Otar Gerzmava
Grigol Robakidze University
Roman Bolkvadze
Ministry of Trade, Health and Social Security of
Adzharian Autonomous Republic

CHALLENGING HEALTHCARE SYSTEM SUSTAINABILITY IN ADZHARIA

Adzharia is an ancient historical-geographic part of Georgia which is situated in the south-western part of Georgia. Its landscape is diverse and consists of high mountains, deep gorges, hills, valleys etc. To the north it borders with Adzharia-Guria ridge, to the south- with Shavsheti, to the East – with Arsiani ridges; to the west it boarders with the Black Sea. The territory of Adzharia constitutes square kilometers, i.e. 4.3% of the territory of Georgia. The total length of the boarders is 304,6 km among which 251,1 km is a land boarder, 53,5 km constitutes a maritime boundary. The most important area is the plain overlooking the Black Sea and mountain area. 13.6% of the territory is occupied by lowlands, 9,3% - by hills, 77,1% - by highlands and is populated by 19% of the whole population of Adzharia. The climate is subtropical. Since 1970, the Autonomous Republic of Adzharia used to be divided into five administrative districts (Kobuleti, Khelvachauri, Keda, Shuakhevi, Khulo) and the city of Batumi. Nowadays the Autonomous Republic of Adzharia consists of five municipalities (Kobuleti, Khelvachauri, Keda, Shuakhevi, Khulo), the cities of Batumi and Kobuleti and the boroughs of Ochkhamuri, Chakvi, Keda, Shuakhevi and Khulo.

By the situation of 2013, the population of Adzharia Autonomous Republic constitutes 393 772 among which there are 201 247 females (52,4%), 192 525 males (47,6%). 43% (169 120 people) live in cities and towns, 57% reside in rural areas. The population aged 0-18 constitutes 22.6% (89 022), people over 60 constitute 14,9% (58 843). The vast majority of the population of Adzharia – 245 907 (62,5%) is employable aged 18-60. 15% of the population is over an employable age. Average life expectancy is 73,3. The problems of the elderly are still not obvious. This is due to family structure and the lack of social programs for the elderly.

Table1 & Figure1 present some demographic indicators relevant to the discussion on sustainability.

Table 1. Demographic Indicators of Adzharia
The dynamics of the demographic data, Adzharia 2000-2012

Indicator	Population			Birth rate		Death rate		Natural Increase rate	
	Total	Female	Male	Absolute	Per 1000 population	Absolute	Per 1000 population	Absolute	Per 1000 population
2000	400500	212265	188235	4501	11.2	2405	6.0	2096	5.7

2001	402900	204126	198774	4411	10.9	2121	5.2	2290	3.7
2002	406500	215039	191461	4332	10.6	2175	5.3	1743	5.3
2003	376016	206720	169296	3938	10.4	2316	6.1	1626	4.2
2004	379900	210359	169541	4457	11.7	2559	6.7	1898	5.0
2005	382565	204193	178372	4098	10,7	2153	5,6	1945	5,1
2006	386194	214068	172126	4464	11,5	2000	5,1	2388	6,2
2007	387954	215736	172218	4528	11,7	2324	5,9	2139	5,8
2008	390 174	216842	173332	5546	14,3	2444	6,2	3102	8,1
2009	360 526	198289	162237	6153	17,0	3190	8,8	2963	8,2
2010	376 536	193 274	183 859	6127	16,2	3107	8,2	3020	8,0
2011	385 970	197751	188219	5471	14,1	3239	8,3	2232	5.8
2012	393 772	201 247	192 525	5614	14,2	3224	8,2	2390	6,0

The highest natural increase was recorded in 1986 (5 544 – rate 14,9), the lowest was recorded in 2003 (1 622 – rate 4,2). Since 2004, there has been increase in the birth rate. In the last 10 years the highest death rate among aged 0-1 was recorded in 2007 (18,3), the lowest – in 2008 (6,9)

Organization of the Healthcare System in Adzharia

In the past, the healthcare system of Adzharia was in an appalling condition: in 1940 the chain of medical institutions consisted of 12 hospitals (877 beds) with 235 doctors, 10 outpatient clinics, 10 medical stations. In 1946 the Ministry of Healthcare of the Autonomous Republic of Adzharia was established, it was the agency responsible for the health of the population.

Communicable diseases used to be frequent in Adzharia that caused a lot of death. The pattern of illness was characterized with:

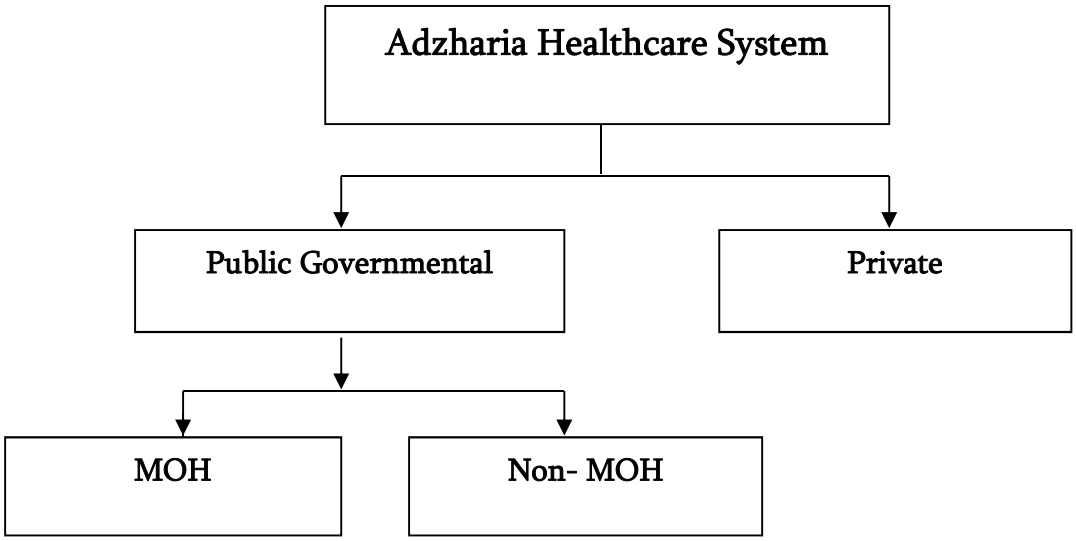
- High mortality and morbidity rates mainly due to communicable diseases; the proportion of disease burden due to non-communicable diseases being relatively low.

- Infant Mortality Rate (IMR) was estimated to be 118 per 1000 live births and Under 5 Mortality Rate (U5MR) was 181 per 1000 live birth.
- Childhood diseases were highly prevalent during the 1970s, e.g. Acute Poliomyelitis, Tetanus, Diphtheria, Measles, Mumps, Pertussis, Pulmonary, Tuberculosis and Malaria.

In compliance with the decree of 1995 the reforms in the healthcare of Adzharia as well as the whole country began. The funding of the system was changed from line item funding (so called "Semashko" model) to program funding. It was the beginning of a modern system. The MOH acts as the principal architect of health system design and takes responsibility for achieving inter-sectoral coordination. It develops policies and programs for the health sector. It implements these in coordination with all other related ministries, health services institutions under the government as well as in the private sector. In keeping with this role, the MOH also advocates to all other public systems to make policies favorable to the health sector, and to refrain from making policies that may adversely affect the health of the people.

Figure 2 illustrates the health care organizational structure in Adzharia.

Figure 2. Components of Adzharia Health System



The MOH serves as the main agency of the government for providing curative care to the people of Adzharia. It runs hospitals and health centers at national, regional, sub-regional and local levels that are integrated in a referral chain (continuum of care). The curative care services provided in MOH hospitals is supplemented by private hospitals and clinics such as health center 'Medina', maritime medical center 2012, maritime hospital. There are other private hospitals and clinics that play an increasingly important role in providing care. All these institutions are linked with the MOH system through a continuum of care referral system.

The MOH makes primary medical care available through local health centers, extended health centers and local hospitals. The regional referral hospitals mainly provide secondary medical care, while the four national referral hospitals provide tertiary medical care. The MOH ensures that no Adzharian is left without the benefit of medical care. It sponsors patients for treatment abroad if the required treatment facilities are not available in the

country. The MOH recognizes the importance of the preventive, promotive and rehabilitative components of health care, and provides all the required services through its newly equipped infrastructure to the fullest extent possible.

Although, the MOH supports and encourages private healthcare sector participation in the healthcare system, this effort is not well cultivated and organized at present. The private sector represents about 37% of the total health care system.

Table 2 presents growth in private health sector services in Adzharia

Table 2. Growth in Private Services

№	Private medical institutions	2005	2006	2007	2008	2009	2010	2011	2012
1	Hospitals for in-patients	1	1	1	2	3	6	4	1 maternity house
2	Medical centers				1	1	2	10	13
3	Polyclinic	1	2	2	2	2	2	7	9
4	Medical-diagnostic centers	1	1	1	1	1	1	4	8
5	Private dental institutions	81	85	89	95	107	112	98	106

Financial Healthcare System in Adzharia

The healthcare system in Adzharia is a government funded system. Private resources for healthcare are coming from "out of pocket payments" for private health services and co-payment for public health services. Some types of road traffic accident medical coverage are included in the automobile insurance system. In 2005-2012, on average 67% of the Ministry budget was allotted to retraining medical staff and medical-preventive programs, 10% was allocated to social care services.

Allocations for the Ministry of Health (thousand GEL):

Year	2005	2006	2007	2008	2009	2010	2011	2012
The Ministry of Health and Social Care of the Autonomous Republic of Adzharia	8 421.7	6 832.	4 700.3	5 140.0	3 236.9	4 603.7	4 888.2	7 503.0

Expenditure shares allocated for the Ministry of Health and Social Care from the budget (%):

Year	2005	2006	2007	2008	2009	2010	2011	2012

The Ministry of Health and Social Care of the Autonomous Republic of Adzharia	11	8.60	4.70	4.60	2.70	4.50	3.70	5

Healthcare expenses per population (GEL):

Year	2005	2006	2007	2008	2009	2010	2011	2012
The Ministry of Health and Social Care of the Autonomous Republic of Adzharia	22	18	12	163	8	12	13	19

Healthcare System Achievements and Performance

Adzharia has achieved significant improvements in health status. Over the past years, infant and child mortality rates have fallen, health service delivery has improved, and overall life expectancy has risen. The number of children dying before the age of five has declined. People are living 6 years longer, on average, demonstrating life expectancy rates comparable to other countries of region of Caucasus, Turkey and Russia.

The epidemiological profile as of 2011 reveals (MOH of Adzharia, 2012):

- Adzharia is witnessing an epidemiological change in diseases pattern. The communicable diseases have declined to low levels and the non-communicable diseases have started to emerge.
- Adzharia has shown a remarkable success in reducing the burden of various vaccine preventable diseases. There have been single cases of controllable infections.
- Non-communicable diseases constitute 81.6% of outpatient morbidity and 90.6% of inpatient morbidity in MOH institutions.
- Cancer cases in 2012 among inpatients accounted for 1.5%.
- Cardiovascular diseases accounted for 10.3% in 2012.
- Cardiovascular diseases were the main cause of hospital death which accounted for 54.5% of hospital deaths.
- Road traffic accidents (RTA) represented about 14% of all causes of injuries among inpatients.

Achievements in Adzharia Healthcare System

From 2012, the MOH of Adzharia established and started implemented a new strategic plan, focused on consolidating and sustaining previous gains and targeting new challenges. It is

worth mentioning that Adzharia, where healthcare services are free of charge to big part of citizens.

The Strategic Plan is expected to concentrate on expanding and improving primary healthcare facilities in the villages and townships, and providing additional specialist treatment centers, thus further reducing the number of cases sent abroad for treatment. However, even with these accomplishments Adzharia still faces a number of obstacles in sustaining these achievements.

Table 3. Achievements in Adzharia Healthcare Services

Indicator	1990	2000	2008	2011	2012
Hospital	42	27	19	14	14
Hospital beds	4025	1750	1011	1025	929
Doctor / 10000 Population	35,9	31,6	30,8	32,1	39,1
Nurses/10000 Population	94,1	62,3	52,2	54,0	34,5
Policlinics	22	20	17	9	9
Dispensary	10	10	3	–	–
Health Centers	–	–	7	2	2
Private clinics	–	–	3	11	10

Healthcare System Sustainability

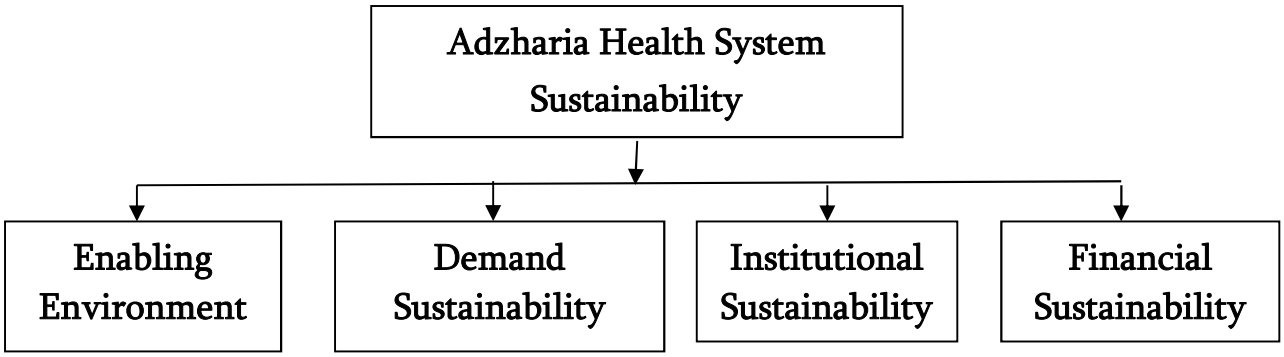
Sustainability is an important long-range goal for any healthcare system. It means ability of the system to produce benefits valued sufficiently by users and stakeholders to ensure enough resources to continue activities with long- term benefits. The Canadian Public Health Association identified five main components required to achieve sustainability development: technical sustainability, social sustainability, political sustainability, financial sustainability and managerial sustainability. The Center for Partnership in Development integrates all components of sustainability in one definition: A health service is sustainable when operated by an organizational system with the long-term ability to mobilize and allocate sufficient and appropriate resources (Manpower, Technology, Information and Finance) for activities that meet individual or public health needs and demands.

Financial sustainability in health systems is: having enough reliable funding to maintain current quality health outcomes and health services for a growing population and to cover the costs of raising quality and expanding availability to acceptable levels (USAID, 1995). To be sustainable, such funding should be generated from a country's own resources. Most definitions of sustainability also include the additional requirement that the system be able to expand its activities as needed to keep up with increases in demand due to economic and population growth. Sustainability includes both financial and institutional dimensions. For the Adzharia health care system, sustainability means maintaining the gains achieved and making incremental change for future quality outcomes.

Major Issues Influencing Sustainability of Health System in Adzharia

Challenges to healthcare sustainability include, on the demand side, increased consumer expectations; increased cost of treatment (mainly from the development of new technologies rather than health-specific cost increases); and on the supply side, resource constraints including funding, workforce and capital infrastructure. To analyze the challenges that face sustainability of the health system in Adzharia, a model is proposed in Figure 2 that consists of four major issues influencing healthcare system sustainability: these issues are enabling environment, financial instability, institutional problems and demand to healthcare services [5].

Figure 2. Simplified Sustainability Framework



Adzharia enjoys a stable political, economic, and social system. An enabling environment supports the formulation and implementation of sound policy; ensures coordination and collaboration among providers (public and private) to promote efficient and effective use of resources; and guarantees community participation and empowerment. It also ensures that laws and regulations do not delay the supply of demand for services. Such a context or environment fosters the sustainability of health service provision. Whereas the elements of an enabling environment are often considered directly associated with institutions and systems; they also apply to sustainability of demand issues; increased community involvement promotes greater community support for MOH programs and health services and healthy behaviors. Four aspects of enabling environment are relevant to Adzharia: the policy process (encompassing policy formulation, implementation, and evaluation), legal and regulatory environment, health sector reforms, and community empowerment.

Favorable factors for sustainability	Unfavorable factors for sustainability
Policy Process • Supportive leadership • Attention and concern of the top leadership • MOH focus on long-term planning in relation to sustainability	• Lack of continuity in leadership • Private health sector is not involved in policy formulation. • Information is not fully utilized effectively in policy making • Introduction of user-fees is a politically sensitive issue

Legal and Regulatory Environment • Presents of comprehensive legal and regulatory mechanisms for the private sector. • MOH encourages and has an incentive system for the private health sector	• Quality control program in government health organization is still at early stage • No quality control program for the private sector
Health Sector Reforms • Integrated healthcare services (primary, secondary and tertiary) • An effective referral system between services • Co-payment for primary healthcare	• No health insurance programs. • No accreditation system of providers • No utilization review programs

1. Financial Sustainability

Under financial sustainability are public sector financing and private sector financing categories. Resource mobilization, efficient allocation and use of resources are sub-elements [5]. All of these affect both public and private sector resources in the health system. Financial sustainability must also be supported by an enabling environment. For example, laws must allow cost recovery if that is the strategy chosen. Similarly, institutions must have the capability to collect and account for revenues so generated and demand should not be compromised.

Favorable factors for sustainability	Non Favorable factors for sustainability
Allocation and Use of Resources • Hospital autonomy (management and budgeting and some purchasing authority). • Central planning and financing.	• No competition between public sector and private sector. • Slow growth of private sector due to less investment.
Mobilization of Resources • There is an increase in total real health expenditure per capita and it is likely to increase further.	• Proportional spending between public and private is more than 3:1
Efficient allocation • MOH at present conducts 14 health related programs directed to priority problems.	• 60% of MOH budget go to acute healthcare. • No specific budget allocated for each program.

2. Institutional Sustainability

One key element of the sustainability of the health care system is the capacity of the service delivery system to meet the needs of patients. This means that the supply side must be able to provide quality services that reflect the needs and desires of those who ask for or use healthcare. "Institution" is used in the broadest sense, going beyond the definition linked to a physical structure. MOH hospitals are the main institutions for health service delivery in Adzharia.

Institutions with well-developed systems are more likely to be effective and survive in the future than institutions without well-developed systems. Sustainable institutional capacity includes four categories: Planning and Management, Human Resources, Information Systems, and Logistics.

Favorable factors for sustainability	Non Favorable factors for sustainability
Facilities • Extensive network of primary, secondary, tertiary health care facilities. • New network of secondary care hospital in every health regions with high standard infrastructure.	• Equal market split between public and private sector. • Lack of coordination between public and private sector. • Unequal distribution of private sector clinics/ hospital in rural/urban areas.
Human Resources • Building of managerial capacity in strategic planning, resource allocation, management and human resources development, and supervision. • MOH provide different training for personnel of Adzharian Health Care institutions.	• Subjective decision-making processes and not information based; lack of quality improvement process. • Weak capacity in strategic planning, investment management, cost accounting, and budgeting at the regional level. • Inadequate incentive schemes for personnel • Central employment system. • Not all professional categories have job description. • Ineffective appraisal system for performance.
Management System • Regional health directorates have their own budgets, staffing patterns, training and education priorities depending on the needs of the areas they serve. • Early implementation of hospital autonomy. Inducing accountability with resources allocated.	• Unqualified managers running health service facilities (hospitals, health centers, etc.). • Deficiency in the information required for Human Resources development.

Information systems • Good electronic health information system at all levels of healthcare services. • In process to implement telemedicine between major hospitals.	• Limited utilization of information in decision making and planning. • Health and medical researches are limited.

Every year, after obtaining post-diploma education, on average 50 local graduates begin independent careers at medical institutions of the Autonomous Republic of Adzharia. The ministry of Health and Social Care of the Autonomous Republic of Adzharia ensures professional development of specialists by sending them to major clinics of Georgia as well as overseas, which guarantees high quality health services for the population of Adzharia.

4. Demand Sustainability

Demand sustainability has several components. The costs to users can affect demand as with any good or service, but also travel costs, waiting time, and laboratory costs in some cases.

Favorable factors for sustainability	Not Favorable factors for sustainability
Demand management • Increase awareness leads to increased use of private health sector. • Increase level of education. • High tendency to practice healthy behaviors.	• Larger number of consumer who are not willing to pay for healthcare. Especially the poor. • Public health care system is affordable and poor are exempt from fees. This encourages misuses and over utilization of resources. • Increased consumer expectations. • Dual burden of both communicable and non-communicable diseases. • High cost of new technology. • Consumer pressure on governments to provide new treatments (such as pharmaceuticals and diagnostic services) as soon as they are developed.

International Approaches to Health Financing

Health care is one of the largest economic sectors in OECD countries, and at present accounts for over 8 % of GDP on the average (OECD, 2001). In theory there is a continuum of possible government approaches ranging from taking no responsibility for health care (so citizens insure privately or pay for services themselves) to funding health care fully through general revenue as is the case in Adzharia. In practice, most governments fund a significant level of health care coverage for the majority of their citizens, but also allow some user

funding options (See table 4). Among developed countries, the United States (US) system is closest to the "market end" (although with publicly-funded assistance for the poor, the elderly, and people with disabilities). The United Kingdom (UK) government is closer to the "centrally planned" end with health services funds and provided through the National Health Service (albeit with a small private health insurance system). The Australian health care system is somewhere in the middle, sharing features with the US and UK systems. It combines universal access to publicly funded health care through Medicare, market like financing incentives and support for the private sector [12].

Table 4. Percentages of Healthcare Expenditure in Selected Countries

Economy	GDP per capita1 (USD)	Highest rates for personal income tax	Health care expenditure		
			% of GDP	Public funding (% of total)	Private funding (% of total)
Hong Kong	24,850	17.0%	4.6	53.8	46.2
Singapore	22,680	28.0%	3.9	33.5	66.5
France	$27,600	59.8%	9.7	15.8	24.4
Spain	$22,000	64.9%	7.5	6.6	28.5
USA	$35,991	-----	14.0	46.0	54.0

Singapore is the first economy in the world to implement medical savings accounts on a nationwide basis (known as Medisave and established in 1984). It is the only country which integrates a medical savings account program within the national health financing structure. Medisave accounts are embedded in a broader framework that backs up the medical savings accounts with a cross-sectional catastrophic risk pooling scheme called Medishield and a means tested safety net for the poor called Medifund .This three-tier package (Medisave, Medishield and Medifund) is backed up by government financing of supply-side subsidies to public providers aimed at lowering the net prices charged to patients (MOH Singapore, 2004).

Health care systems in most European countries (EU) depend on a mix of funding sources, mainly derived from public expenditure, i.e. taxation and social health insurance. Table 5 below shows the proportion of total health expenditure from social health insurance and taxation, and the proportion from private sources in selected countries (OECD, 2003).

Table 5. Health Insurance in Selected European Countries

Economy	General Taxation	Social health insurance	Other private sources
France	2.7	73.4	23.9
Netherlands	3.9	59.4	36.7
Germany	6.2	68.8	25.0
Luxembourg	15.1	72.7	12.2
Austria	27.2	42.5	30.3

Finland	59.8	15.8	24.4
Spain	64.9	6.6	28.5
Italy	75.1	0.2	24.7
Ireland	75.2	0.8	24.0
United Kingdom	82.2	0.0	17.8
Denmark	82.4	0.0	17.0

Recommended Approach to Adzharia Healthcare System Sustainability

A sustainable healthcare system is one that can continue to achieve its objectives over time. This is not just a matter of matching the quantum of resources to expected needs, as a ratio of health expenditure to GDP. There is no "mechanistic" relationship between need, level of health care and level of health care expenditure. Whether a given level of service provision is "sustainable" also depends on:

- How much the community is willing and able to pay for health.
- The availability of other resources such as workforce and capital infrastructure, not only in gross amounts but in the right places.
- Efficiency, improving the ratio of inputs to outcomes.
- The source of inputs, notably the relative contributions of individuals, governments and other private sources such as insurers and employers.
- An effective management system with concentration on accountability, utilization review, quality improvement, human resources, and accreditation system.
- A greater commitment to address non-medical factors such as road traffic accidents, trauma, malnutrition, obesity, smoking etc.
- Evidence-based health care should be considered. Knowledge from scientific survey and research should be employed to improve the efficiency and effectiveness of health services.

Healthcare Financial Sustainability

Adequate financial resource is a foundation for any health system sustainability. The Adzharia health system should consider some important points:

- Need to direct more resources for disease prevention and health promotion.
- Private sector should be encouraged to invest more in the healthcare industry.
- Alternative resources and raise revenues through user fees, insurance plans, or private sector employer-supported health plans. A pluralistic model should be considered using different financing options or mixed of financing options.

Health Care Financing Options

1. General taxation

The financing of health care through general taxation is widely regarded as being highly efficient from macroeconomic perspectives. It delivers strong cost containment and forces prioritization through the overall cash-limited health care budgets set by the government. Under tax financing, the government has both a strong incentive and the capacity to control

costs. General taxation is also an efficient way of funding health care from microeconomic perspectives. It typically involves low administrative costs. It is sometimes suggested that a reliance on general tax financing can leave a health system vulnerable in times of economic and fiscal difficulties. Funding healthcare through general taxation ensures universal access to services irrespective of ability to pay, with minimum separation between an individual's financial contributions and utilizations of health care services. It will be difficult to implement a taxation system in Adzharia due to low per capita income. Funding from general revenue is already implemented.

2. Social health insurance

In social insurance systems, employer and/or employee earnings-related contributions are usually paid to and managed by social insurance or sickness funds. Social insurance contributions are raised from a narrower base than general taxation, with the costs falling mainly on employers and employees rather than the wider group of taxpayers. A criticism of traditional social insurance systems is that these sickness funds produce little incentive to seek to contain the payments they make to health care providers because of their ability to raise contribution rates. As a result, many argue that cost control under traditional social insurance models has been weak and has resulted in inefficient use of resource. Sharply rising costs and emerging deficits in social insurance funds in recent years have led several countries to introduce reforms to their social insurance systems moving towards financing arrangements where they can exert greater control on the overall level of health spending [7].

3. Private health insurance

Private health insurance schemes are taken out by individuals or by employers on their behalf. The extent to which private health insurance finances health spending and the nature and coverage of private insurance varies considerably across countries. In some countries like US, private insurance is relied on by a majority of the population as their sole means of cover. In other countries, private insurance is largely taken out by higher income groups, either in place of social insurance or in addition to cover provided by the government. The level of access to health services is determined by the level of insurance cover which an individual can afford to purchase, and contributions are based not on ability to pay but on an individual's health risk rating as assessed by the insurer. It will usually be the poorer, older and less healthy in societies who are considered by private insurers to have the greatest health risk and therefore, face the highest insurance premiums. Such private insurance financing is highly regressive and inequitable [15].

4. Out-of-pocket payments

Out-of-pocket payments are made directly by patients for the use of particular health services in either the public or private sector. Patients may be required to pay for all or part of the cost of a particular publicly provided service through user charges. In addition, individuals are increasingly choosing to pay privately for specific interventions as and when they need them. An efficiency argument in favor of such charges is that they can help to encourage the responsible use of resources by limiting wasteful and unnecessary activity and contain the total amount of health expenditure which the government has to finance publicly. However, there is also evidence that high charges can discourage people from

seeking treatment at all, or can direct them to other areas of a health system where charges are not levied [13].

5. Medical savings accounts

Medical savings accounts are personalized accounts into which individuals contribute a proportion of their income regularly in order to save for future medical costs. Medical savings accounts can be defined as the voluntary or compulsory contribution of payments by individuals, households or firms into personalized savings account that serve to spread the financial risk of poor health over time. Savings in this account can be withdrawn for health care expenditures. The medical savings accounts scheme alone is similar to any savings account scheme with no horizontal pooling of risk. Thus, individuals are still at risk for high expenditures from a catastrophic or chronic injury or illness. In Singapore, the problems faced by low-income households in financing health services led to the establishment of a public fund to finance the costs of health care for poor people. Thus, to minimize this risk, medical saving accounts are usually accompanied by health insurance against catastrophic costs [7].

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