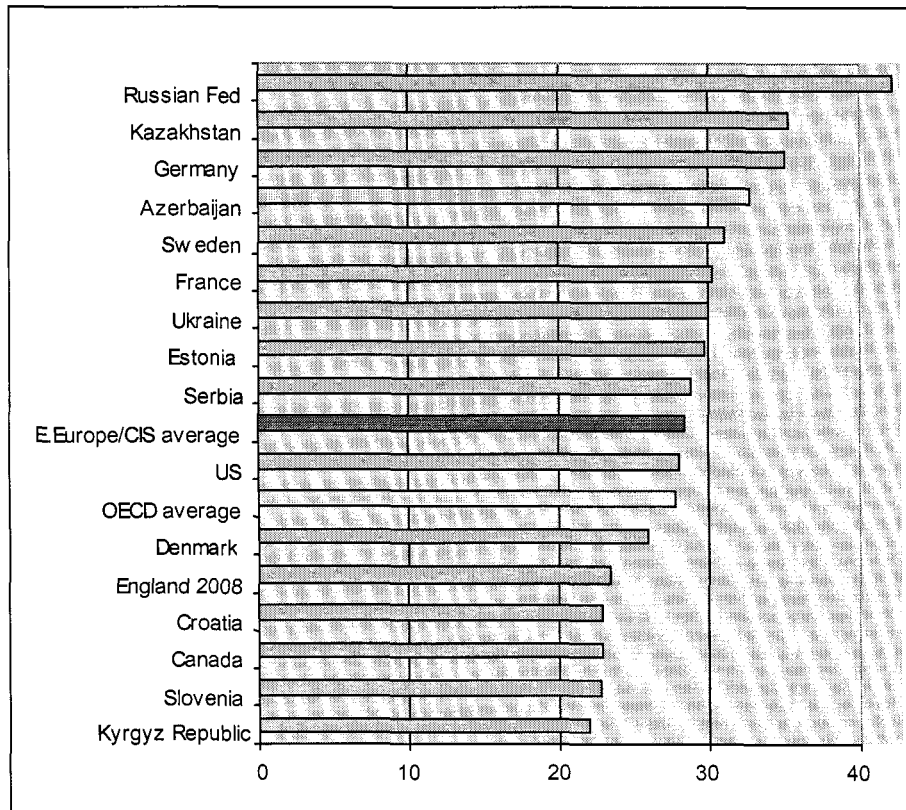
Note: The figure for England shows an expected number of entering physicians for 2008 that is 15 percent greater than 2003 levels.

Sources: WHO, *World Health Report,* 2004, save for data for Azerbaijan, England (not the United Kingdom), Serbia and Kyrgyz Republic, where local official data was used.

One issue of comparative analysis is the number of physicians in CIS countries who are not practicing medicine. This number includes staff in management positions, public health institutes and the Sanitary Epidemiological Services (SES). Data for this category of physician is not available for Azerbaijan, however, in other CIS countries, their number amounts to about 10 percent of all physicians in the public system.

Nurses

There are 50,617 staff in nursing functions (e.g., general nurses, feldshers and midwives), just over 60 per 10,000 population. These staff account for 46 percent of the total health workforce. The number of nurses relative to population is low across comparators in Figure 5.2 below, although consistent with most other CIS countries.

Azerbaijan relies heavily on physicians for service provision, with little job differentiation for other health professionals. One characteristic of the healthcare

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workforce in transitional societies is the relatively higher reliance on the role of the physician versus the nurse (compared, for example, to most OECD countries). Azerbaijan is not an exception; indeed, is at the low end of the comparator range on this indicator, at only 1.9 nurses for every physician. The low level of nursing resources in clinical care is further exacerbated by the fact that nurses also undertake much of the administrative work on wards and in clinics, work that would be carried out by non-medical support staff in the OECD.

Paramedical staff. In the Soviet health system design, nurses undertook much of the therapy and diagnostic staff work (e.g., X-rays and hospital/polyclinic laboratories). This in part explains the low figures for paramedical staff, which account only for 8 percent of the total workforce. Detailed studies of care processes in other CIS countries show a shortage of skills such as remedial therapy (physiotherapy and occupational therapy). There is no reason to believe that this finding does not also apply to Azerbaijan.

Azerbaijan's healthcare system needs a requirements model. Interesting as international comparisons are in themselves, they provide only an indication of appropriate staffing capacity. In order to make a more meaningful assessment of current capacity, a requirements model for Azerbaijan's healthcare system is urgently needed. A reliable staffing requirements model needs substantially more detailed and complete baseline data on staffing than that which has been available to date. For the time being, the following high-level planning assumptions are proposed as an initial (albeit relatively crude) assessment of requirements:

- as in other CIS countries, rural areas in Azerbaijan represent a major planning component, and require 1 primary-care physicians for every 1,200 population;[145]

- within a balanced health delivery system, the primary-care workforce should constitute one-third of all physicians in the provider network;

- assume 2.75 nurses to every physician in the system (based on the OECD average), a ratio that reflects advanced healthcare practices.

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[145] This compares with 1 per 1,400 population, a 2008 target planned in the UK.

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Figure 5.2 Number of Nurses in Selected OECD and CIS Countries, 2004
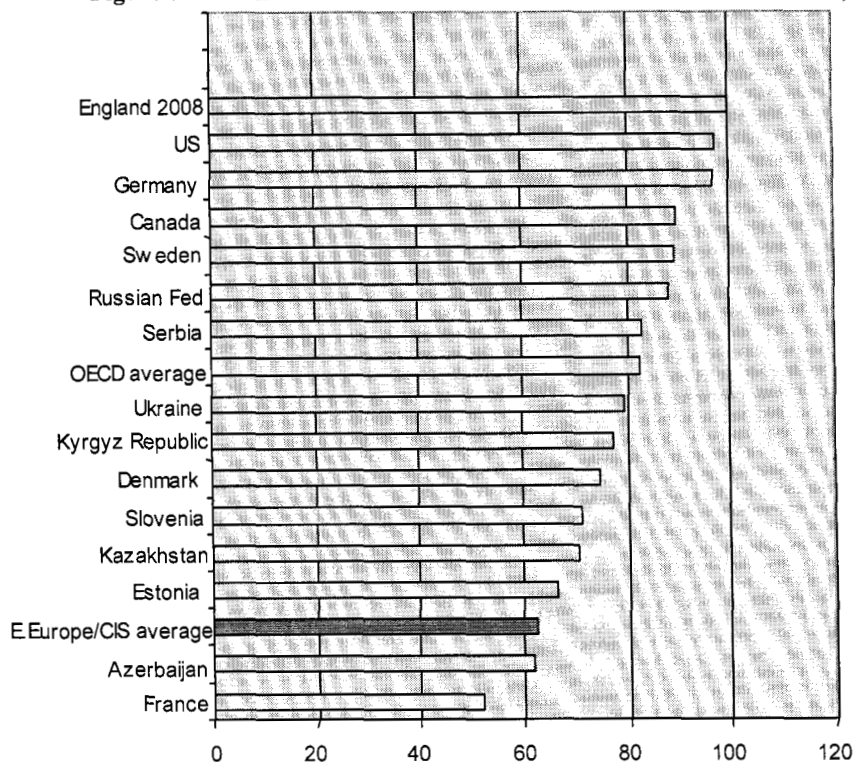
Note: The figure for England shows an expected number of entering nurses for 2008 that is 15 percent greater than 2003 levels.

Sources: WHO, *World Health Report 2004,* save for data for Azerbaijan, England (not the United Kingdom), Serbia and Kyrgyz Republic, where local official data was used.

On this basis, a population of 8.2 million would require:

- 7,000 primary-care physicians;

- 21,000 physicians in total, or 25.6 physicians per 10,000 population (compared to the current total of 27,000 physicians, or 33 per 10,000), a ratio towards the mid-point of the comparator range used in this chapter;

- 58,000 nurses (compared to the current number of 51,000); or

- a total of 79,000 staff (compared to the current total of 78,000).

Figure 5.3 Ratio of Nurses to Physicians in Selected OECD and CIS Countries, 2004
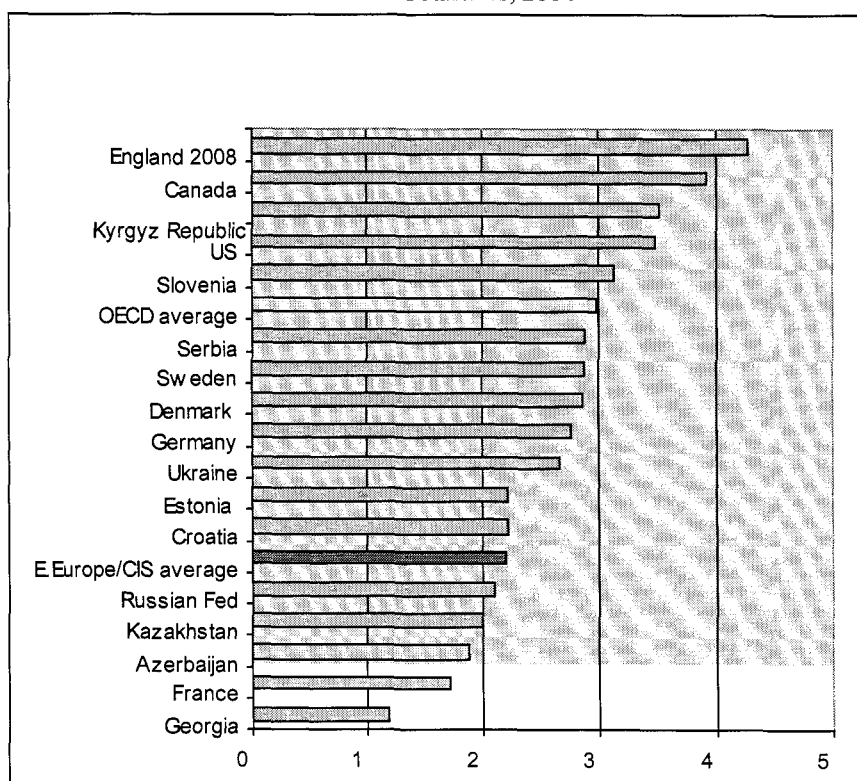
Note: The figure for England shows a planned number of entering staff for 2008 that is 15 percent greater than 2003 levels.

Sources: WHO, *World Health Report 2004,* save for data for Azerbaijan, England (not the United Kingdom), Serbia and Kyrgyz Republic, where local official data was used.

National aggregate figures are of limited value because they invariably mask major imbalances at each level in the system. In Azerbaijan, these imbalances are geographic and functional—between secondary and primary levels and between specializations within hospital and polyclinic facilities. Each of these imbalances will be considered in turn.

5.3.2 Inadequate and Inequitable Geographic Distribution of the Medical Workforce

There are wide variations in staff-to-population levels within the country, especially in rural districts (see Figures 5.4 and 5.5). Map 5.1 provides a further, more detailed overview of the inequities in geographic distribution of MOH healthcare personnel in Azerbaijan.

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Figure 5.4 Geographic Distribution of Physicians in Selected Districts, 2002

Doctors per 10,000 population
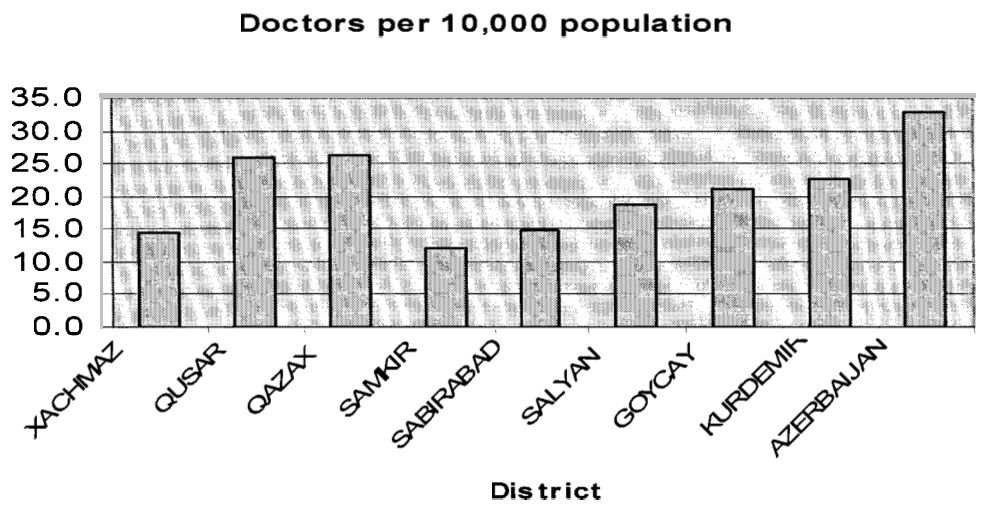
Sources: MOH personnel data, 2002; Health Reform Project Baseline data, 2002.

Figure 5.5 Geographic Distribution of Nurses in Selected Districts, 2002
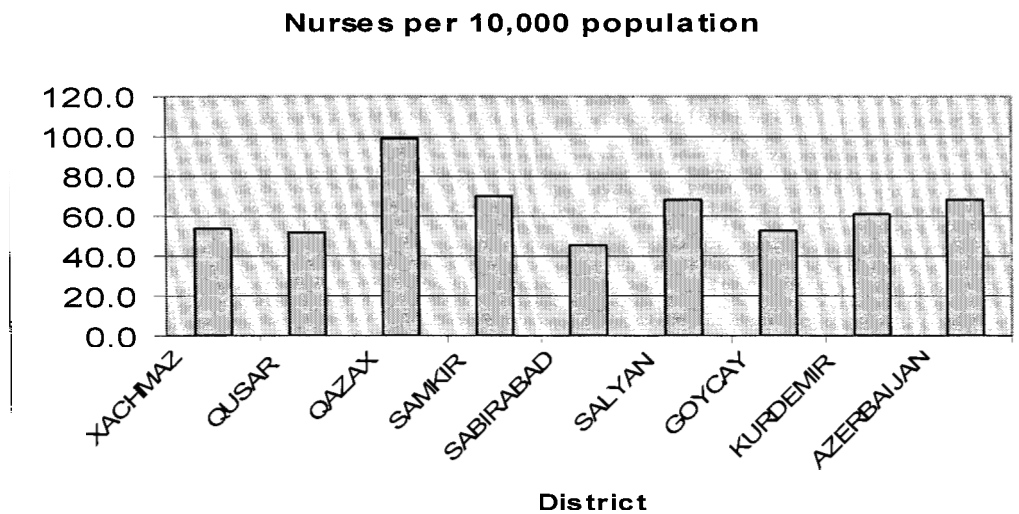
Nurses per 10,000 population

Sources: MOH personnel data, 2002; Health Reform Project Baseline data, 2002.

2002-ci ildə şəhər və rayonlar üzrə həkimlərin sayı
Number of physicians by towns and regions in 2002

Hər 10000 nəfərinə, nəfər
Per 10000 population, person

< - 10
10 - 15
15 - 20
20 - >
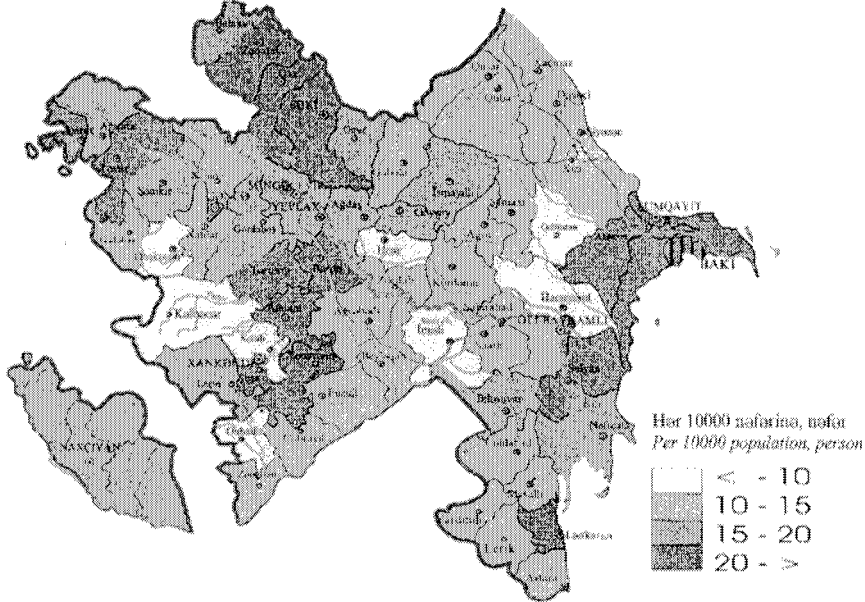
2002-ci ildə şəhər və rayonlar üzrə orta tibb işçilərin sayı
Number of paramedic staff by towns and regions in 2002

Əhalinin hər 10000 nəfərinə, nəfər
Per 10000 population, person

< - 40
40 - 60
60 - 80
80 - >
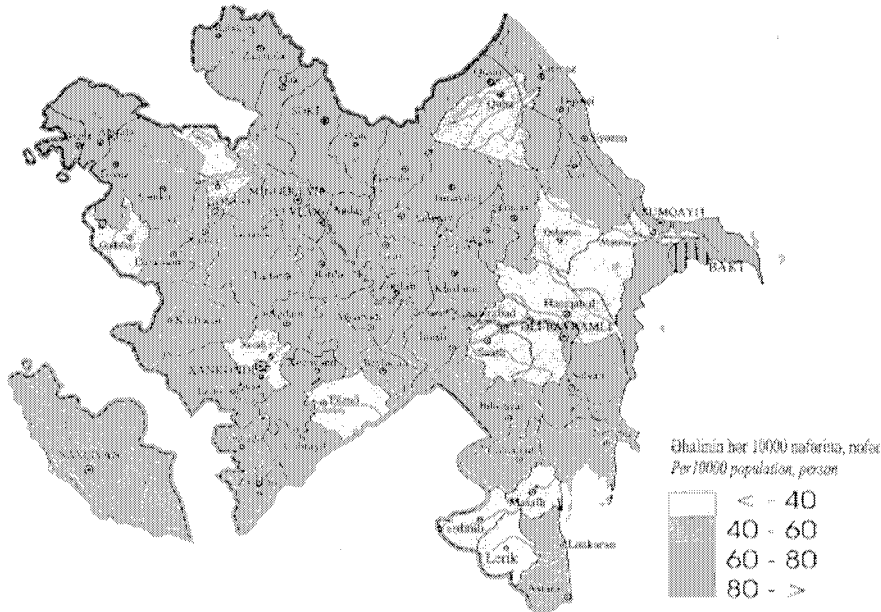
5.3.3 Productivity

Disparities in the mix, numbers and distribution of medical staff do not reflect differential workloads. There is little evidence that disparities in staffing at the district level reflect differential workloads in terms of hospital admissions or occupied beds. Yet there are wide variations in staff-to-workload levels, as Figures 5.6a, 5.6b and 5.7 demonstrate. These variations are not, however, related to population density.

Figure 5.6a Physician Workload in Inpatient Care, 2003
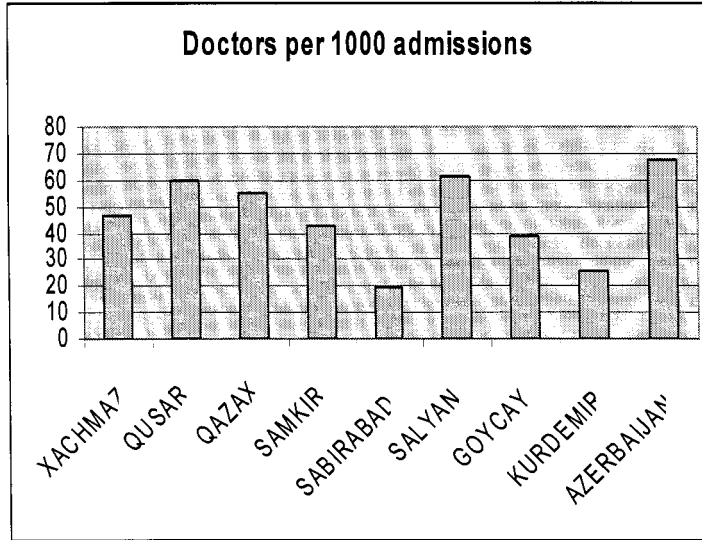
Source: Western World Consultants, "Baseline Study," 2003.

Figure 5.6b Physician Workload in Inpatient Care, 2003

Source: Western World Consultants, "Baseline Study," 2003.

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Figure 5.7 Nurse Workload in Inpatient Care, 2003

Nurses per occupied bed
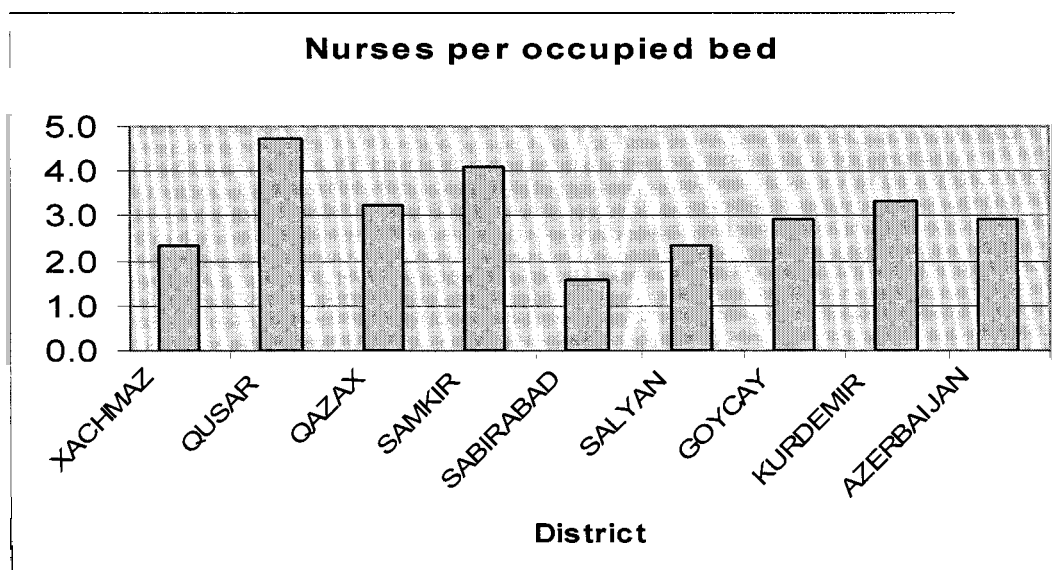
Source: Western World Consultants, "Baseline Study," 2003.

5.3.4 Imbalances between Secondary and Primary Care at the District Level

There is no shortage of secondary-level staff in rural facilities, but their productivity is low. The system has four distinct tiers, as shown in Figure 5.8. The major town hosts the secondary level, comprising the central district (general) hospital with an attached polyclinic and single specialty hospitals or dispensaries (e.g., for psychiatry, TB, etc). These facilities are managed by the MOH directly and staffed with narrow-specialist physicians, theoretically in line with planning norms inherited from the Soviet Union. However, these norms have not undergone a fundamental review since the 1960s. In practice, Soviet norms are far from uniformly applied, although the supply of staff poses few problems at the secondary level. Productivity is variable to low, as evidenced by the first set of rationalization plans put forward by the pilot districts, which proposed significant staffing reductions (up to 50 percent), confirming the widely held view that the secondary sector has excess staff capacity.

Supply of staff is a problem at the primary healthcare level, where productivity is again variable to low. Staffing over-capacity at the hospital level is in marked contrast to the primary level, where staffing levels are a problem. Primary healthcare is delivered by physicians at a village hospital or SUB (in the larger villages), and by Village Doctor Ambulatory facilities (SVA). According to the former Soviet model, SVAs should be staffed by a "three-way specialty mix" of therapists, gynecologists and pediatricians. Physicians thus have a narrow scope of practice, rather than working as more holistic family physicians. According to MOH official norms, physician staffing is based on 1 adult physician (therapist or gynecologist) to 1,700 adult population, and 1 pediatrician to every 700 child population. This yields an average ratio of 1 primary-care physician to

every 1,200 people. Smaller settlements rely on FAPs staffed by midwives and feldshers (or one person serving in both roles).

Figure 5.8   **THE RURAL HEALTH SYSTEM**
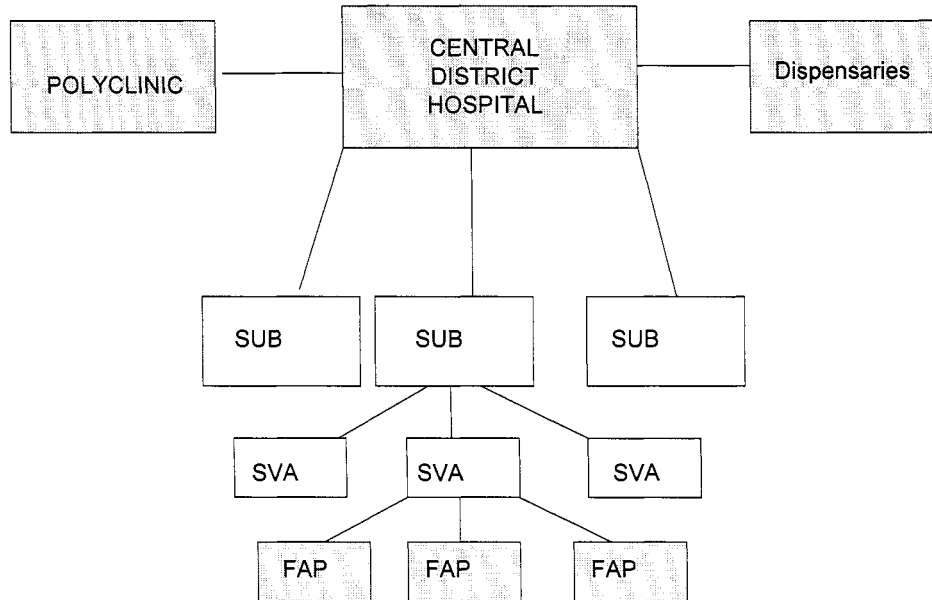
Discussions with MOH officials and field visits provided anecdotal evidence of supply problems at this level of the system. The baseline survey conducted by Western World Consultants supports this finding and shows that in both pilot and control districts, physician staffing levels are inadequate or below MOH (i.e., former Soviet), UNICEF and WHO norms at the SUB and RDA levels. These findings point to variable to low productivity and throughput, as measured in patients seen per year.

Staffing in rural areas is a problem due to lack of incentives for new physicians. The formal system for addressing the undersupply of doctors does not work. Every quarter, a district submits a report to the MOH identifying which posts are empty. The MOH then allocates specialty physicians to vacancies from a list of new qualifiers distributed by the public-sector medical university. However, most new physicians have no wish or incentive to work in rural districts, hence there is attrition by default. One of the major challenges in staffing policies is thus to strengthen primary-care staffing in rural areas within the context of difficult-to-staff locations. Meeting this challenge requires a combination of the following strategies:

- improving the supply of physicians to rural areas through better incentives;

- moving to a family physician model, with all current physicians (re)trained accordingly; and

- strengthening the feldsher/midwife role in terms of scope of practice (via retraining) and better equipment. (It may prove impossible to supply sufficient numbers of physicians to all parts of the country in the short to medium term.)

5.3.5 Profile of the Healthcare Workforce

There is an over-supply of certain physician specialties at the national level, but with shortages at the local district and sub-district levels. The Soviet model created 71 sub-specialties in medicine. Figure 5.9 below shows the distribution of physicians by sub-specialization at the national aggregate level in Azerbaijan. The largest sub-groupings are adult physicians (33 percent), surgeons (16 percent), pediatricians (14 percent), gynecologists (6 percent) and dentists (8 percent). There are no designated general practitioners or family physicians. More detailed staffing data is required to definitively assess the balance of specialties against requirements. However, there is an oversupply of pediatricians and surgeons at the national level and in cities, while there is an undersupply of pediatricians and gynecologists in rural districts (according to current norms). Despite these reported supply distortions, 30 percent of current post-graduate physicians are training to specialize in surgery.

Figure 5.9 Distribution of Physicians by Specialization, 2004
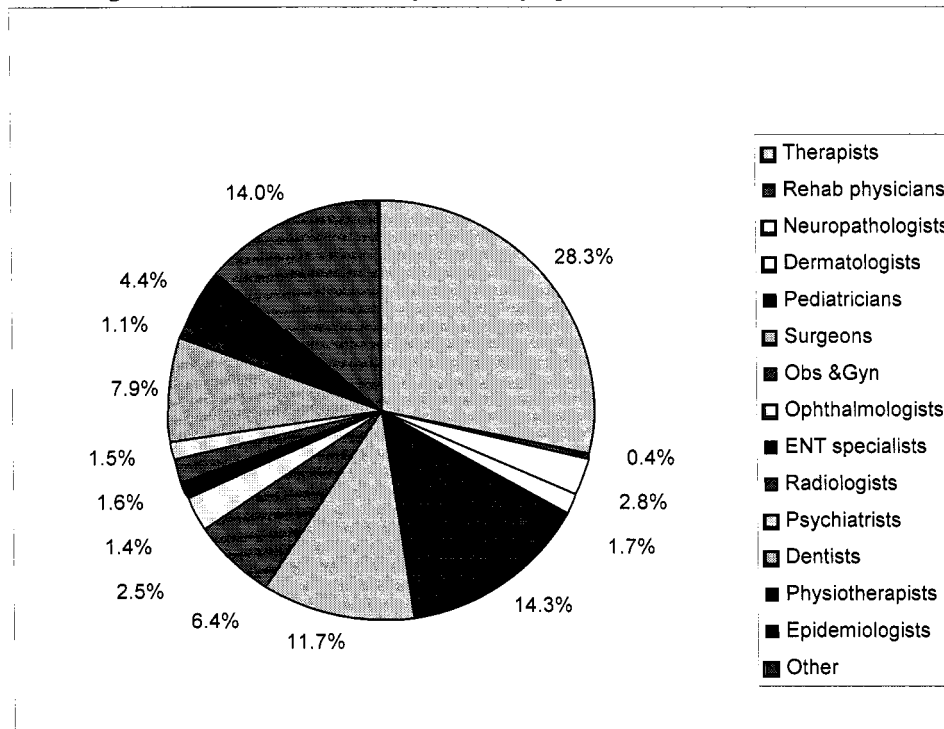
Source: Ministry of Health, 2004.

The profile of the medical workforce in Azerbaijan still reflects the former Soviet model and is based on narrow specialization. Ambulatory care in towns and cities is delivered by a myriad of narrow specialists. As a result, a holistic primary care approach to patients and families is precluded. Patients are often referred to several physicians before obtaining an accurate diagnosis. Also, specialist physicians are not specialists in the sense of secondary-level physicians that have advanced knowledge and skills in their field. Instead, they practice primary care within a very narrow scope determined by their specialization. Moreover, partly as result of protracted periods of working at the primary

level, these specialists tend to lose many of the skills and the knowledge that they acquired in post-graduate training. It has been found in other CIS countries, for example, that less than half of designated surgeons are competent to operate.

Given that the range of specializations in each polyclinic is planned according to standard central norms, staffing in these facilities is rarely in accordance with the health needs and disease patterns of the local population, and then only by coincidence. Lastly, narrow specialists typically refer patients to hospitals, where physicians admit them for assessment and/or undertake surgery if necessary. This inflates hospital admission rates, since a high proportion of patients admitted could be managed in an ambulatory setting. Also, assessment for surgery by an operating physician takes place after admission, so many surgical admissions do not actually lead to surgical procedures.

Nurses are relatively skilled in Azerbaijan. In general, however, the role of the nurse is underdeveloped and to some extent crowded out by the excess of physicians, particularly in urban areas. There are six sub-specialties of nursing. The feldsher, midwife and sanitary feldsher (San-Epid network) train for 2.5 years. General nurses and dental nurses train for 1 year and 9 months. Apart from the FAP level, nurses work under the direction of physicians. In addition, nurses based in polyclinics include visiting or patronage nurses, who monitor newly-born children or house-bound older people.

It is often assumed that nurses in transitional countries have neither the skills nor the knowledge base of their equivalents in the OECD. Detailed functional analysis of the roles of nurses in a number of other CIS countries have, however, revealed that their skills hold up quite well in comparison to, say, British general hospital nurses (advanced practitioners excepted), but that the underlying knowledge base and quality of academic training is less good. Such analyses have demonstrated the ability and willingness of these nurses to extend their skills to more advanced practices, given the appropriate training. Elsewhere in the CIS, the role of the feldsher has the potential to become the fulcrum of rural healthcare delivery, particularly in areas where physicians are in short supply, provided that they are given primary-care training and good basic equipment. In urban areas, however, it is common for the role of the nurse to be downgraded due to the oversupply of physicians. Nurses in these areas have thus fallen behind their OECD equivalents.

5.4   Current Human Resources Management and Policy-making Structures

The key functions of human resource development in healthcare are monitoring staff planning requirements at the national and local levels, setting terms and conditions (e.g., pay and other remuneration levels), and managing education and training. While reforms currently in progress address some of these issues, there is a need for reform and rationalization in most of these functions.

5.4.1 Departmental Functions within the Current System

Responsibility for human resource development is fragmented at both the national and local level. Management of the provider network is fragmented among three agencies. Republican hospitals are managed by the MOH, which allocates their resources in conjunction with the MOF. Central District Hospitals are managed by Chief Physicians, who negotiate their budgets directly with the MOF. Direct management of the rural health network (SVAs and FAPs) was transferred from the District Chief Doctor to local authorities two years ago.

At the central level, responsibility for healthcare workforce development (and the role of national employer) is fragmented across four central government departments: the ministries of finance (MOF), labor (MOL), education (MOE) and health (MOH). The MOF establishes staffing budgets on the basis of annual plans. These budgets are based on uniform line items, which act as a powerful disincentive to reforming current staffing numbers, since any reduction in staffing leads to a proportionate reduction in the budget of a given facility. The MOL administers the labor laws that govern non-financial conditions of service, based on former Soviet manuals still in use today. These conditions include guaranteed employment, fixed retirement ages, paid holidays, etc. The MOE governs the licensing of undergraduate medical training. The MOH leads key strategic health policies and reforms, and functions as an administrative department that works alongside the MOL and MOF on policy changes. The MOH also formally receives and approves the annual staffing plans from district and republican facilities, and collects and stores data on current staffing by means of an annual census.

5.4.2 The Current Budgetary System and its Impact on Staffing

Budgetary framework

Medical staff resist reductions in the number or beds because the budgets of medical facilities are based on this indicator. The number of medical posts is also fixed in relation to bed capacity. Budget proposals, or "prognoses" as they are called in Azerbaijan, are presented to the MOF directly by the districts, and by the MOH for Republican hospitals. Pursuant to the Soviet model, the key driver for the budget of a given facility is the number of beds; hence any reduction in beds would, in principle, lead to a proportionate reduction in its budget. Numbers of medical posts are also fixed according to bed capacity.

The over-capacity of hospital beds is reflected in hospital occupancy rates of 25 to 35 percent. Bed reduction and site rationalization would free up resources currently tied up in utilities and other facility maintenance, and would reduce surplus staff. Currently, 60 surgical beds require 4 surgeons, but if those beds are reduced to 15 to reflect occupancy, 3 jobs would be reduced. There is thus inevitable resistance to bed reductions on the part of staff. Medical posts are under-utilized in other parts of the network, particularly in polyclinics, offering further scope for rationalization. At present, however, there is no mechanism or incentive to adjust staffing levels.

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Current budgetary structure

Local managers have very little budget discretion in view of strictly controlled budget line items. "Prognoses" are based on strictly controlled budget line items that cover management and treatment. These items are well defined and understood and include salaries (48 percent), drugs, bedding, food, business trips, transport, housekeeping, rent, repairs/maintenance and special cases (e.g., infection control). Under-spending on salaries cannot be transferred to other budgetary items, such as drugs. Likewise, budgets for rent and transport cannot be converted to salary payments. Money allocated to vacant posts within the salary budget can, however, be used to pay up to 1.8 times the standard salary to individual staff for overtime. Extra payments are also made to individuals where the situation is less clear cut. Otherwise, local managers have no discretion in the salary budget. Any reduction in budgeted staff posts simply leads to a reduction in the size of the staff budget (about 50 percent of the total budget of most facilities). This creates a perverse disincentive for reducing surplus staff.

Current under-spends

The current budgetary system makes an already inadequate budget appear consistently under-spent, which in turn further reduces the budget. Although formal copayments are in place, budgets are consistently under-spent by up to 20 percent in many districts due to several factors. First, the budget is not adequate and copayments are required from patients to cover the cost of drugs, food, supplies, etc. Historically, the budget was fixed based one the number of beds in a facility. Since bed occupancy is low, the MOF more recently adopted occupied beds as the indicator for fixing budgets. However, utilization of beds is limited because patients are required to pay both formal and informal fees, which many cannot afford. As a result, bed utilization falls below the level assumed in the budget, which the MOF interprets as an under-spend against the budget.

In addition to acting as a perverse incentive to restructuring, the current budgetary system actually produces inevitable formal under-spending of an already inadequate budget. Although it is technically possible to make a special case to the MOF to retain under-spends within a given budget, this occurs only rarely. More commonly, the under-spend is returned to the MOF to be allocated to another state expenditure.

More budget autonomy is needed at the local level. The allocated budget does not cover more than 10 percent of the real costs of healthcare, yet it is nevertheless under-spent. When a district is awarded more money, for example, it is not given autonomy on how to spend it and thus must often return what is not spent to the central ministry. There is clear demonstrable need for more autonomy in budgetary management and staffing at the local level.

5.4.3 Medical Staff Remuneration

Pay levels remain low and medical staff continue to be dependent on OOP payments. Pay levels are determined centrally by the MOH and MOF. Salaries were recently increased by 50 percent from a low base (US$25 per month for a physician in a rural

district). This adjustment reflects the government's commitment to increase the proportion of GDP spent on healthcare to 1.2 percent, with most additional money allocated to improving salaries. However, since these monies cover only 10 percent of living costs, medical staff will remain heavily dependent on OOP payments from patients. There is some discretion for local managers to pay bonuses of up to 40 percent for productivity, although bonuses are also constrained by the rigidity of overall staff budgets. Otherwise, the scope for local decision-making within the overall framework is limited.

5.4.4 The Self-Management Initiative

Self-managed units are an en exception to the rigid budgeting framework. They have more autonomy over staffing and budget line items and use a productivity-based pay system. The MOH in 1995 launched a program of self-managed hospitals as a partial escape from the rigid budgeting framework. *Fully self-managed units* are effectively privatized facilities (mostly dental clinics) which charge patients directly for all services. *Partially self-managed* units formalize patient copayments by setting a fee schedule for services in conjunction with the MOH. One of the key innovations of self-managed units is their discretion over physician staffing levels, mostly through a fee-for-service element in their salaries, which can be as high as 100 percent of a salary. Under both models, staff can earn productivity bonuses, which provide an incentive to reduce excess capacity. Also, the management of a health facility has discretion over the distribution of its budget among expenditure line items and can thus redirect spending to refurbishment and/or clinical equipment.

Although self-managed units constitute a very limited scheme to date, the model has a number of components that could be more widely developed: (i) discretion of local managers over the allocation of their overall budgets, which offers an incentive to reduce expenditure on utilities and redirect these monies toward local priorities; (ii) formalization of patient copayments into the mainstream facility budget; (iii) a productivity-based pay system that gives physicians incentives to participate in the formal copayment system and eliminate surplus staffing capacity.

5.4.5 MOH as the Single National Employer of the Healthcare Workforce

As a medium-term goal, all human resource development and management functions should be unified under the MOH. Fragmented responsibility inevitably leads to lack of both coordination and systematic management. More difficult or controversial decisions are inevitably passed from ministry to ministry or simply avoided altogether. As a medium-term goal, all human resource development and management functions, except for jurisdiction over undergraduate medical education capacity, should therefore be unified under the MOH.

5.4.6 Current Human Resource Planning Norms

The most substantial gap in current management capacity at both local and national levels lies in the field of requirements planning. Until the 1970s, the MOH in Moscow formally approved staffing against planning norms produced by the Semashko Institute, a function that was later devolved to constituent republics. In common with many other CIS countries, Azerbaijan integrated these norms into its statutory framework for healthcare provision. If staffing levels at local levels had been consistent with these norms in the past, they have drifted substantially since. The Semashko methodology allots staff to a given provider network based on population size and density. Hence in the hospital sector, a given population would "require" a given number of therapy, surgery and pediatric beds. The number of beds drives staffing requirements for physicians and nurses, with about one physician prescribed for every 12 to 40 beds (depending on the specialty).

Populations are not weighted for age, sex, etc. If the norms were consistently applied, there would be an even distribution of beds and staffing to population across the country. However, there are wide variations in staffing among districts vis-à-vis available beds, indicating that the norms have a more symbolic than practical role in staffing decisions (see Figure 5.10).

Figure 5.10 Available Beds per Physician, 2003
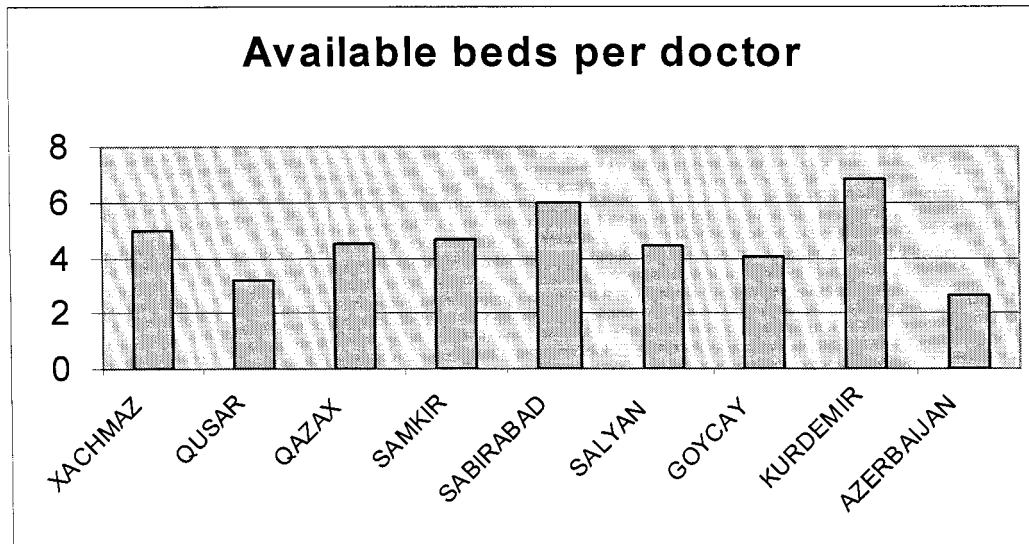
Source: Western World Consultants, "Baseline Study," 2003.

The current, 35-year old staffing norms are rigid in prescription, applied inconsistently, and provide a perverse incentive to restructuring. They are also largely based on outdated criteria. A centralized standard obviously cannot reflect the diversity of local clinical needs across the country. Apart from inconsistency of application, the Semashko norms lead to a number of other problems. Rigid, standardized norms last updated in Moscow in 1969 do not reflect the multiplicity and diversity of health needs at local levels across the CIS. Furthermore, since the number of jobs is attached to the

number of beds, there is inevitable resistance to or, at best, anxiety about, reductions in the number of beds. Beds, moreover, are not a meaningful workload indicator in a system with a 30 percent occupancy rate. Lastly, the experience of other countries shows that shorter lengths of stay and ambulatory workload settings decrease bed levels even as hospital activity remains stable or even increases. Thus, planning on the basis of bed levels provides a false picture of the needed level of physicians.

5.5 Medical Education

In a country with a population of 8.2 million people, Azerbaijan currently produces 1,600 medical graduates each year, i.e., 200 per 1 million population. Some 1,150 physicians are trained at the Azerbaijan Medical University (AMU), the only public-sector medical school in the country, which is equivalent to about 144 graduates per 1 million population. Another 240 graduates are dentists or pharmacists, which reduces the public-sector output to 910 graduates, or 114 per 1 million population.[146] A further 450 to 500 places are available in private universities. The private sector is licensed by the MOE and is expanding rapidly, with no apparent control over numbers of medical graduates. It is estimated that approximately 100 Azerbaijani citizens are resident and training abroad. Approximately 45 percent of the students at AMU are "budgeted students," meaning that their fees are paid by the healthcare budget (see Table 5.2).

Table 5.2 Overview of Medical Education in Azerbaijan

	Number of Years in Under-graduate Training	Number of graduates per annum	Financial Conditions	Private Sector
Total for 6 faculties		1,150	525 free of charge; 625 pay tuition of approximately US$500–1,000 per year.	Private universities licensed by the Ministry of Education produce 450–500 medical graduates per annum.
1. Medical	6	550		
2. Pediatrics	6	250		
3. Prophylactic (preventive)	5	80		
4. Laboratory	5	30		
5. Dentistry	5	160	Exemptions include:	The Ministry of Health has
6. Pharmaceutical	4	80	• orphans • refugees • families of victims	no control over the number of medical graduates produced.
Military	6	30		
Military field doctor (feldsher)	2		Banks do not give credits or loans to individuals for medical education.	In the future, the Medical University will monitor quality and give accreditation to private institutions.
Nursing School	2			

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[146] This comes close to the country's target range of 70–100 per 1 million population and will be balanced by population growth in the future.

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In comparison with Azerbaijan, England has 5,000 medical training places each year (to be expanded to 6,000) for a population of 50 million, currently equivalent to 100 places per 1 million population. Canada enrolls 1,577 per year (to be expanded to 2,000) for a population of 32 million, equivalent to 49 places per 1 million population. Azerbaijan has historically trained physicians for other parts of the former Soviet Union, such as Siberia. At its peak, AMU trained 1,400 per annum in the public sector. It has an aspiration to train 70–100 per 1 million population, which would be equivalent to 560–800 graduates annually. In recent years, the AMU has been reducing its output by 20–100 places per annum.

5.5.1 Link with the Supply of Physicians

Azerbaijan currently has an oversupply of physicians. As mentioned earlier, the state employs roughly 29,000 physicians. Over a forty-year work span, one could expect 725 jobs to become available each year. This would approximately match the target norm of 100 graduates per 1 million population. Oversupply is exacerbated, however, by the reluctance of older physicians to retire. It is estimated that 20 percent of physicians are eligible for retirement but, due to a small pension, they continue to work. Over 50 percent of physicians are women, many of whom are of childbearing age. During the Soviet era, women could take advantage of their maternity leave entitlement, which extended from 18 months to 3 years. Women today do not use this entitlement and tend to return to work after 2–3 months. Both of these trends reduce the demand for physicians.

There is a deficit of physicians in rural areas. At the moment, the ratio of male-to-female medical graduates is 30/70. Approximately 900 graduates are produced each year, 200 of which change direction and join another industry, such as oil or banking. The remaining 700 choose to become physicians. In theory, there should be sufficient medical vacancies to employ all 700. However, most vacancies are based in rural areas and physicians wish to remain in the cities. As a result, there is a deficit of physicians in rural districts and a surplus in urban areas. This mismatch is one of the key challenges for medical and professional workforce planning in the country.

5.5.2 Funding the Current Education Model

Less than half of students educated free of charge have any conditions placed on their state funding. Up to 2004, undergraduate training was provided in 6 faculties of the AMU, with 45 percent of students educated free of charge and 55 percent subject to charges of US$500–1,000 per year. No conditions are placed on state educational funding. Given the problems of recruitment to rural areas, the following conditions could apply: (i) applicants from areas without sufficient numbers of physicians could be given priority, based on the assumption that they would be more willing to practice in their home localities; (ii) a specified period (for instance, 2 years) of practice in a rural area could be made a condition of state educational funding.

5.5.3 Professional Development and Recognition

The current model. Medical training has traditionally meant entering university at the age of 17, spending six years to receive a medical degree, followed by a one-year internship in a clinic. At this point, an individual is qualified to work as a physician. Every three to five years, physicians are supposed to apply for re-training, but there is currently no sanction for not doing so. (In the new self-managed model of hospital service provision, physicians will be licensed at 3- to 5-year intervals to be allowed to continue to practice). A system of certification exists that allows physicians to gain recognition based on experience. This system does not involve examinations, but submission of documents, together with a report on the quality of work achieved. The system offers little financial reward and even though it has been temporarily stopped for internal review, it continues to have a certain status.

The system of accreditation is as follows: four years following his or her internship, a physician can apply for the "second' category;" after a further three years, a physician can apply for the "first" category; three years beyond this, he or she can apply for the "highest" category. This last category has to be certified three times, i.e., it must be recertified three years and then six years after the original award in order to achieve the highest lifelong category status. According to this model, a physician is fully qualified and experienced at the age of 35 to 40 years.

The AMU's proposed new model (based on EU standards) should enable the supply of skills to match demand for health services. The model is likely to gain presidential approval for implementation in 2005–2006. The undergraduate training period will remain the same, after which 70 percent of graduates are expected to train for a further two years as "family physicians" working in polyclinics. In addition to the current secondary healthcare role, they will provide primary healthcare. The remaining 30 percent will train for up to 7 years in a specialization and will be required to pass 3 examinations (in language, pathology and a specialty). In theory, numbers of medicals school slots will be based on national need and a program of reporting will allow institutions to identify specific specialist requirements. This will enable the supply for skills to match demand, provided that requirements-planning is robust.

Further Potential Developments. According to this new model, prophylactic medicine could become a specialty area within medicine and not require a separate faculty. Likewise, it is conceivable, and more consistent with the western European model, to treat pediatrics as a post-graduate specialization. This would mean that all physicians (assuming that pharmacy and dentistry are split off as separate professions) would have the same basic undergraduate training. It would also deliver a primary-care physician who can practice as a family physician, which in turn would alleviate medical shortages in rural areas.

New teaching methods should be introduced and the link between academic training and practice should be strengthened. The Soviet model of medical education was based largely on academic training with poor links to actual practice. Future reform will need to better integrate the practice of medicine and training via higher-quality and better

supervised placements and a convergence of teaching and practice. Moreover, the content of teaching needs to be reformed to introduce new pedagogical methods such as problem-based learning.

5.5.4 Career Path of Medical Graduates

An oversupply of medical graduates is resulting from the number of students graduating from private universities, where the educational quality is lower and students less qualified. There is a wide perception in Azerbaijan that the university system is producing too many physicians. This perception needs to be considered carefully, however, as the above analysis indicates that the apparent oversupply of physicians is intimately connected to the additional 450 to 500 medical graduates produced by private universities. While private universities are licensed by the MOE and follow the same curriculum as the AMU, the quality of education is lower and students in general are less qualified.

It is a policy issue to link total graduate output to the number of medical jobs available in the system. In the UK, for example, undergraduate training is the first step in a career path for physicians in which the number of graduates is matched to the number of clinical jobs available. The volume of medical educational slots is controlled to ensure that a surplus is not produced. Central control is possible because medical education is entirely provided by universities within the state sector. In this respect, a medical degree is unlike most other vocational degrees, such as accountancy or law, where the number of places is not centrally planned and graduates face competition.

Even if the number of places in undergraduate medical education were reduced to better match the number of available jobs, expansion of the private educational sector would the impact of this reduction. The advantage of surplus graduates is that students can choose to pursue a medical degree, which is highly regarded by employers, and then move on to work in another sector, such as oil or banking. The state gains a general benefit from producing a highly educated workforce (assuming that graduates do not immigrate to other countries).

The disadvantage is that there will be a surplus of graduates searching for medical jobs, so that aspiring physicians will find themselves unable to work due to lack of opportunities. Medical degrees also require a longer time commitment than other degrees, so it could be argued that expensive training would to some extent be wasted. Morale among medical graduates is also likely to be low if only a small proportion can find work as physicians.

5.5.5 Continuous Medical Education

While there is an excess training capacity for new physicians, Azerbaijan faces a huge challenge in retraining its current medical workforce. The retraining agenda includes: (i) further extension of the UNICEF/World Bank program to retrain narrow-specialist physicians (especially those working at the primary-care level) across the scope of family practice, based on assessment of local demand. For the time being, the current ratio of 1

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physician per 1,200 population is not an unreasonable parameter for primary-care physicians in a rural area (the nurse-to-physician ratio in primary care would be no more than two); (ii) training specialist physicians for fitness of purpose using modern evidence-based medicine in the specialties they currently practice, thus ensuring that all practicing gynecologists, ophthalmologists, general surgeons, etc., are competent to operate.

5.6   Recommended Workforce Planning Methodology

Given current problems with central planning norms, lack of staff planning capacity and the absence of requirements-plans, future healthcare staffing is an unknown and might be an impediment to reform. Azerbaijan should develop its own staff requirements or demand-planning approach with the following aims: (i) planning should occur at both the central MOH level and at local provider and district levels; (ii) the MOH should determine the methodology and set guidelines for achievable minimum and maximum staffing vis-à-vis population and productivity; (iii) local providers should apply the methodology and adapt it to reflect local needs and affordability; (iv) planning should reflect meaningful measures of staffing needed in each part of the provider network; (v) the planning process should be dynamic, both supporting and promoting the overall reform process; (vi) the process should encompass parameters of quality and efficiency.

There is wide support among stakeholders in the Azerbaijan health sector for developing this type of approach within the MOH. Successful models for developing a health workforce planning methodology have been implemented in the CIS and other transition countries, which provide lessons that Azerbaijan can learn from and apply.

5.7   Key Issues, Options and Recommendations

Staffing Capacity

- The overall size of the health workforce in the MOH provider network is not excessive.

- There is a surplus of physicians, with excess capacity of up to 30 percent at the national aggregate level.

- There are wide geographic variations and inequities in levels of physicians and nursing staff to population which do not reflect productivity rates or even former Soviet planning norms.

- Compared to national averages, medical staffing in rural districts is low, evidence that staffing in cities is substantially higher than average.

- Below the district level, the rural health network is experiencing significant supply problems.

- The profile of the medical workforce in Azerbaijan still reflects the former Soviet model of narrow specialization, with oversupply in some specialties at the national level and shortages in others at local district and sub-district levels.

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- The narrow-specialist model precludes good-quality primary care and an adequate supply of physicians to rural areas, a problem that could be alleviated by moving to a family physician model.

- The role of nurse is underdeveloped and to some extent crowded out by the surplus of physicians in urban areas.

Current Management Capacity

- Responsibility for human resource development (HRD) is fragmented at both the national and local level.

- As a medium-term goal, all HRD and management functions should be unified under the MOH.

- A rigid, centralized statutory framework severely limits the discretion of local managers to staff their facilities according to local need and service requirements.

- The current budgetary system imposes rigid constraints on local decision-making, acts as a perverse incentive to staffing restructuring, and actually reduces already inadequate budgets.

- The national statutory framework inherited from the former Soviet Union is an impediment to the reform process.

- Current, 35-year old staffing norms are rigid in prescription, applied inconsistently, act as a perverse incentive to restructuring, and are based largely on outdated criteria. Clearly, a centralized standard cannot reflect the diversity of local clinical needs across the country.

- Outside of the limited self-managed sector, there is no incentive to restructure staffing levels in the healthcare system.

- The self-managed sector uses a creative and pragmatic approach to staffing that offers valuable experience and could be extended to other parts of the system. This staffing approach should be made part of an urgently needed strategy to give more autonomy to local managers.

Medical Education

- Capacity at the undergraduate level is 30 percent greater than the likely requirements of the healthcare system.

- The Azeri Government may wish to leave undergraduate medical education to the market and simply regulate its quality. However, the numbers of budgeted students is a different matter. There are currently some 500 such places available annually. As a general principle, state funding for medical education should be linked to the demand for new physicians in the system. Unfortunately, the country currently has no demand plan, so it is difficult to assess whether the current number of budgeted students is appropriate.

- The system offers a mechanism to improve the supply of physicians to rural areas, provided conditions are placed on students who receive free education.

Applicants for free state education from areas with physician shortages could be given priority, based on the assumption that they would be willing to practice in their home localities. In fact, the government could establish such a condition as a pre-requisite for approving applications for free state funding.

- Currently proposed reforms of medical education are sound. In addition, the following issues should be taken into account:

  - The post-graduate system currently produces as many physicians as there are current official vacancies. As a general principle, the number of post-graduate specializations should be linked to identified medium- to long-term demand. Once again, as in many other areas, lack of a demand plan is a problem.

  - Undergraduate training should be further unified and consolidated, with undergraduates educated in a single faculty of family medicine, with pediatrics becoming a post-graduate specialization.

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.

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 heath 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.[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.

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[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).

Figure 6.1 Organizational Chart of the Healthcare System in Azerbaijan
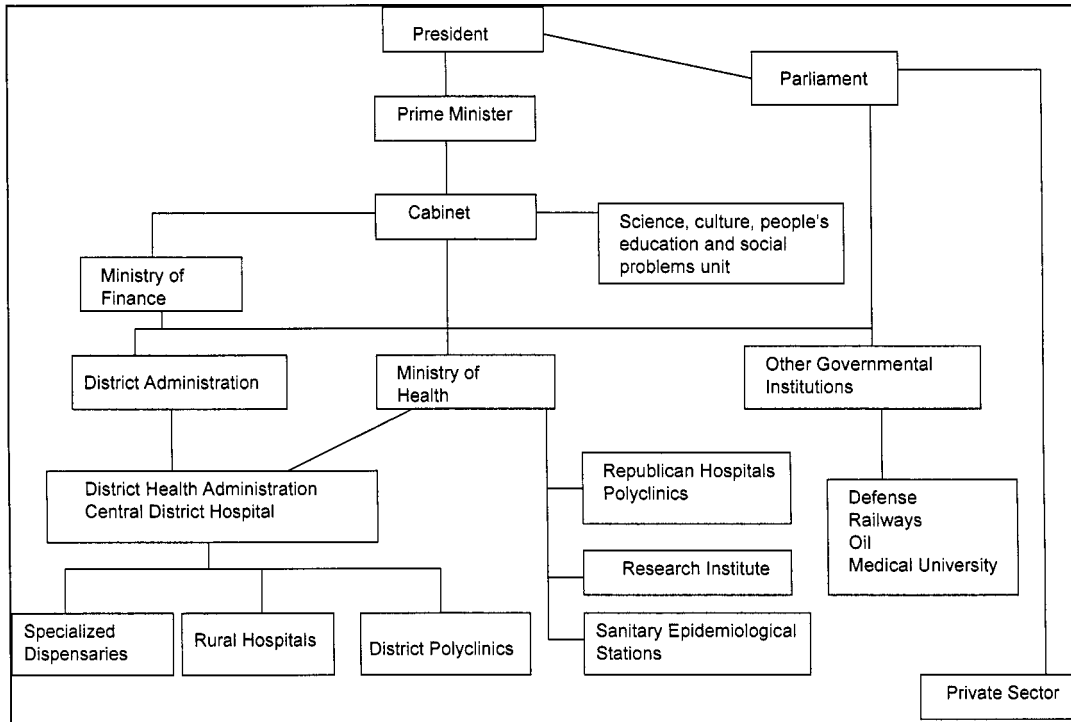
Source: Holley, Akhundov and Nolte, "Health Care Systems in Transition," 2004.

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

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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

Source: Holley, Akhundov, and Nolte, "Healthcare Systems in Transition," 2004.

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

	1990	*1995*	*2000*	*2002*
Total Public Sector				
Number	70,900	74,600	69,900	68,700
per 10,000	98.2	96.6	86.5	85.0
Ministry of Health				
Number	68,300	68,500	64,700	63,500
per 10,000	94.6	88.7	80.1	77.7
Other Public Sector				
Number	2,600	6,100	5,200	5,200
per 10,000	3.6	7.9	6.4	7.3

Source: Ministry of Health, www.mednet.az, 2002, as cited in Holley, Akhundov and Nolte, "Healthcare Systems," 2004.

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
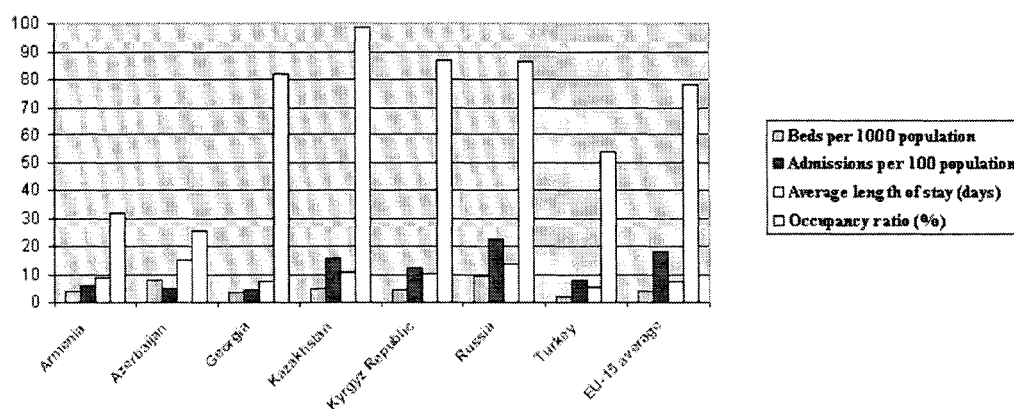
Note: Data are for 2002, except the EU-15 average, which is for 2000.
Source: WHO, "Health for All" database, 2004.

Figure 6.3 Hospital Occupancy Rates, 1988–2000
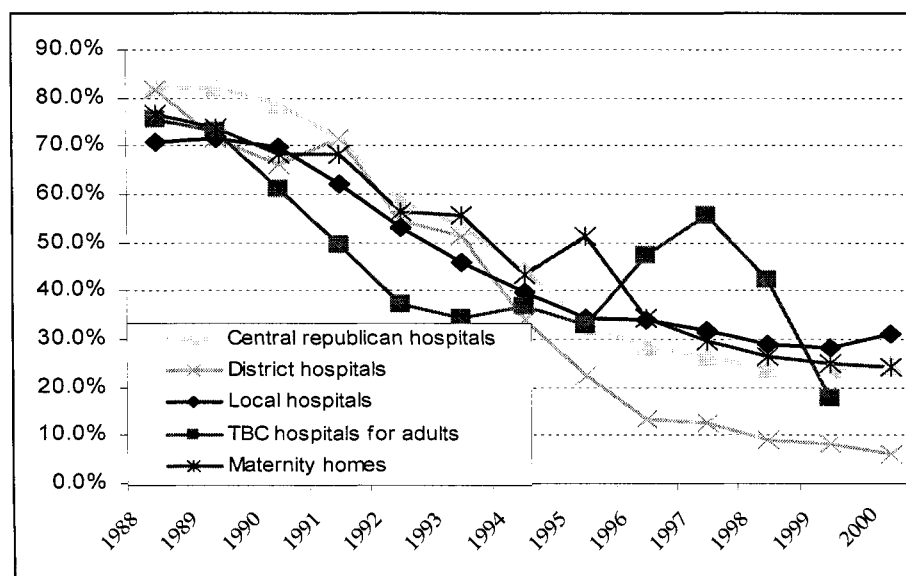
In reality, there is a very wide variation in the use of inpatient care services, depending on provider productivity, types of services offered and distance from major centers and the capital of Baku. For example, the occupancy rate is around 17 percent in TB hospitals and below 15 percent in infectious 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

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[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.*[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.[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.[152] Nonetheless, the San-Epid system has had some recent achievements,

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[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.

[151] UNICEF, IMC and, more recently, USAID are the most notable examples.

[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 Entities[154]

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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first-dose and follow-up vaccines, indicating that the full vaccination coverage rate may be even lower. In addition, no FAPs had refrigerators and 91 percent did not have cold boxes. At the SVA level, only about 3 percent had refrigerators and 34 percent, cold boxes, indicating that the cold chain may have been seriously hampered. (WWW, "Evaluation Survey," 2005.)

[153] See Chapter 1 for a detailed discussion of behavioral determinants.

[154] 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.

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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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[155] Pierpaolo de Colombani and John Holley, "Global Drug Facility Country Visit: Azerbaijan," Mission Report, December 9-14, 2002, WHO.

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

Case Detection Rate (%) ■ Treatment Success Rate (%)
□ DOTS coverage (%)
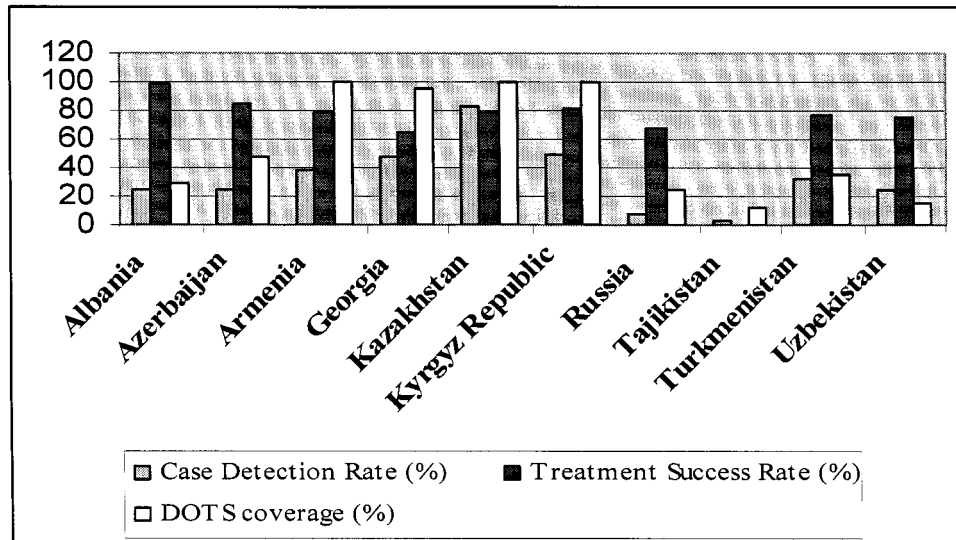
Note: Most data are reported for 2002 and 2003.

Source: WHO Global Tuberculosis Database, www.who.int/global/GlobalAtlas/
DataQuery (accessed March 16, 2005).

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[156]

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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[156] This section relies on information provided in UNAIDS/WHO, "Epidemiological Fact Sheet," 2004, and the MOH application to the Global Fund Against Tuberculosis and Malaria (GFATM) of 2003.

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,[157] and on the other, poorly funded, managed and highly fragmented primary healthcare services.[158] 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

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[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 childhoold 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.[160] 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,[161] 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.[162]

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.

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Table 6.2 Modes of Hospital Payment in Transition Countries

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

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 post-graduate 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.

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- 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.

CHAPTER 7. TOWARD GREATER ACCESS TO PHARMACEUTICALS IN AZERBAIJAN

7.1   Introduction

Public expenditure on pharmaceuticals in Azerbaijan is one of the lowest in the region. As a share of total healthcare expenditures, however, it is one of the highest. This seeming inconsistency is due to the fact that a very large proportion of pharmaceutical purchases are made out-of-pocket. Healthcare expenditures in Azerbaijan as a percentage of GDP are the lowest in the region, as are expenditures on pharmaceuticals (see Table 7.1). However, the data do not fully account for formal and informal private spending on healthcare and pharmaceuticals.

The decline in the GDP in the 1990s, together with decreasing public expenditures on healthcare, resulted in households bearing an increasing amount of their healthcare expenditures out-of-pocket (OOP), including for pharmaceuticals. In a 2004 national representative sample survey, annual household OOP expenditures for medical goods and dispensed drugs was estimated at AZM 242,875 per capita, or approximately 70.7 percent of total OOP health expenditures per capita. The annual per capita payment for medicines procured outside of health service providers was estimated at AZM 19,763, or 31.9 percent of total hospital per capita expenditures.[163] These estimates should be viewed in the context of a general deterioration of health due to increases in communicable diseases, environmental pollution, stress related to economic difficulties and a lifestyle characterized by high levels of alcohol consumption and smoking—all of which increase the need for healthcare and pharmaceuticals.

Another study estimated that purchases of pharmaceuticals comprised almost 61 percent of total healthcare expenditures, with a considerable proportion of such purchases made out-of-pocket.[164] Using information from a pharmaceutical wholesale company that has a 5 percent market share, it can be estimated that total pharmaceutical sales on the Azeri market are between US$120 and US$150 million. These figures are higher than U.S. State Department estimates of about US$80 million,[165] computed on the basis of official government estimates of US$37 million, an allowance for underreporting of import and customs data, and black market estimates. Although the actual size of the Azeri pharmaceutical sector is difficult to fully ascertain, especially the ratio of public to private spending, the latter is thought to account for most expenditures on medicines.

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[163] G&G Consulting, "Health Financing Study," 2005.

[164] G&G Consulting, "Health Expenditure Analysis," 2004.

[165] U.S. and Foreign Commercial Services and U.S. Department of State, "Market Snapshot: Pharmaceuticals Market in Azerbaijan," http://www.bisnis.doc.gov/bisnis/bisdoc/011012AZPharm.htm, 2003.

Table 7.1 Healthcare and Pharmaceutical Expenditures in Selected Countries, 2004

Region	Country	Total expenditure on health as % GDP, 2001 (1)	Total pharmaceutical expenditure as % of total healthcare expenditure, 2000 (2)	Total US$ expenditure on pharmaceuticals (per capita at exchange rate), 2000 (2)
European Union	Austria	8.0	17.3	323
	Estonia	5.5	22.3	49
	France	9.6	20.4	421
	Germany	10.8	13.6	328
	Ireland	6.5	10.6	168
	Italy	8.4	22.2	336
	Lithuania	6.0	20.0	39
	Netherlands	8.9	10.1	202
	Spain	7.5	17.7	186
Western Europe	Albania	3.7	16.5	8
	Bulgaria	4.8	22.0	16
	Turkey	5.0	28.0	58
Eastern European Region	Belarus	5.6	11.9	7
	Republic of Moldova	5.7	12.2	1
	Russian Federation	5.4	17.8	12
	Ukraine	4.3	17.8	5
Caucasus Region	Armenia	7.8	52.6	12
	Azerbaijan	1.6	7.8	2
	Georgia	3.6	39.1	8
Central Asian Region	Kazakhstan	3.1	8.4	5
	Kyrgyz Republic	4	39.9	5
	Tajikistan	3.3	13.4	1
	Turkmenistan	4.1	26.7	7
	Uzbekistan	3.6	7.6	2

Sources: (1) WHO, *World Health Report*, 2004; (2) WHO, *World Medicines Situation*, 2004.

Since independence, the pharmaceutical sector in Azerbaijan has undergone considerable changes—from severe shortages to a rapidly maturing and consolidating market. Immediately following independence, economic conditions across the CIS deteriorated considerably, more so in Azerbaijan due to armed conflict, declining production of goods and services, rampant inflation and massive population movements across and into the country. Consequently, public sector outlays for healthcare in general and pharmaceuticals in particular were greatly reduced. Furthermore, the breakup of the Soviet Union led to the dissolution of centralized pharmaceutical supply, regulation and distribution systems. The immediate impact in Azerbaijan was a severe shortage of drugs because the country had very limited pharmaceutical manufacturing capacity. Supply shortages, combined with liberalization of the market, led to a rapid increase in imported drugs to meet demand. Given low supply and high demand, drug prices consequently skyrocketed.

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Privatization of the pharmaceutical sector in Azerbaijan began after the enactment of the Law on Pharmaceutical Activity in 1997. Private importers, wholesalers and pharmacies began to enter the market, and a wider range of drugs were imported that resulted in gradual withdrawal of the state in providing pharmaceuticals, limiting its involvement to regulation and quality control of the market. As a result, the availability of drug supplies began to gradually improve. At present, some 70 domestic and foreign companies are supplying the Azeri market with 3,000 mainly generic drugs. An influx of unregistered and counterfeit drugs, particularly from Russia, Turkey and India, means that the drug quality control system must be modernized and efforts to monitor the drug supply strengthened, both of which are critical steps in tackling the problem of counterfeit drugs in the country.

7.2   Supply of, Access to and Quality of Pharmaceuticals

Affordability of drugs is a major concern. Although a wide range of pharmaceutical products is, in principle, available on the market, these drugs are not necessarily affordable. Public funding allocations for drugs cover only minimal needs and are limited either to inpatient care or diseases with public health consequences, such as tuberculosis, malaria or other chronic diseases. As a result, the burden of paying for almost all outpatient drugs falls squarely on the patient. Even people who are supposedly eligible for free drugs are often unable to access them.

In 2000, per capita expenditure on pharmaceuticals in Azerbaijan was estimated at US$2.0, the lowest ranking in the region, only slightly above the worldwide average of US$1.1 among low-income countries.[166] Even Georgia, which has a lower per capita income than Azerbaijan, spent US$8 per capita on pharmaceuticals that same year, the average for middle-income countries. Turkey, on the other hand, spent US$58 per capita on pharmaceuticals during that same period (see Table 7.1). European Union countries spent significantly more per capita than the rest of the world, ranging from a low US$39 by new EU member Lithuania to a high US$421 by France. Azerbaijan is now working with international donors to improve both access to and rational use of drugs.

Most drugs are imported and remain expensive by local standards. Imports are estimated to account for at least 60 percent of the local drug market in Azerbaijan. The perception that imported products are of higher quality than those produced domestically or in neighboring countries drove the shift to imported products. After the Russian currency crisis in 1998 and the devaluation of the Azeri Manat, imports of West European drugs decreased because they became prohibitively expensive. Subsequently, the market shifted to low-price suppliers from India and Turkey. A large share of the current supply of pharmaceuticals also comes from Russia, Ukraine and Iran. Products that enjoy a reputation for quality, such as those from the USA, France, Germany and other European countries, are often able to maintain higher prices. A growing number of foreign pharmaceutical firms have a local presence, often represented by a physician who promotes their drugs.

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[166] WHO, *World Medicines Situation*, 2004.

Domestic production in Azerbaijan remains limited. While there are nominally two production facilities in Azerbaijan, only one plant is currently in operation. The functioning plant, Azerpharm (Farmsintez), was established in 2000. Shares of the company are held by MOH and private Azeri, Turkish and Iranian interests. The MOH acts on behalf of the Azeri shares. The Turkish partners supply technology and equipment, while the Iranian partners provide bulk raw materials for production.

In its four manufacturing facilities, Farmsintez produces drugs in many formulations, including liquids, tablets, ointments and creams. The firm currently produces 86 generic products, some of which are well-known internationally, mostly in small volumes. None of these facilities is compliant with good manufacturing practices (GMP). Farmsintez sells its products mainly through the MOH and local wholesalers. The manufacturing facilities are currently operating at less than 25 percent of their capacity, with annual estimated sales of US$450,000. The potential for export is limited as the company is not GMP-compliant. In addition, importation of expensive raw materials would make Azeri prices uncompetitive in international markets.

There is a large and unregulated informal market in pharmaceutical products in Azerbaijan. Sales of unregulated market traders are estimated to account for as much as 50 percent of market volume. Although several laws govern the import of pharmaceuticals and inspection of imports has improved, anecdotal evidence indicates that up to 70 percent of imports do not pass through customs or undergo inspection. Quality control has recently been instituted through the introduction of a "hologram seal of approval," but pharmaceuticals without this seal are still widely available and distributed. The absence of the "hologram seal" is often explained by saying that retail drugs came from old stocks distributed prior to the new system, or that the seal was affixed only to the wholesale bulk package, not to retail packages. Thus, many drugs are easily available for purchase at numerous private outlets, but their quality is often dubious.

7.3 Distribution of Pharmaceuticals

Drug distribution in Azerbaijan was privatized for the most part following enactment of the Law on Pharmaceutical Activity in 1997. This law privatized most warehouse, distribution and retail pharmacy facilities in the country. During the Soviet era, state-owned wholesaling companies in Azerbaijan imported pharmaceuticals and distributed them to state-owned pharmacies. With most wholesale companies now transformed into private companies, these firms presently operate on a commercial basis independent of state control. There are an estimated 50 drug importers and/or wholesalers in the country.

Figure 7.1 Private Pharmacies in Azerbaijan, 1995–2000
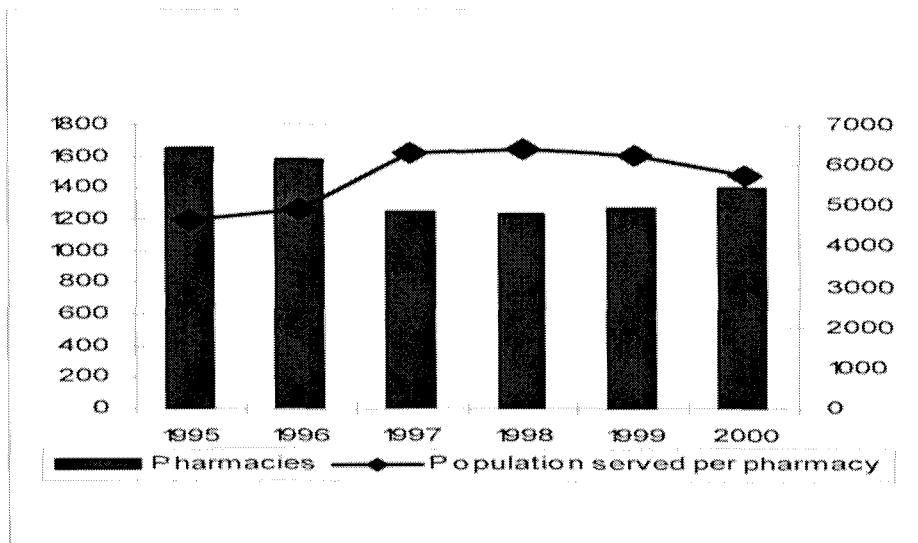
Geographic access to pharmaceuticals is highly uneven. There are rural areas where drugs are not readily accessible simply because there are no pharmacies. However, most urban residents have good access to pharmacies. Outpatient drugs are purchased through a large number of private pharmacies, particularly in urban areas. Figure 7.1 shows that in 2000, there were an estimated 1,300 pharmacies in Azerbaijan. This is equal to just under 5,500 persons served per pharmacy as compared to the average in Western Europe of around 6,750 persons per pharmacy.[167]

Numbers of pharmacies have continued to increase and there are now over 600 private pharmacies in Baku alone. Competition between pharmacies in Baku is so keen, especially in central areas, that pharmacies are sometimes located side by side. There are concerns that competition has driven trade in cheap, often counterfeit, drugs. Although it is likely that some pharmacies may fold because they are unable to compete, studies in other markets have shown that competition can bring quality improvements in the services provided by pharmacies, such as longer opening hours, home delivery, prescription monitoring and patient information programs.[168] In Baku, the positive effect of competition can be discerned in the modernization of more pharmacies run by professional staff.

Some public pharmacies remain, mainly as part of the polyclinic of a given district. Such pharmacies are responsible for dispensing subsidized drugs to the underprivileged. Public pharmacies often have simple infrastructure (with open displays) and are managed

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[167] WHO, "Health for All" database, 2005.
[168] Office of Fair Trading, *The Control of Entry Regulations and Retail Pharmacy Services in the UK*, Volume 2 (London: Office of Fair Trading, 2003).

by pharmacists who are reportedly properly qualified. There are also about five public warehouses for medicines, but these facilities are in poor condition and do not have proper stock management tools, save those located in Baku. Despite poor conditions, the distribution system continues to function with the support of MOH.

Figure 7.2 Pharmacists per 100,000 Population in Selected Countries, 2004
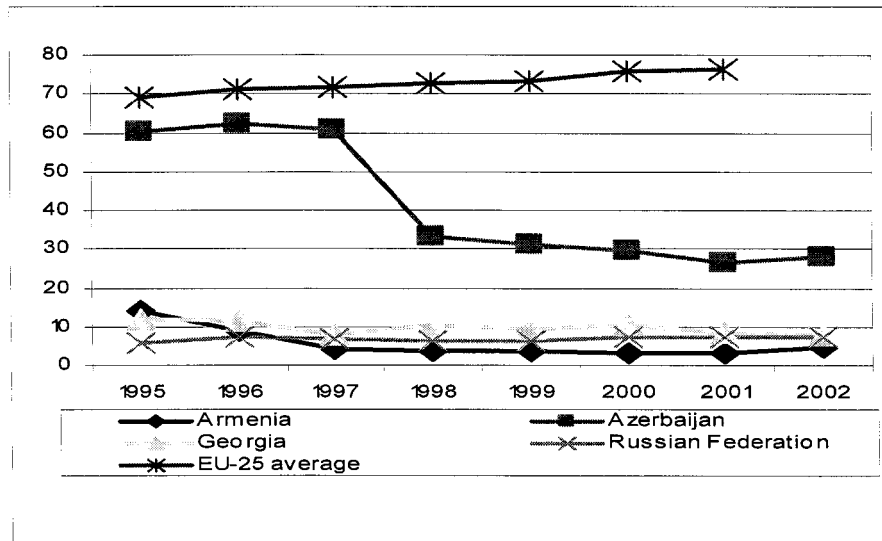
Source: WHO, "Health for All" database, 2004.

The number of pharmacists per 100,000 population in Azerbaijan is better than that of neighboring countries, including Russia, given the sizeable drop in the number of pharmacies resulting from privatization (see Figure 7.2). However, an area of concern is the potential shortage of hospital pharmacists, who are paid less than their colleagues in private pharmacies.

7.4   Financing

The burden of pharmaceutical financing has shifted to a great extent from the state to households. Public spending on pharmaceuticals is thought to account for just over 10 percent of all healthcare expenditures (see Figure 7.3). A similar breakdown exists at the district level, where expenditures of AZM 23.2 million in 2002 accounted for 13 percent of total district healthcare spending.[169] Although recent allocations for pharmaceuticals were estimated to represent about 20 percent of all public healthcare expenditures, given the current level of financing, it is likely that only a limited range of inpatient drugs and certain outpatient drugs for underprivileged groups are covered by public funds. This trend marks a significant shift away from full government pharmaceutical coverage for inpatient medicines and free or highly subsidized outpatient prescriptions in the FSU. Lower levels of public financing and higher drug prices have certainly affected access to needed medicines.

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[169] G&G Consulting, "Health Expenditure Analysis," 2004.

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Figure 7.3 Composition of Healthcare Spending, 2004
(as % of total)
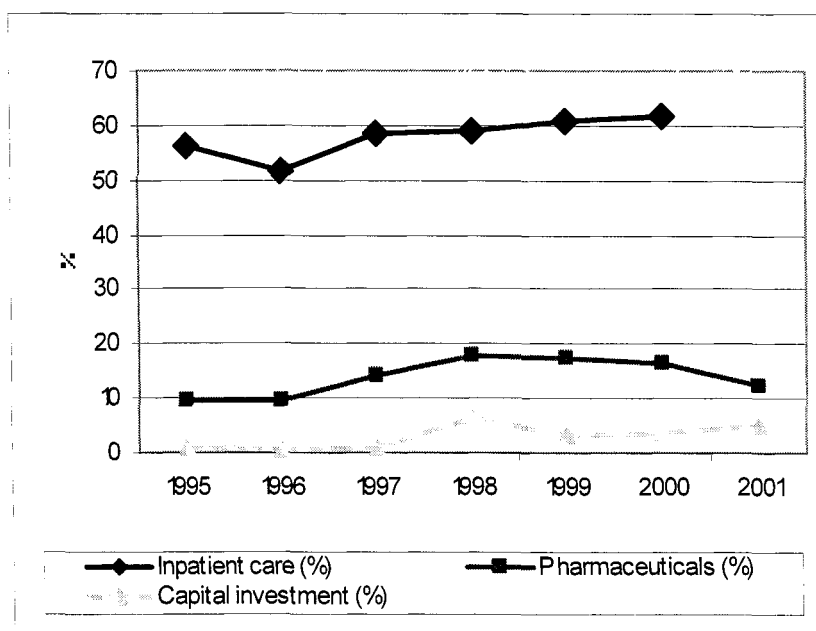
Given current funding arrangements, historic expenditure patterns continue to determine current allocations, including those for pharmaceuticals. Hospitals often attempt to increase the amount requested for pharmaceuticals and other areas of expenditure, but little if any increase is seen from year to year. Most hospital budgets go to staff salaries and benefits. In some cases, even a portion of the meager budget allocation for pharmaceuticals is reallocated toward salaries. Patients are often requested to purchase the drugs they will need in hospitals out-of-pocket from private pharmacies. Although MOH does have a central supply system, there has been little effort to systematically and competitively leverage scale through bulk procurement of basic drugs. At present, such purchases are estimated to cover only about 6 to 8 percent of the hospital market.

The shortfall in public healthcare budgets has reduced the number of people eligible for public drug coverage, as well as the number of products covered. Although private pharmacies are supposed to supply drugs free to certain defined vulnerable groups, they rarely do so. Private pharmacies generally turn away subsidized patients because of delays in government reimbursement. Community-based health councils, moreover, determine which families are exempt, leading to large variations in their number. Some districts have been reluctant to identify too many exempt families so as not to spend too much money. Humanitarian donations played a role in meeting this demand, particularly during the early stages of the transition, but few such initiatives remain. Some rehabilitated primary-care facilities financed by donors have been stocked with basic drugs. However, given limited budgets, restocking these facilities will be difficult.

Due to current levels of public funding, patients currently pay for most or all of their pharmaceutical needs out-of-pocket. The 2002 Household Budget Survey of the State Statistical Committee estimated that pharmaceuticals were one of the main areas of out-of-pocket health expenditure.[170] According to the survey, almost one-quarter of all household expenditures on healthcare are for medicine. Although average per capita monthly household expenditures on medicines were less than expenditures in other areas of healthcare, the incidence of expenditures on medicines far exceeded that for other areas of treatment (see Figure 7.4). Of note, the richest Azeri households spend four times more per month on medicines than do the poorest households (see Figure 7.5). This finding indicates that there are wide disparities in households' ability to secure needed medicines. The need for affordable drugs thus continues to drive demand for counterfeit drugs, despite concerns about their quality.
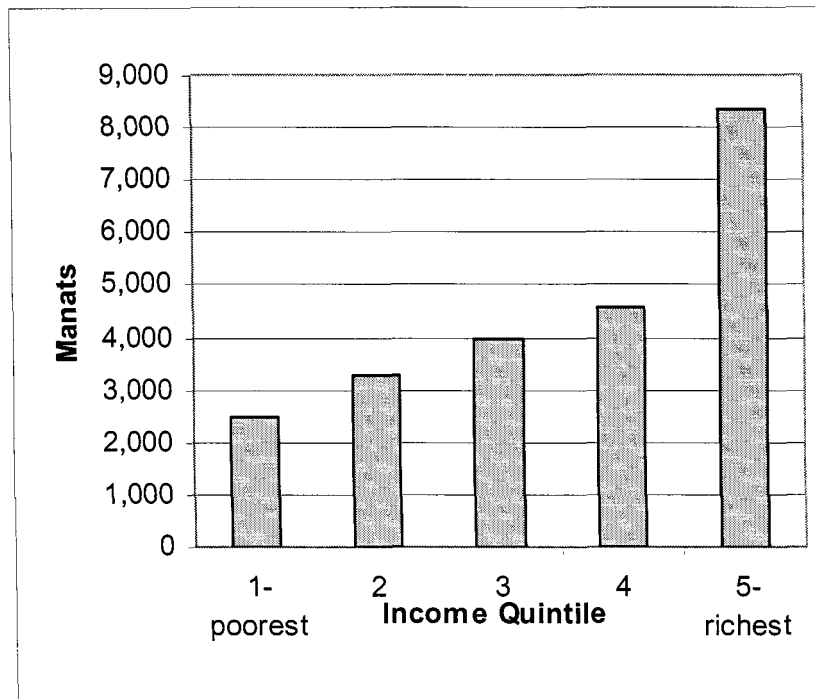
Figure 7.4 Household Spending on Medicines and Healthcare, 2002
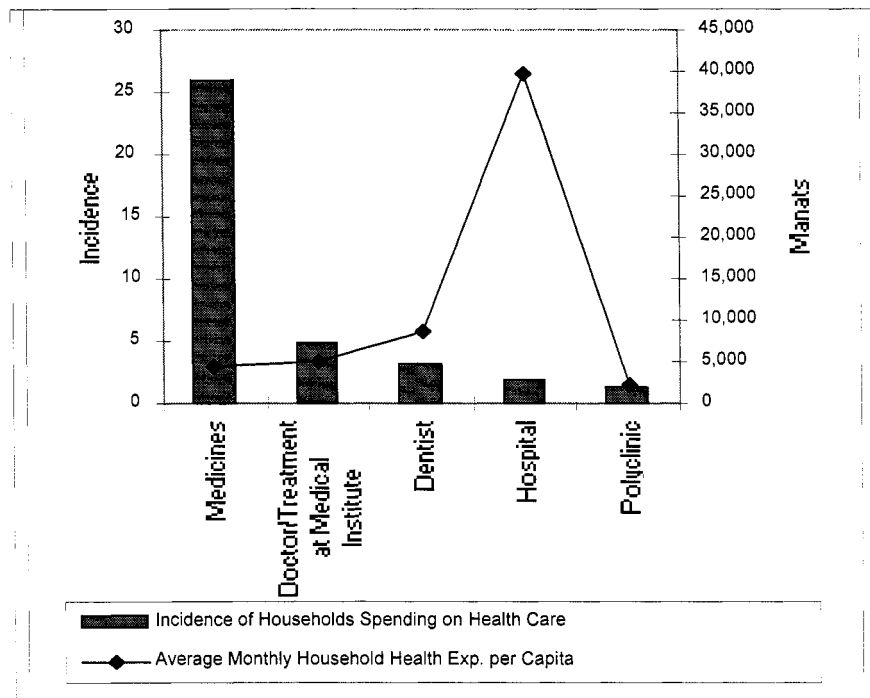
Source: SSC, Household Budget Survey, 2002.

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[170] World Bank, PA, 2003.

**Figure 7.5 Average Monthly Household Expenditure
on Medicines per Capita**

Source: SSC, Household Budget Survey, 2002.

A more recent national sample survey carried out in 2004 reported similar trends in household incidence of pharmaceutical expenditures.[171] Approximately 31.9 percent of OOP per capita expenditures for hospital treatment are for drugs procured outside of the providing facility. Annual per capita outpatient expenditures for prescribed and over-the-counter (OTC) medicines are approximately 52 percent of total outpatient expenditures.

An earlier study estimated that direct drug payments range from 46.2 to 49.8 percent of OOP health expenditures of households.[172] The relatively high incidence of expenditure on pharmaceuticals by Azeri households seems consistent with the estimate of local experts that the current level of public coverage of pharmaceuticals is approximately 10 percent of demand.

7.5   Rational Drug Use (RDU)

Irrational prescribing of drugs continues to undermine the quality of healthcare in Azerbaijan. This practice is an inheritance of the former Soviet health system, in which all treatments were free and consultations created the expectation of a prescription. Anecdotal evidence points to a high number of prescribed products per visit, over-use and irrational prescribing of antibiotics and overuse of injections (for example, Vitamin C injections). Antibiotics are among the top-selling drugs in Azerbaijan, along with

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[171] G&G Consulting, "Health Financing Study," 2005.
[172] G&G Consulting, "Health Expenditures Analysis," 2004.

analgesics, cardiovascular drugs and gastrointestinal products.[173] This trend raises concerns about antibiotic resistance, as well as the cost and safety of drugs that are being prescribed (oral formulations are not only safer. but less expensive than injectable formulations).

While there have been limited efforts to promote rational prescribing practices among physicians, many factors inhibit wider adoption of these practices. The rapid influx of previously unavailable medicines has, moreover, impeded the development of rational prescribing because physicians often lack independent, unbiased information needed to prescribe rationally. As a result, physicians often have to rely on the manufacturers for information.

Since many drugs are available over-the-counter, people often bypass physicians and go directly to the pharmacy. Potent pharmaceuticals, including antibiotics, can be purchased without a prescription. Drugs available by prescription in Europe are often available over-the-counter in a number of CIS countries. Even if a requirement stipulates that a drug be dispensed only by physician prescription, the requirement may not be strictly enforced. Patients, for example, often go directly to a pharmacist in order to avoid paying a physician consultation fee.

The development of drug monitoring and evaluation systems for both prescribing and dispensing is essential to improve rational drug use. Physicians, however, lack the tools for adequate prescribing: guidelines, a formulary, recent and unbiased drug information, plus other supporting tools. Furthermore, health centers often reflect the preferences of their chief physician rather than basing prescriptions on evidence-based practice. Rational drug use training of primary-care physicians between 2002 and 2004 reportedly led to better compliance with modern prescribing principles, compared to that of physicians who did not undergo such training.

Retraining of physicians in some districts has led to some degree of success, particularly among physicians working in hospitals. Those working in remote areas with little access to drugs often continue to write extensive prescriptions to be fulfilled in private pharmacies. A multifaceted approach is needed to combat such practices, including formulation of a standard drug list, revision of treatment standards and education of physicians and patients. Progress in this area will greatly benefit the poor, who cannot afford the cost of extra prescriptions. Altering these practices will also improve the quality of healthcare by reducing the number of unnecessary drugs. However, such efforts will require a systematic, coordinated process at the national level.

With the support of the World Health Organization (WHO) and the World Bank, *MOH has started to develop treatment protocols for selected common diseases, linked to modifications of the essential drug list.* At present, the only standardized drug list is that used for patients who are eligible for free care. Even that list contains a range of drugs that do not meet WHO standards. An essential drug list (EDL) is being finalized by MOH and may be adopted before the end of 2005. A modern national drug formulary

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[173] U.S. and Foreign Commercial Services, "Market Snapshot," 2003.

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that uses internationally recognized drug classifications (ATC/DDD) is also expected to be adopted, together with revised standard treatment protocols (STP).

Even with such efforts, additional strategies will still be needed. Addressing the problem of irrational drug use requires well-defined communication with the general public to address patient expectations. The formulary is a useful source of information and can become a useful tool in prescribing practices and training. Based on available information, a drug utilization study could be conducted to create the basis for continual monitoring of prescribing practices. It is a well-known fact that confronting physicians with their own prescribing data is one of the most effective tools in changing prescribing patterns.

7.6   Legal and Regulatory Framework

The National Law on Pharmaceutical Activity of 1997 is the main legislation related to the pharmaceutical sector in Azerbaijan. This law provides the legal basis for registration, licensing and renewals, and a code of practice for the Central Drug Control Laboratory (CDCL). Certain other technical details are defined by the MOH on an ongoing basis.

Quality control and assurance need to be further strengthened. Despite the 1997 law, the process of developing a national drug policy has only commenced recently. Poor regulatory monitoring and law enforcement contributes to the problems of drug quality and the availability of unregistered drugs. In the Soviet Union, product registration and quality control was undertaken by Moscow. Equivalent institutions in Azerbaijan are therefore newly established. The country has taken steps to bring its national drug legislation and market authorization process in line with internationally accepted standards. However, the situation is complicated by an ineffective judicial system and limited financial resources, which lead to inadequate salaries for enforcement staff. Concerns over product quality and safety extend to the locations where drugs are sold. It is not uncommon for drugs to be traded in unlicensed pharmacies, where prescription requirements are often overlooked.

The Central Drug Control Laboratory of Azerbaijan was extensively modernized in 2003 and now has four functional units for: (i) medicine quality control; (ii) examination of medicines; (iii) food safety; and (iv) sanitary and epidemiological surveillance. Drug registration takes approximately 36 months for new drugs; registrations must be renewed every 5 years. If a drug is the generic equivalent of one already on the market and is registered in Western Europe, a copy of the existing registration certificate can be used. The cost of registering a drug is US$500. As a way to combat corruption, fees were increased in 2003 to increase staff salaries. However, there is still scope for strengthening the inspection function.

With the rising number of drugs in the country, it has been a challenge for the CDCL to keep pace with drug registration. At the end of 2004, there were approximately 2,602 drugs officially registered. However, anecdotal evidence suggests that almost 50 percent

of current supply remains outside of legal channels. This finding raises considerable concern about the quality and effectiveness of the drug supply.

Experts from MOH and the AMU's Department of Pharmacology have concluded that it is imperative to improve the present system of drug registration to make it understandable and effective. The new National Drug Register will systematize the use of International Non-proprietary Names (INN) for pharmaceuticals and differentiate brand names from INN, as well as generic drugs from brand products.

To improve public confidence in the quality of drugs, the CDCL has introduced several measures to tackle unregistered drugs sold on the market. First, it has instituted a requirement for testing each batch of drugs put on the market. Hologram stickers are affixed to the packages of drugs that pass inspection. The idea is to indicate to the patient that the drug has been approved by quality control. In theory, these stickers are supposed to be very difficult to copy, but CDCL also has introduced a hotline that enables patients to call and check whether a given batch number has passed quality control. Since their introduction, these efforts have been responsible for stopping some of the trade in counterfeit products. Although these are important steps in tackling counterfeit drugs, the magnitude of the problem and the insufficient capacity of the CDCL make it unlikely that CDCL adequately controls the entire market.

7.7   Key Issues, Options and Recommendations

While Azerbaijan appears to spend a low amount on drugs, expenditures on pharmaceuticals constitute a significant percentage of all health expenditures. This discrepancy can partly be explained by relatively low wages in the healthcare system, relative to other types of expenditures, including pharmaceuticals, which are influenced by international prices. Most important, insufficient evidence exists to assess whether the amounts spent on pharmaceuticals buy good value and produce better health. Further economic studies are needed to document the extent to which drug use is appropriate, safe and cost-effective in the country.

On the production side, availability of pharmaceuticals has greatly improved, and the market has matured in terms of pricing, importation, wholesale, distribution, retail and quality control functions. However, there is a need for further action by the state to improve access to, and the safety and quality of, pharmaceuticals, as well as the appropriate use of drugs. Based on available data and dialogue with key stakeholders in the healthcare sector, the following recommendations are offered:

Azerbaijan needs a comprehensive national drug policy, the objective of which would be to improve the population's access to high-quality, safe and effective drugs in accordance with the burden of disease and the priorities of the national health sector. Areas of emphasis include pricing of brand and generic drugs, an essential drug list and standard treatment protocols for most common diseases.

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Such a policy document should review progress to date on legislation and regulation, identify areas where further legislation and regulation is needed, as well as weaknesses in existing institutional and human resources for enforcement, quality assurance and control. More specifically, such a policy document should: (i) maintain and improve the quality, safety and efficiency of pharmaceuticals production in the country; (ii) establish efficient pricing and reimbursement policies; (iii) secure the uninterrupted supply of and access to drugs in critical therapeutic classes in accordance with disease prevalence, morbidity rates and available financial resources; and (iv) build a system for the rational use of medications.

Crucial goals include the pricing of brand and generic drugs, creation of an essential drug list and standard treatment protocols for most common diseases. Present efforts to develop and adopt an EDL suitable to Azerbaijan should be pursued to completion. In additional to an EDL, work on a national drug formulary and standardized treatment protocols (STP), together with a program for rational drug use (RDU), should be completed as expeditiously as possible. Expansion of STPs to cover additional areas should be on the immediate horizon, using present momentum to update the body of medical knowledge in the country. Ongoing work to improve the National Drug Register must be maintained to ensure systematic documentation that meets international standards. Training (pre and in-service) for all practitioners also needs to be conducted on a regular basis. Most importantly, a public education and information campaign should be carried out on the EDL, STPs and RDU.

Quality control and assurance need to be further strengthened. Despite a great deal of progress, especially with regard to licensing and the use of holograms, good manufacturing practices and good laboratory practices (GLP) in the manufacture and testing of both imported and locally produced drugs need to be introduced. Effective law enforcement to prevent importation or manufacturing of counterfeit or low-quality drugs should be scaled up. All these initiatives require significant investment in human resource development, as well as in production and testing facilities, not to mention the education of the general public.

Affordability of drugs can be improved under current circumstances. While the adoption of an EDL would be a step in the right direction, the government also needs to review the pricing of drugs on the EDL and its own payment and reimbursement policies so as to better target the poor and chronically ill. These changes would lead to the revision of state budgetary allocations for pharmaceuticals procurement. Targeting mechanisms used for social assistance could also be used for this purpose. Another method of potential cost containment is for the state to become an active bulk purchaser of, at the very least, drugs used in public facilities or distributed free (or at low cost) to eligible patients. Albania introduced precisely such a mechanism, resulting in lower prices and a higher quality of publicly procured drugs.

Appropriate use of drugs begins with good prescribing practices of physicians. While the introduction of STP would be a step in the right direction, it is unrealistic to expect that all medical practice could be covered by such protocols. While a more holistic

family medicine model is likely to increase time spent with patients, and consequently decrease both the number of prescriptions and the number of drugs per prescription, in-service physician training could, in the short run, result in more appropriate prescribing, as seen in pilot districts of the World Bank-financed health project in the country. Current training efforts must be, however, scaled up considerably.

A monitoring and evaluation system (M&E) is urgently needed. Admittedly, the amount, reliability and validity of data on pharmaceuticals remain very limited for sound policymaking and regulation in a sector known for its dynamism, private-sector involvement and consequences for health and safety. In its ever increasing stewardship role, MOH should build its own M&E system to collect timely and accurate data on the production, importation, distribution, pricing, quality control and retailing of pharmaceutical products, as well as the prescribing patterns of providers. In addition, feedback mechanisms should be put in place, such as the Central Drug Control Laboratory hotline for user complaints, to improve the quality of pharmaceuticals sold in the country.

ANNEX 1. ACHIEVEMENT OF MDG GOALS IN AZERBAIJAN

Table A-1. Azerbaijan's Prospects for Achieving the Millennium Development Goals

Millennium Development Goal	PRESENT SITUATION	Prospects for Achievement by 2015
Cut income poverty in half	About 50 percent of the population of Azerbaijan lived in poverty in 2001. Among these, 1.3 million persons, or 17 percent of the total population, lived in extreme poverty.	With projected high annual GDP growth for the period 2001–2010, the poverty rate should drop from 50% to 30%, assuming no change in income distribution. **Azerbaijan is thus on track for halving income poverty by 2015.** With better-targeted social programs and stronger job creation, this goal could be met sooner.
Achieve universal primary education	Enrollment rates in basic education (grades 1–9) are fairly close to 100%, although dropout rates are higher for the poor than the non-poor. Sector concerns relate more to the quality of education, including the need to build the skills and knowledge necessary to meet the challenges of an increasingly globalized economy.	**The country inherited an education system that provides nearly universal basic education.** Sector issues relate more to quality than access.
Achieve gender equality in primary education	Surveys show no significant gender differences in enrollment rates for basic education (grades 1–9). Concerns relate more to girls' access to upper secondary and higher education, particularly in rural areas.	Although girls drop out of secondary school earlier than boys and fewer enroll in post-secondary education, especially in rural areas, **there is no evidence of gender inequality at the primary level.**
Reduce under-five mortality by two-thirds	According to official data, under-five mortality was 23.1 per 1,000 live births in 2002, and infant mortality, 12.8 per 1,000 live births. However, estimates based on surveys indicate that in 1990, the baseline for MDG goals, U5MR and IMR, were 106 and 84 respectively, and dropped to 96 and 76, respectively, by 2002. However, in the pilot districts participating in the World Bank-assisted Health Reform Project, UNICEF reports an 11% decline in infant mortality, from 73.2% in 2002 to 63.7% in 2004. If sustained and generalized to the rest of the country, this reduction would put Azerbaijan back on track to meet the goal of a two-thirds reduction by 2015.	There is a large discrepancy between survey and administrative data, making assessment of progress toward this goal highly uncertain. To reduce under-five mortality by two-thirds, a 4.4% annual reduction would be needed between 1990 and 2015. Azerbaijan's progress has been slower, about 0.9% annually between 1990 and 2000. Thus **Azerbaijan is at risk of not meeting this MDG without a concerted effort to strengthen primary healthcare and make it accessible to the poor.**

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Millennium Development Goal	PRESENT SITUATION	Prospects for Achievement by 2015
Reduce maternal mortality by three-quarters	The estimates of the UNICEF MIC Survey place maternal mortality at 79 deaths per 100,000 births in 1990, and 94 in 2000. According to the State Statistical Committee, the MMR was 19.9 deaths per 100,000 births in 2002, compared to 37.6 in 2000, a 52% reduction.	Again, there are significant differences between survey and administrative data. **Based on trends provided by survey estimates alone, Azerbaijan is unlikely to meet the MDG goal of reducing MMR by three-quarters by the year 2015.** However, maternal mortality is a rare event, resulting in unstable estimates with wide confidence intervals. A World Bank survey carried out in December 2004 did not find any maternal mortality in the pilot districts.
Reverse the spread of HIV/AIDS	The prevalence rate of HIV infections among Azerbaijani citizens is believed low by regional standards, although newly reported cases doubled between 1999 and 2000. The actual extent of infection is not known because of the limited coverage of sero-prevalence surveys and lack of behavioral surveys.	Although the prevalence rate is considered very low, an estimated 600,000 IDUs in the country account for 63% of HIV/AIDS cases. **There is a need for both serological and behavioral surveillance and greater attention to HIV/AIDS prevention and care.** As of December 1, 2004, MOH launched an HIV/AIDS project funded by the Global Fund to Fight AIDS, Tuberculosis and Malaria.
Reverse the spread of tuberculosis	In 2003, tuberculosis prevalence and mortality rates were 50 cases and 12 deaths per 100,000 population, respectively. The 14% case fatality rate is high. The case detection rate remains around 25%, much lower than the international standard of 70%, with only a small fraction of cases detected through DOTS. However, the cure rate was 84%, close to the target of 85%.	According to the WHO Global Tuberculosis Control Program, DOTS population coverage was 48% in 2003. **Political commitment and additional resources are needed to expand current coverage to 100% in order to meet the MDG goal of reversing the spread of the disease.**
Ensure environmental sustainability (including halving the proportion of people without access to safe water)	According to available estimates, around 76% of all households in Azerbaijan have access to an improved drinking water source: 93% in urban areas and 58% in rural areas.	**Achieving this MDG is feasible if the government gives sufficient priority to rural water in its public investment program, consistent with the SPPRED program.**

Note: Where no 1990 baseline data exists, the value for the closest year for which data exists was used to calculate the MDG target on a pro-rata basis. The 2015 target was determined in relation to the available base year.

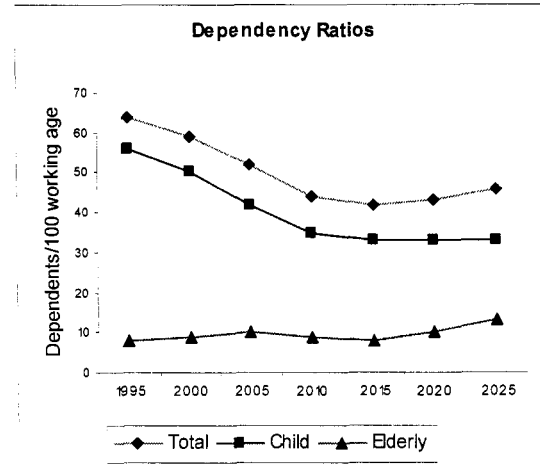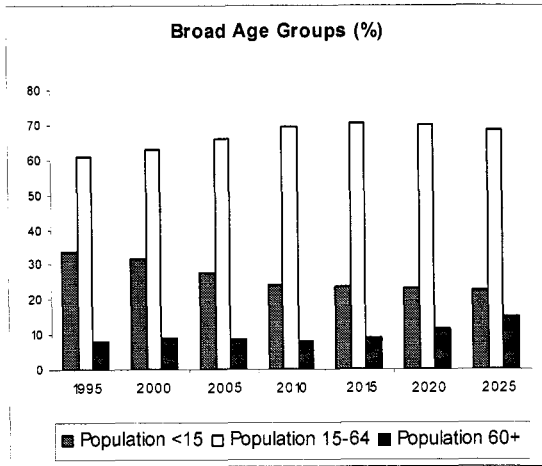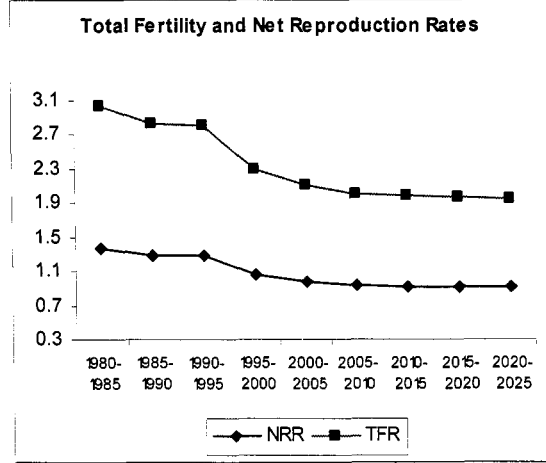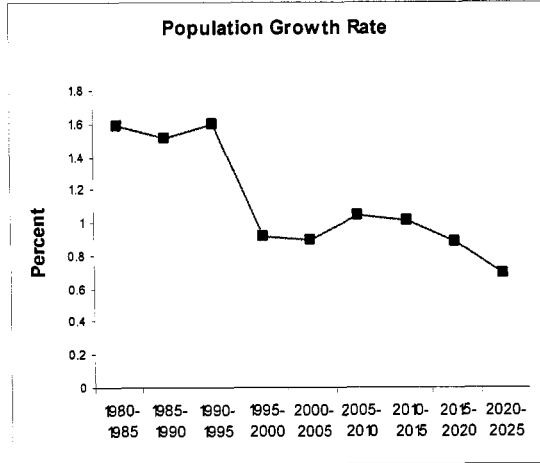## Table A-2. Likelihood of Achieving the Millennium Development Goals in Selected Countries

	MDG1: Poverty	MDG2: School Enrollment	MDG3: Equality in School	MDG4: Child Mortality	MDG5: Maternal Mortality	MDG6: Incidence of HIV/ AIDS & TB	MDG7: Access to Water
Albania							
Armenia							
Azerbaijan							
Belarus							
Bosnia & Herzegovina							
Bulgaria							
Georgia							
Kazakhstan							
Kyrgyz Republic							
Macedonia, FYR							
Moldova							
Romania							
Russian Federation							
Serbia & Montenegro							
Tajikistan							
Turkey							
Ukraine							
Uzbekistan							

Source: World Bank, "ECA MDG Report," 2004.

Key

Likely	MDG target likely to be achieved
Maybe	Hard to tell whether MDG target will be met or not
Unlikely	MDG target unlikely to be achieved
No data	Inadequate data to predict whether or not MDG target will be met

Annex 2. Demographic Trends in Azerbaijan

Source for all graphs: United Nations Population Division, *World Population Prospects: Population Database 2004 Revision* (New York: U.N. Population Division, 2004).

Population Growth Rate

Total Fertility and Net Reproduction Rates

NRR —■— TFR

Broad Age Groups (%)

▨ Population <15 □ Population 15-64 ■ Population 60+

Dependency Ratios

—◆— Total —■— Child —▲— Elderly

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Azerbaijan 2005

Age	Male	Female
75+	1.75	3.11
70-74	1.92	2.52
65-69	2.80	3.56
60-64	1.77	2.09
55-59	2.73	3.09
50-54	4.35	4.75
45-49	6.51	7.05
40-44	7.52	8.40
35-39	7.89	7.79
30-34	7.99	7.19
25-29	8.19	7.62
20-24	9.49	8.71
15-19	10.55	9.62
10-14	10.08	9.24
5-9	8.48	7.76
0-4	8.04	7.50

Percentage

Azerbaijan 2020

Age	Male	Female
75+	1 79	3.04
70-74	1 53	2.08
65-69	2 88	3.57
60-64	4 76	5.68
55-59	5 88	7.00
50-54	6 45	6.63
45-49	6 66	6.21
40-44	6 90	6.59
35-39	8 06	7.57
30-34	9 02	8.40
25-29	8.67	8.10
20-24	7 32	6.80
15-19	6.86	6.51
10-14	7 43	7.02
5-9	7 84	7.40
0-4	7 91	7.42

Percentage

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