Health system financing reforms and its impact on access to health care in low and lower middle income countries of WHO European Region:
A systematic review

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Abstract

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AMIR KASSIM: Health system financing reforms and its impact on access to health care in low and lower middle income countries of WHO European Region - A systematic review
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Health system financing reforms and its impact on access to health care in low and lower middle income countries of WHO European Region - A systematic review

Under Soviet communism, the Semashko models of prevailing healthcare systems in the low and lower middle income countries of WHO European region were centrally planned and managed using general government revenues.

Over the last two decades, the collapse of the Soviet Union has created a unique opportunity for these countries of WHO European Region in line with other members of former communist nations for health systems reforms.

This study examines the health systems financing reforms that has influenced in improving access for health services consumption.

A literature search within major electronic health databases has been conducted. Based on the defined criteria for review, 62 publications are included for this review study.

We have found that the adoption of health security measures – protection from impoverishment arising from sickness are the hallmarks in Albania, Armenia, Georgia, Kyrgyzstan and Moldova while generating resources with improved efficiency for the health systems are the cornerstone for Tajikistan. Ukraine has followed rationing of services as demand side lever for cost containment and introduction of performance-based-provider payments as supply side lever for efficiency improvement while service quality improvement is the focus for Uzbek health system reforms initiatives.

This study sets the space for impact evaluations of the health system reforms in the perspective of population health need and financing mechanisms of the health systems in the low and lower middle income countries of WHO Europe.
Acknowledgement

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It is my privilege to express my wholehearted gratitude and utmost respect to my principal supervisor Dr. Pavitra Paul for guiding me at various stages of this study with his inputs. His impressive intelligence and experience has supported this study and encouraged my research interests. His trust, patience, help and support go far beyond the confines of this work and also I thank him for providing me with all facilities possible for finishing this monograph successfully.

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Finally, my thanks also go to all my colleagues and friends who have given me courage, friendship and joyful moments.
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Acronyms and Abbreviations

**BBP** - Basic Benefit Package

**BOR** - Hospital bed occupancy rate

**CHI** - Community health insurance

**DOTS** - Directly Observed Treatment Short course

**FFC** - Fairness in Financial Contribution

**FFS** - Fee -for- service

**GDP** - Gross Domestic Product

**GNI** - Gross National Income

**HCE** - Health care expenditure

**HH** – Household

**HIF** - Health Insurance Fund

**HII** - Health Insurance Institute

**HIV/AIDS** - Human Immunodeficiency Virus/ Acquired Immunodeficiency Syndrome

**HP** - Health Post

**IP** - In Patient

**LE** - Life Expectancy

**MHIF** - Mandatory Health Insurance Fund

**MHI** - Mandatory health insurance

**MIP** - Medical Insurance Program for the Poor

**MOH** - Ministry of Health
NHS - National Health Service

OP - Out patient

OPE - Out of pocket expenditure

PHC - Primary Health Care

PPP - Purchasing Power Parity

QI - Healthcare quality improvement

SES - Socio Economic Status

SHI - Social Health Insurance

SMIC - State Medical Insurance Company

TB - Tuberculosis

THE - Total Health Expenditure

USD - United States Dollars

USSR - Union of Soviet Socialist Republics

VHI - Voluntary health insurance

WHO - World Health Organization
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1. Introduction

During Soviet communism, the Semashko model of prevailing healthcare systems were centrally planned and managed using general government revenues. The service delivery system reached every part of the Soviet Union territories and services were distributed according to standardized planning norms. From its inception in the 1920s, this model achieved reasonably high level of population health outcomes, as compared to the countries with similar per capita income levels by late 1980. Wide coverage for health services, along with improved sanitation, a clean water supply and good nutrition; high rates of immunization and planned interventions for communicable diseases control programs were the hallmarks of erstwhile USSR health system (Michael, Rifat, 2006). But, this model created a disintegrated network of specialty care hospitals and an in-built inefficiency within the system attributed to both lack of needed resources and performance incentives. Semashko model prioritized secondary care and inpatient treatment over primary care and outpatient treatment, and focused on curing acute rather than chronic diseases (Rechel, McKee, 2009).

After the disintegration of the Soviet Union and the subsequent rapid transition to the model of market economy, countries of WHO European Region\(^1\), in line with other members of former communist nations, faced severe economic and social challenges (Balabanova, Roberts et al. 2012, Michael, Rifat, 2006). Fast transition to market economy led to catastrophic financial problems at every level of the economy and for some, gross domestic product per capita has not yet returned to 1989 levels (Balabanova, Roberts et al., 2012). The rapid economic decline (Michael, Rifat, 2006), the weakness of the new democratic institutions compounded the economic difficulties in mobilizing the governments’ revenue collection and consequently the spending capacity (Belli, Gotsadze et al., 2004). The effect is

\(^1\)Low and lower middle income countries of WHO European Region are: Albania, Armenia, Georgia, Kyrgyzstan, Republic of Moldova, Tajikistan, Ukraine, and Uzbekistan. For classifying countries by income, this study uses current World Bank definitions, based on 2012 estimates of gross national income (GNI) per capita; low-income: US$1,035 per capita or less, lower-middle income: US$1,036 to US$4,085, upper-middle-income: US$4,086 to US$12,615 and high-income: US$12,616 or more (World Bank, 2013).
the underinvestment in the health sector creating a substantial funding gap between the level of financing required by the health system and the resources available (Michael, Rifat, 2006).

The decline in government revenues and the increase in prices made the large infrastructure unsustainable: a large share of public spending on health was devoted to fixed costs, leaving very little to pay for treatment inputs such as medicines and supplies (Balabanova, McKee et al., 2004). Reductions in government spending were sharp in wages and capital investment expenditures; out-of-pocket payments (OPE) substituted for public funds, in particular, for drugs and for wages. Physicians tried to make up for the reductions of their official salary payments by offering their services for private payment, typically doing so from the public facilities in which they had previously been employed (Belli, Gotsadze et al., 2004). There is extensive anecdotal evidence that access to care has suffered in this WHO region (Balabanova, McKee et al., 2004), the denial of access is more severe for the population with chronic diseases (Hopkinson, Balabanova et al. 2004, Telishevka, Chenett et al., 2001). Secondary analysis of survey data revealed that 0.6 percent of households in Kyrgyzstan and 3.9 percent in Ukraine faced catastrophic expenditure due to health costs in one year (Xu, Evans et al., 2003), and a study in Tajikistan documents large inequalities in access to care is related to affordability (Falkingham, 2004).

With the transition of the economy, the health care sector was expected to make the ‘transition’ from a state-run to a more market-oriented system (Michael, Rifat, 2006). However, countries that had undertaken major changes to their health systems have chosen different paths to reform. Some have started with health system financing (i.e., moving from a Semashko to Bismarck, Beveridge, or mixed model), whereas others have started with upgrading their health system management capacity or the quality of the health services delivery system (Antoun, Phillips et al., 2011). Several basic principles drive these reforms endeavor – (1) promoting individual protection against financial risk associated with healthcare expenditure, (2) improving the quality and efficiency of health services delivery, and (3) improving the efficiency of managing the healthcare system (Antoun, Phillips et al., 2011).

Health reforms in this region have included a reduction in the hospital beds (Healy, McKee, 2002), expansion of private providers (Nordyke, Peabody, 2002), decentralization (Dubois, McKee, 2004), a change in methods of payment for providers (Dubois, McKee, 2004), and
efforts to improve public health service consumption (Figueras J, Menabde N, Busse R, 2005) and quality of care (Eldar, 2001).

This review discusses reform elements of health systems financing and its impact on the access to health services consumption.

2. Background

According to world development indicator (2010), Albania has a population of 3.2 million, with 21.3% of the inhabitants younger than 14 years of age. In all, 45.5% live in rural areas (World Bank, 2010). The Albanian population enjoys reasonably long life expectancy (L.E.) - in 2010 L.E. (men) was 73.9 years and 80.1, for women. High L.E. is explained by the good nutrition of the traditional Albanian diet. The death rate in Albania is marginally higher than 5 per 1000 and this indicator have been stable for the last ten years. Infant mortality has decreased steeply. The same trend follows for maternal mortality rate (Table 2). The leading causes of death are circulatory diseases, cancer, accidents and injuries (WHO, 2007).

Armenian population size is 2.9 million with about 35.8% of the population living in rural areas (Table 1). The general mortality rate per 1000 has increased from 5.7 in 1986 to 8.2 in 2005, and the natural growth rate of the population declined from 18.3 to 3.5 per 1000 during the period (Hakobyan, Nazaretyan et al., 2006).

Armenia’s epidemiological profile is similar to that of its neighbors - there is a “double” burden of disease. The leading causes of premature death are diseases of the circulatory system (heart diseases, stroke, etc.) and cancers. Eighty-three per cent of deaths in Armenia are attributed to non-communicable diseases followed by external causes (3%), communicable diseases (1%), and ill-defined conditions (4%). The leading causes of premature death (under 65) in Armenia are, in order of magnitude, diseases of the circulatory system, cancer, external injuries and poisoning (WHO, 2007).

The size of the Georgian population is disputed (Chanturidze, Ugulava et al., 2009); according to the World Bank, the estimated population is 4.5 million (Table 1). The last census was undertaken in 1989 but due to difficulties in data collection, population movements, casualties related to the civil unrest, emigration and uncertainties about the population growth rate, the population estimates vary (Gamkrelidze, Atun et al., 2002).
Georgia has undergone a profound demographic transformation. According to World Bank estimates, population growth has been negative since independence, and the overall population has shrunk by a fifth between 1990 and 2008. The age distribution of the population has shifted, with the proportion of children declining from 24.6% in 1990 to 17.1% in 2008; while the proportion of the population aged 65 years and over has increased from 9.3% in 1990 to 14.5% in 2008 (Chanturidze, Ugulava et al., 2009). This trend has been reinforced by significant out-migration of the working-age population, proxied by the significance increase of remittances to the in-country economy - an estimated 5–10% of GDP (Chawla, Betcherman et al., 2007).

In 1995, the Georgian average life expectancy was 72 years. Leading causes of death are circulatory system diseases, ischemic heart disease and cerebrovascular diseases. Widespread smoking is likely to be a key contributing factor to this mortality burden (Gamkrelidze, Atun et al., 2002).

In 2010, total population of Kyrgyzstan was estimated as 5.5 million, 30.5% of which was below 14 years of age (Table 1). Majority of the population (64.5%) lives in rural areas. As in other countries in central Asia, officially recorded infant mortality does not capture actual rates, and official statistics consequently overestimate life expectancy (Rechel Bernd, 2008). Survey-based estimates put life expectancy at birth in 2010 at 73.5 years for females and 65.3 years for males, which did not greatly differ from estimated life expectancies in 1990. Estimated infant mortality stood at 26.9 per 1000 live births in 2010, while this estimate was 58 per 1000 live births in 1990 (World Bank, 2010).

Maternal mortality rate has increased soon after independence and remains at high level. Poverty is an important health determinant; infant mortality rates are 1.8 times higher in the 20% poorest households than in the wealthiest 20% (WHO, 2009). Leading morbidity causes are respiratory (23.8% in 2007) and urogenital system diseases (12.8% in 2007). Main causes of mortality are cardiovascular diseases (48.3% in 2007), injuries and poisoning (9.8% in 2007) respiratory diseases (9.4% in 2007), and cancers (7.9% in 2007). Tuberculosis remains an important disease, particularly in prisons (incidence rate is over 40 times greater than in general population) where multidrug-resistant tuberculosis is a major problem. Syphilis and gonorrhea increased until 1997 and decreased since 2000. HIV/AIDS incidence has increased, particularly in the southern part of the country along the opium/heroin trade routes.
Water borne diseases are common due to widespread contamination of water sources (WHO, 2009).

The Republic of Moldova is one of the more densely populated countries of the former Soviet Union (106/sq. km), with a population of approximately 4.2 million, 790 000 of whom live in the capital city of Chisinau. Approximately, 53% of the population lives in rural areas (Turcanu, Domente et al., 2012).

Deterioration of the population health status during the transition after independence is reflected across all health indicators. Moldova has one of the lowest levels of life expectancy at birth in the WHO European Region (WHO, 2006). Male life expectancy fell from a high of 65.6 years (72.3 years for women) in 1989 to a low of 62 years (69.7 years for women) in 1995 (World Bank, 2010). Male life expectancy almost reached the pre-independence level of 65.5 years in 2008, but it did not sustain; female life expectancy recovered fully in 2006, at 72.4 years. Mortality rates are particularly high for the working - age group population, and the reduction of life expectancy through death before 65 years of age was 12 years for men and 6.4 years for women in 2010. This has contributed to a significant and growing gender gap in life expectancy, which is also reflected in disability -adjusted life expectancy (DALE)- 58 years for men and 63 years for women in 2007(Turcanu, Domente et al., 2012).

Maternal and child health are relatively poor. Maternal mortality rates due to pregnancy-related pathologies and complications (such as hemorrhages) remain high. Infant mortality rates are 10-15% higher in rural areas and mainly due to perinatal conditions, reflecting poor maternal health and hospital care. Respiratory diseases are the main causes of infant and under-five mortality (WHO, 2006).

Communicable diseases are major causes of morbidity and mortality. There is insufficient capacity to detect and respond to outbreaks. Tuberculosis remains an important public health concern with increasing notification rates (new cases and relapses) (WHO, 2006). Estimated incidence rate of TB was 182 per 100 000 population in 2010. The incidence of sexually transmitted infections, particularly syphilis and HIV/AIDS, are also increasing.

Lifestyle related health problems are widespread. Smoking is prevalent within 46% of the male and 18% of the female population. Up to 14% of the population present problems
related to excessive alcohol consumption. Unhealthy diet, obesity, iodine and iron nutrient deficiency are common (WHO, 2006).

Tajikistan is the poorest of the former Soviet republic when it declared its independence on 9 September 1991 ((Khodjamurodov, Rechel, 2010). The civil war in 1992-1997 left around 50,000 dead, over 10% of the population displaced, caused $7 billion in damages and economy lost more than 50 percent of its GDP (WHO, 2012).

In 2010, about 73.3% of its 8 million populations lived in rural areas and 35.7% were estimated to be below 14 years of age (Table 1). Out-migration has been considerable -: it is believed that up to 2 million Tajik citizens are working abroad (Khodjamurodov, Rechel, 2010).

Infant and maternal mortality rates are among the highest in the WHO European Region and malnutrition is a major public health concern (Khodjamurodov, Rechel, 2010).

Tajikistan’s population faces a double burden of both high non communicable and communicable disease rates. Cardiovascular diseases are the most common cause of death for all age groups. Death rate from cancer is extremely low and the proportion of total mortality from cancer before the age of 65 is about one third of the European average. HIV/AIDS and sexually transmitted diseases are a serious and growing problem, especially in high-risk groups, particularly in young and migrant people. Control is complicated by social and cultural attitudes towards these diseases. Malaria elimination activities resulted in a substantial reduction of malaria cases over the past nine years from 19,064 in 2000 to 165 in 2009(WHO, 2012).

Ukraine is the second largest country in the region and with population of 46 million in 2009, which is 12% smaller than it was in 1991 when the country gained independence from the USSR - it fell drastically between 1995 and 2000 (-0.9% annually), present annual decrease has been 0.6%. Since independence, Ukraine’s population has fallen by 5.8 million or 11%. The birth rate is low and in 2008, it was 11 per 1000 population. The rate dropped by 38% between 1990 and 1999, and reached its lowest in 2000 (7.8 per 1000 population) ((Lekhan, Rudiy et al., 2010).
While the overall health status of the Ukrainian population fell after independence, there has been a steady improvement since the mid-1990s. Maternal and infant mortality rates have been falling steadily, but so too have birth rates. The fluctuations in life expectancy were largely driven by changes in mortality from cardiovascular diseases and external causes of death, affecting mainly young and middle-aged men. Smoking accounts for a considerable part of the burden of disease, particularly among men. Another important factor is hazardous alcohol consumption (Lekhan, Rudiy et al., 2005). The main contribution to the still elevated mortality rate is from cardiovascular diseases, which account for more than 60% of total mortality. However, infectious diseases are also key public health issues as it is estimated that 1.6% of the population is living with HIV/AIDS and 1.4% of the population are tuberculosis (TB) patients (Lekhan, Rudiy et al., 2010).

Uzbekistan was part of the Soviet Union until it became independent in 1991. In 2010, Uzbekistan had a population of 29.7 million, 28.8 % of which was below 14 years of age. Majority of the population (63.7% in 2010) lives in rural areas (Table 1).

The general health of the population has not deteriorated despite economic difficulties and life expectancy is increasing again after the decline following the collapse of the former Soviet Union (WHO, 2011). Survey-based estimates put life expectancy at birth in 2010 at 71.2 years for females and 64.6 years for males. Estimated infant mortality stood at 36.7 per 1000 live births in 2010 (Table 2).

The leading causes of death are diseases of the circulatory system, followed by cancer and diseases of the respiratory system. Similar to other countries of the region, there has been a resurgence of tuberculosis and sexually transmitted diseases in the last 15 years, as well as, more recently a sharp increase of people living with HIV/AIDS (Ahmedov, Azimov et al., 2007).
Table 1. Demographic and socio-economic indicators by countries, 2010

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Albania</th>
<th>Armenia</th>
<th>Georgia</th>
<th>Kyrgyzstan</th>
<th>Moldova</th>
<th>Tajikistan</th>
<th>Ukraine</th>
<th>Uzbekistan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population total (in millions)</td>
<td>3.2</td>
<td>2.9</td>
<td>4.5</td>
<td>5.5</td>
<td>3.5</td>
<td>8.0</td>
<td>45.5</td>
<td>29.7</td>
</tr>
<tr>
<td>Population ages 0-14 (% of total)</td>
<td>21.3</td>
<td>20.3</td>
<td>17.6</td>
<td>30.2</td>
<td>16.5</td>
<td>35.7</td>
<td>14.1</td>
<td>28.8</td>
</tr>
<tr>
<td>Rural population (% of total population)</td>
<td>45.5</td>
<td>35.8</td>
<td>47.0</td>
<td>64.5</td>
<td>51.6</td>
<td>73.3</td>
<td>30.9</td>
<td>63.7</td>
</tr>
<tr>
<td>GDP per capita (PPP current international $)</td>
<td>9443</td>
<td>6645</td>
<td>5901</td>
<td>2409</td>
<td>4181</td>
<td>2246</td>
<td>7420</td>
<td>3591</td>
</tr>
</tbody>
</table>


Table 2. Health Indicators by countries, 2010

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Albania</th>
<th>Armenia</th>
<th>Georgia</th>
<th>Kyrgyzstan</th>
<th>Moldova</th>
<th>Tajikistan</th>
<th>Ukraine</th>
<th>Uzbekistan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life expectancy at birth, female (years)</td>
<td>80.1</td>
<td>77.6</td>
<td>77.4</td>
<td>73.5</td>
<td>72.4</td>
<td>70.3</td>
<td>75.5</td>
<td>71.2</td>
</tr>
<tr>
<td>Life expectancy at birth, male (years)</td>
<td>73.9</td>
<td>70.9</td>
<td>70.1</td>
<td>65.3</td>
<td>64.68</td>
<td>63.7</td>
<td>65.3</td>
<td>64.6</td>
</tr>
<tr>
<td>Life expectancy at birth, total (years)</td>
<td>76.9</td>
<td>74.2</td>
<td>73.6</td>
<td>69.3</td>
<td>68.4</td>
<td>66.9</td>
<td>70.2</td>
<td>67.8</td>
</tr>
<tr>
<td>Mortality rate, infant (per 1,000 live births)</td>
<td>16.1</td>
<td>16.2</td>
<td>19.1</td>
<td>26.9</td>
<td>16.1</td>
<td>52.1</td>
<td>10.2</td>
<td>36.7</td>
</tr>
<tr>
<td>Maternal mortality ratio (modeled estimate, per 100,000 live births)</td>
<td>27</td>
<td>30</td>
<td>67</td>
<td>71</td>
<td>41</td>
<td>65</td>
<td>32</td>
<td>28</td>
</tr>
</tbody>
</table>
3. Literature review

3.1. Health System

The Semashko Model had many similarities to some European health systems, such as the National Health Service (NHS) in Britain, in that it was publicly funded through general taxation and administered through publicly owned health care providers, and was accompanied by the nationalization of private and non-state not-for-profit health care institutions (including those run by the churches, labor unions and local councils) into a unified national system of service delivery. In countries that have a Bismarckian Health System (BHS), the predominant mode of financing the health system is through social insurance contributions linked to employment (Michael, Rifat, 2006).

According to World Health Organization (2010) a good health system delivers quality services to all people, when and where they need them. The exact configuration of services varies from country to country, but in all cases requires a robust financing mechanism; a well-trained and adequately paid workforce; reliable information on which to base decisions and policies; well-maintained facilities and logistics to deliver quality medicines and technologies.

A well-functioning health system responds in a balanced way to a population’s needs and expectations by:

- Improving the health status of individuals, families and communities
- Defending the population against what threatens its health
- Protecting people against the financial consequences of ill-health
- Providing equitable access to people-centered care
- Making it possible for people to participate in decisions affecting their health and health system.

Without strong policies and leadership, health systems do not spontaneously provide balanced responses to these challenges, nor do they make the most efficient use of their resources. As most health leaders know, health systems are subject to powerful forces and influences that often override rational policy making. These forces include disproportionate
focus on specialist curative care, fragmentation in a multiplicity of competing programs, projects and institutions, and the pervasive commercialization of health care delivery in poorly regulated systems. Keeping health systems on track requires a strong sense of direction, and coherent investment in the various building blocks of the health system, so as to provide the kind of services that produce results (WHO, 2010).

3.2. Health System Financing

The health system financing is to make funding available, as well as, to set the right financial incentives for providers to ensure that all individuals have access to effective public health and personal health care. This means reducing or eliminating the possibilities that an individual will be unable to pay for such care, or will be impoverished as a result of trying to do so. To achieve this goal of health systems financing, three interrelated functions emerge:

1. **revenue collection**, whereby financial contributions are to be collected in sufficient quantities, equitably and efficiently;
2. **pooling of contributions** so that costs of accessing health services are shared and not met only by individuals at the time they fall ill (financial accessibility); and
3. **purchasing and/or provisioning**, with contributions being used to purchase or to provide appropriate and effective health interventions in the most efficient and equitable manner.

Efficiency includes considering the type of services to fund and who should provide them. In addition, and also anticipating the need for cost-containment measures, the identification of an appropriate mix of provider payment methods is warranted (WHO, 2000).

During the Soviet era, public funding was, by and large, the only source of health financing. Public sources for health care were drawn from a wide range of taxes, while patient co-payments existed only for a limited number of services, such as rehabilitation services or some pharmaceuticals and for ambulatory care (Ahmedov, Azimov et al., 2007).

Provider payment mechanisms were based on input-based norms formulated into strict line-item budgets reflecting historical patterns. The more beds that a hospital had and the more staff positions it was allowed were the main determinants to allocate the higher budget.
However, in the past decade, the countries that became independent from the Soviet Union have experienced major changes in the inherited Soviet model of health care. The underlying principle of universality remains, but coexists with new funding and delivery systems and growing out-of-pocket payments (Balabanova, McKee et al., 2004).

Albania established the Health Insurance Institute (HII) in 1995, as a national statutory body to secure an additional source of health care financing (Nuri, 2002). Health financing reforms in Armenia focused on diversifying revenues streams for the health systems and linking health system financing to the quality and volume of care provided (Hakobyan, Nazaretyan et al., 2006). The 1995 reform process in Georgia replaced a wholly tax-funded health system with a social insurance model run through the specially-created State Medical Insurance Company (Gamkrelidze, Atun et al., 2002).

In 1997, a number of reforms were launched in Kyrgyzstan that affected the organization of the health system. In particular, the Mandatory Health Insurance Fund (Table 3) was established, together with new resource allocation mechanisms (Ibraimova, Akkazieva et al., 2011).

The health system of the Republic of Moldova is organized according to the principles of universal access to basic health services, equity and solidarity in health system financing - it is funded from both the state and individuals through Mandatory Health Insurance (Turcanu, Domente et al., 2012). Health financing reform in Tajikistan started in 2005. The focus has been on diversifying sources of funding through introducing formal co-payments, defining a guaranteed package of health services to align commitments for free health care with available resources, and introducing catchment population need and activity-based health budget (Khodjamurodov, Rechel, 2010).

In Ukraine unlike many other areas of the economy, health system financing has essentially retained the Soviet system of tax-based approach. Officially, Ukraine has a comprehensive guaranteed package of health care services provided free of charge at the point of use as a constitutional right, nevertheless, user charges are widely levied in the Ukrainian health system. Most part of the health financing comes from general government revenues raised through taxation (value added taxes, business income taxes, international trade and excise taxes). Personal income tax is not a significant contribution to total revenues needed. Out-of-
pocket payments account for a significant proportion of the total health expenditure and there are some limited Voluntary health insurance (VHI) schemes (Lekhan, Rudiy et al., 2010).

Following disintegration, the Uzbek health system has maintained tax-based public financing as a primary source of funding for the health system, though, other health financing mechanisms have gradually been introduced. With public sector reforms and the emergence of a private sector, out-of-pocket payments have become a permanent part of the health system (Ahmedov, Azimov et al., 2007).

Table 3. Social health insurance in low and lower middle income countries of WHO European Region (Rechel, McKee, 2009)

<table>
<thead>
<tr>
<th>Country name</th>
<th>Year of Introduction</th>
<th>Contribution rate</th>
<th>% contribution to the total health expenditure (2006)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
<td>1995</td>
<td>3.5% of wages, split equally between employers and employees</td>
<td>11.3 %</td>
</tr>
<tr>
<td>Armenia</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Georgia</td>
<td>1995</td>
<td>Employers contribute 3% and employees 1% of salary</td>
<td>11.1 %</td>
</tr>
<tr>
<td>Kyrgyzstan</td>
<td>1996</td>
<td>2% paid entirely by employer</td>
<td>9.0 %</td>
</tr>
<tr>
<td>Republic of Moldova</td>
<td>2004</td>
<td>6% since 2008; split equally between employers and employees</td>
<td>35.2 %</td>
</tr>
<tr>
<td>Tajikistan</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
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<tr>
<td>Ukraine</td>
<td>NA</td>
<td>NA</td>
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<tr>
<td>Uzbekistan</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

NA = not applicable.
3.2. Access to health services consumptions

Improved access to care is an important goal for much of health policy (Aday, Andersen, 1974). However; there is no universally accepted definition for access to health services (Oliver, Mossialos, 2004). (Campbell, Roland et al., 2000) have defined access as the timely use of services according to the need. Although some researchers distinguish between the supply and opportunity for use of services, and the actual using of health services, most view access to health services as realization of the need (Jacobs, Ir et al., 2012).

Here, we use a conceptual framework and definition of access that implies ‘the timely use of service according to need’. In this framework (Peters, Garg et al., 2008), four main dimensions of access are described, each having supply-and-demand side elements that include the following:

(i) **Geographic accessibility** — the physical distance or travel time from service delivery point to the residence of the user;

(ii) **Availability** — having the right type of care available to those who need it, such as hours of operation and waiting times that meet the demands of those who would use care, as well as having the appropriate type of service in regard to provisions and materials;

(iii) **Financial accessibility** — the willingness to pay and affordability of users for the needed services, as well as financial protection from the economic consequences of health services consumption costs;

(iv) **Acceptability** — meeting the social and cultural expectations of individual users and communities with the responsiveness of the service providers and with the organization of the service delivery system.

Utilization of health care is used as an operational proxy for access to health care (Jacobs, Ir et al., 2012). Barriers to access of health services stem from the demand side and/or the supply side (Ensor, Cooper 2004, O'Donnell, 2007) factors. Demand-side determinants are factors influencing the ability to use health services at individual, household or community
level, while supply-side determinants are inherent to the health system that hinder service uptake by individuals, households or the community (Jacobs, Ir et al., 2012).

4. Objective

This study aims to (1) understand about the health systems financing reforms that influence in improving access for health services consumption and (2) synthesize the evidences examining the influence of health systems financing reforms on access for health services consumption in the low and lower middle income group countries of WHO European region.

5. Method

5.1. Study Design

A systematic review uses explicit and systematic methods for providing reliable findings from which conclusions can be drawn and decisions are made (Antman EM, Lau J, Kupelnick B, Mosteller F, Chalmers TC, 1992). The key characteristics of a systematic review are (a) a clearly stated set of objectives with an explicit reproducible methodology, (b) a systematic search that attempts to identify all studies that would meet the eligibility criteria, (c) an assessment of the validity of the findings of the included studies, and (d) systematic presentation on synthesis of findings of the included studies (Moher, Liberati et al., 2009).

Hence, the steps followed were defining the inclusion and exclusion criteria for the search strategy, identification of the databases to be searched and specifying the search items for the databases.

Furthermore, we have followed the WHO definition of health systems financing and Peters et al. (2008) framework and definition of access to health services and have identified 8 countries of WHO European region, grouped as low and lower middle income countries within the classification of the World Bank.
5.2. Search strategy

A literature search was conducted in major electronic health databases. The databases searched were (1) Scopus (including Embase & Medline), (2) Ovid MEDLINE, CINAHL-EBSCO and (3) PubMed. The search was conducted on 24.06.2013 using the following terms (access or availability or adequacy or consumption or consume or utilization or usage or appropriateness) and ("health care" or "health services" or "health system") and (finance or expenditure or spending or funding or out-of-pocket) and (Albania or Armenia or Georgia or Kyrgyzstan or Moldova or Tajikistan or Ukraine or Uzbekistan)). Many of these initial searches produced not only multiple ‘hits’ but also an unmanageable number of studies, in all several thousands, with majority of little relevance for our study.

The refined searches were performed by imposing restrictions such as geographic location and country income level on searchable objects. This process scooped out 535 study papers. The next step was going through the lists of search results for onscreen inspection of the titles and abstracts of the identified articles - a process that further reduced the number of studies to 384, 151 papers were excluded for reasons such as language not in English (n = 10), country relevance (n = 133) and not research paper (news, perspectives, editorials; n = 8). Among the 384 studies screened on the title and abstract 222 papers were subsequently excluded after 2nd level reviewing for reasons such as duplicate archival (n = 203) and topic relevance. Once the electronic search was done and studies retrieved with potential appropriateness, 100 papers were further excluded after reviewing full text on account of study focus and topic relevance. The above process selected a total of 62 separate studies for inclusion in this systematic review (Figure 1).

5.3. Principles of screening

The inclusion criteria for this study were:

- Studies using as (1) availability of health services, (2) appropriateness of health services, (3) affordability to health services, (4) socioeconomic strata and / or OPE for the population, (5) health systems reforms and (6) preventive and curative services in public health system;
- Quantitative primary studies with statistical methods;
• Qualitative primary studies with deductive or inductive reasoning;
• Publication in academic journal (peer reviewed);
• Population: middle and low-income countries of WHO European region;
• Time period: 1996 (i.e. five year after the disintegration of USSR) to present;
• Language: English

5.4. Quality control

All studies on the health system and access to health care services across all socioeconomic strata were included. Due to the heterogeneity of data and methodology in the selected studies, full data extractions were not deemed appropriate. For the same reason, we were unable to adopt any instrument to rank the internal and external validity of the studies. Given the variety of health systems in each country, a specific activity is required to evaluate the external validity of each research study, which lies outside the scope of this review (Gelormino, Bambra et al., 2011).

5.5. Data extraction

After the final selection of the papers, the information extracted from the full texts are (1) author, (2) year of publication, (3) year of data collection, (4) country setting, (5) elements of health systems reforms, (6) elements of access to health services, (7) gender of the respondents, (8) study design, (9) important findings from the study and (10) conclusion of the author.
Studies identified: n = 535.

Potentially relevant studies screened on title: n = 384.

Studies retrieved with potentially appropriate abstracts: n = 162.

151 papers excluded for reasons such as
- language not in English (n = 10),
- country relevance (n = 133),
- Not research paper (n = 8).

222 papers excluded after 2nd level reviewing of the abstracts for reasons such as
- the topic relevance (n = 19),
- Duplicate archival (n = 203).

100 papers excluded after reviewing full texts due to
- topic relevance (n = 28),
- Study focus (n = 72).

Studies finally included for the review n = 62.

(a) Albania: (5+2*)
(b) Armenia: (5+2*)
(c) Georgia: (11+6*)
(d) Kyrgyzstan: (1+4*)
(e) Republic of Moldova: (3+4*)
(f) Tajikistan: (13+1*)
(g) Ukraine: (8+7*)
(h) Uzbekistan: (2+2*)
(i) Cross country 14

*representation in cross country study

Figure 1. Study selection process.
6. Results

The papers included in the present review were published between 1999 and 2013 in 36 different journals. The top three journals with the largest number of articles were Health Policy & Planning (n = 8), Health Services Research (n = 6), and Social Science and Medicine (n = 6). Most of the studies had been done for Tajikistan (n = 14) followed by Georgia (n = 11). A total of 14 papers were with multi country study.

Most of the studies focused on out-of-pocket and informal payments (n = 14) followed by case specific studies (TB, Diabetes, Mental health etc.; n = 13), studies on utilization of health service and health systems reform are low in numbers (each; n = 6).

Table 4. The excerpts from the studies

<table>
<thead>
<tr>
<th>Country</th>
<th>Reform elements</th>
<th>Access elements</th>
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<tbody>
<tr>
<td></td>
<td>Financing of health system: SHI and General tax revenue (2005) [75].</td>
<td>Significant reduction in the informal payments for households in both inpatient and outpatient care. Informal payments affect patients throughout income distribution [75].</td>
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<td></td>
<td>Introduction of SHI (discounted drugs, free OP Care and some specialist care, 1995) [45, 75, 78].</td>
<td>In 2003, 63% residents of Tirana reported being enrolled in the plan [78]. OPE account for 70% of total spending, higher than most other Balkan countries (2003) [78].</td>
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<td>Albania</td>
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<td>39% coverage with SHI (2002) [45].</td>
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<td></td>
<td>Fragmentation in financing and management of PHC services between MOH, HIF and Local Government [45].</td>
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<td>Service utilization rates varied substantially by household wealth and geography of residence [45].</td>
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<td></td>
<td>Poor/non uniform application of</td>
<td>2000 – 2002: 60 to 87% Albanians make</td>
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<tr>
<td>Albania</td>
<td>policy provisions on co-payments or exemptions for insured patients [79].</td>
<td>informal payments to receive services. OPE payments for hospitalization consumed 88% of average monthly per capita household expenditures; for outpatient acute care, the equivalent figure 16.9% [79].</td>
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<td></td>
<td>Lack of appropriate financial protection mechanisms for marginalized group without health insurance [21].</td>
<td>Authorized charges, not collected in transparent ways, are siphoned off at the point of collection [79].</td>
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<td></td>
<td>Strengthening the role of government as catalyst of change, emphasizing accountability, and establishing performance measurement schemes [5].</td>
<td>Financial barriers (24.14% of sampled population avoid service use) [21].</td>
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<tr>
<td></td>
<td>Operational management transferred to the regional governments (uncoupling the policy making, governance, regulation from the service delivery and compliances) Rebuilding the primary care network around family practitioners and installing a referral system [5].</td>
<td>Physical access and geographical barriers (living outside the capital / major cities makes transport expensive while seeking the needed care) [21].</td>
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<td></td>
<td>Evidence of racial discrimination and gender inequalities exists [21].</td>
<td>Participants did not seem to recognize the importance of basic family planning services to prevent high-risk pregnancies, unwanted pregnancies and subsequent abortions, as well as condoms for the prevention of sexually transmitted infections) [21].</td>
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<tr>
<td>Albania</td>
<td>Privatization of Pharmacies &amp; Dental practices and new forms of financing and management of these services (1993) [14, 45].</td>
<td>Increased number of dentists (dental profession is perceived as profitable) [14]. Public dental services: Poor accessibility (in rural areas) and doubtful service appropriateness (technology availability and hygiene conditions) and low responsiveness (refused to treat children) [14]. Private service provisioning with poor regulation on fees and enforcement of law on licensing: non standardized case management protocol, rampant use of imported material and poor patient records keeping. Service is concentrated in capital city (Tirana: 1: 850; Kukes: 1: 14000) while no dental services in villages [14].</td>
</tr>
<tr>
<td>Armenia</td>
<td>Community health insurance (CHI) [63, 64].</td>
<td>58% of all primary respondents in scheme village visited a HP at least once during the study period, compared with 35% in non - scheme villages [64]. Wide variance in the overall participation rate in insurance schemes across villages (24% to 57%) [64]. Expansion of health insurance coverage is constrained by affordability, poor infrastructure, and weak linkages with the broader health system [63].</td>
</tr>
<tr>
<td>Georgia</td>
<td>Social insurance contribution earmarked to fund health services [13].</td>
<td>Deprivation from: lack of financial means - 78% in 2009 in comparison to 47% in 2007 [76]. Of sick household members, 51% used formal</td>
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<td>Georgia</td>
<td>Delivery of health care financed through OPE at the point of service and limiting public insurance coverage to services included in a basic benefit package (BBP), introduced in 1995 [13,70].</td>
<td>health care services at hospitals and clinics; 82% ill household members with serious illness were more likely to seek care through formal services. For 93% of respondents costs were the major deterrent to obtaining health care. 61% (of ill household members) used savings to pay for health care expenditures [70].</td>
</tr>
<tr>
<td></td>
<td>Medical Insurance Program for the Poor (MIP) through Provision of publicly funded vouchers to eligible households for enrolling with private insurers (2006) [12, 34].</td>
<td>From 1990 to 1999 hospital admission rates decreased by 68%, hospital bed occupancy rate (BOR), from 51 to 29%, utilization of outpatient services, by 81% (from 7.3 visit per person per year to 1.42), and calls for ambulance services, from 0.22 to 0.03 per person per year [13].</td>
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<td>Decreased mean out-of-pocket expenditures for some groups and reduced the risk of high inpatient expenditures without affecting utilization [12].</td>
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<td>Between 2000 and 2007 access to care for poor has improved marginally and the share of households facing catastrophic health expenditures have seemingly increased from 2.8% in 1999 to 11.7% in 2007 [34].</td>
</tr>
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<td>Fairness in Financial Contribution (FFC) for Georgia appears to have improved since 2004 [34].</td>
</tr>
<tr>
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<td></td>
<td>Channeling government funds to protect the poor from catastrophic health expenditure, Strengthening of primary care, &amp; increasing the role of private insurance The scope of work of primary care practitioners is limited and they rarely diagnose and manage diabetes, which instead takes place within the vertical system [9].</td>
</tr>
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<td>companies [9].</td>
<td>Diabetes-related mortality in Georgia is among the worst in Europe and Central Asia, in a context of conflict, economic collapse and weak institutions [9].</td>
</tr>
<tr>
<td></td>
<td>Introduction of program based financing, and payroll-tax-based social insurance, re-orientation of health system towards primary health care approach (1994) [20].</td>
<td>Patients are often charged for the services that are supposed to be free [20].</td>
</tr>
<tr>
<td></td>
<td>Inadequate service coverage by SHI [19, 33].</td>
<td>Low emphasis to quality of care provided [20].</td>
</tr>
<tr>
<td>Georgia</td>
<td></td>
<td>Consumers are uninformed about the basic principles of health reforms and their entitlements and therefore do not support them [20].</td>
</tr>
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<td></td>
<td>Amongst the poorest quintile, those seeking outpatient care devote, on average, 23% of their monthly HH budget to medical care costs. Pharmaceutical costs consume over half of this amount (54.5%), while official fees account for 24.4% and ‘informal payments’ are on average 21.1% [33].</td>
<td>93% of household respondents complained about the prohibitive costs of health care [19].</td>
</tr>
<tr>
<td></td>
<td>In total, 40% of all health spending goes to 2.5% of the population [19].</td>
<td>Financial barrier is acute for approximately 50% of the population and for 30%, prohibitive [35].</td>
</tr>
<tr>
<td></td>
<td>After 1996 Initiation of Funding from single national pool to contracted PHC public provider in rural areas [35].</td>
<td>Residents of rural areas have better access to providers (Rural: 61.7%; Urban 54.4%) and are less likely to self-treat than urban residents (Rural: 12.8%; Urban: 20.6%) [35].</td>
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<tr>
<td>Kyrgyzstan</td>
<td>Introduction of compulsory health insurance fund and official copayment to replace unofficial informal payments for health care with a transparent mechanism (1997) [27].</td>
<td>Expense or distance to facility as the main reason for not seeking care when were needed has decreased from 14.7% in 2001 to 5.7% in 2004 and to 3.6% in 2007 [27].</td>
</tr>
<tr>
<td>Moldova</td>
<td>Introduction of National Health Insurance (2001) and re-orientation of health system towards primary care approach [71].</td>
<td>Increased tuberculosis case detection from 37% (2001) to 65% (2005) [71].</td>
</tr>
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<td></td>
<td>Improved diagnostic facilities, supply chain management, training and information dissemination [71].</td>
<td>Improved service appropriateness [71].</td>
</tr>
<tr>
<td></td>
<td>Geographical dispersion of primary health care facilities [71].</td>
<td>Eased out geographical reach [71].</td>
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<td>Tajikistan</td>
<td>Reorganization of health facilities for improving responsiveness to adolescents and youth to address avoidable mortality and morbidity [16].</td>
<td>In adequate Financing through National Health Insurance System and output based provider payment mechanism together created perverse incentives for focusing on work-load by the providers with little attention to responsiveness [16].</td>
</tr>
<tr>
<td>Tajikistan</td>
<td>Introduction of user charges [28, 38].</td>
<td>IP expenses are less progressive than OP expenses [38].</td>
</tr>
<tr>
<td>Tajikistan</td>
<td>Introduction of BBP: 2005 [66]. Introduction of FFS with standardized tariff: 2009 [7, 26, 66]. BBP (to control for and to reduce OPE) [69].</td>
<td>In 2007: Overall patient OPE costs had marginally decreased. Patient satisfaction with quality of care increased in few (study piloted) rayon (districts). Informal OPE persisted, although on a lower level. Hospitalization rates in pilot rayon were lower than the national average [66]. Direct costs (38% of total; mean: $396) included costs for drugs (27%), transportation (25%), and special foods (29%) [7].</td>
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<td></td>
<td>Indirect costs were mainly incurred by patients themselves time away from usual income generating activities [7].</td>
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<td>Medical direct costs were similar across all SES quintiles; non-medical costs of the wealthiest quintile were double than those of the poorest ($351 versus $168) [7].</td>
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<td>22% of older women avoided seeking needed care, Of them (52%) self-medicated using traditional or over-the-counter medicines. 43% of patients from poorer households reported that family members administered injections and 66% administered medicines compared with 24% and 54%, respectively amongst those from the richest households. 37% of pregnant respondents had not received a doctor consultation or pre-natal care. Nearly half of these women cited affordability as the main barrier to reproductive care [26].</td>
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</tr>
<tr>
<td>Tajikistan</td>
<td>Government spending on HCE reduced from 3.1% of GDP to 0.6% (1995-2002) [29].</td>
<td>Nearly 30% of the sampled women did not deliver their last child in a medical facility; among which about half of them used skilled assistance [29].</td>
</tr>
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<td></td>
<td>Between 2005 and 2011: The median visit to doctor has increased from 2 to 4 in a year. The median OPE has increased from $4.2 to $8.8 (median amount on drugs from $5.3 to $10.7) The availability of prescribed medicine has improved from 92% to 98% for the population</td>
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<tr>
<td>Tajikistan</td>
<td>Decentralization of the public sectors with functional de-concentration [54].</td>
<td>In 2002 number of doctors in Dushanbe: 70.8 per 10,000 - more than three times of the country average (20.3/10,000) - Geographical imbalance of health staff across Tajikistan [54]. Vaccination is the only preventive measure carried out at primary care level; other activities such as health education do not take place [54]. Utilization of health services is generally extremely low, the main restricting factors being accessibility, availability and cost of services (medicine costs and informal payments) [54].</td>
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<td></td>
<td>Granting self-financing status to health care organizations &amp; introducing user charges [28].</td>
<td>2003: Women from the poorest households have a 1.5 times higher likelihood of giving birth at home without a skilled professional in attendance than women from the wealthiest households [28]. 2004: poor financial affordability debarred 33% of the population in seeking the needed health care - this percentage of the population is double for the poorest 20% than the wealthiest 20% [28]. 2013: 44% of the affected members of the HH did not seek health services at times of need. Amongst these HH 77% reported for not having the money was the barrier in consuming services [28].</td>
</tr>
<tr>
<td>Hospital sector rationalization [36].</td>
<td>Ability to pay and OPE for medication and supply was a serious barrier to access [36]. Patients admitted to, or receiving services for,</td>
<td></td>
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</tbody>
</table>
Country | Reform elements | Access elements
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Tajikistan | Reproductive health, maternal and child health, tuberculosis, HIV/AIDS control, immunization and health promotion are conceived and provided as vertically organized programs and are separated from curative services [73]. | more specialized institutions experienced longer stay periods than those admitted to the less specialized hospitals [36]. Poor were forced to seek treatment in less specialized facilities [36]. The medicines prescription rate was similar across socioeconomic groups, while the proportion of patients who managed to obtain the medicine prescribed was higher in the highest socioeconomic quintile (93.1%) than in the lowest 40% (75.5%) [73]. Across socio-economic groups, the lack of financial resources (58.6%) being the main reason for not getting the medicine prescribed [73]. The absence of pharmacy within accessible distance and the absence of the medicine in the pharmacy are the additional barriers for not getting the prescribed medicines for 11.2% and 10.3% of the study populations [73]. 41% of patients in the highest socioeconomic quintile were referred to a specialist, while only 37.4% of those in the middle 40% and 29% of the poorest 40% [73]. PHC service consumption was 0.7 visits per capita (2004) [73]. Absence of health facilities at a population point negatively affects the likelihood of using prenatal
<table>
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<th>Country</th>
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<tbody>
<tr>
<td>Tajikistan</td>
<td>Formally, maternal health care remains free in Tajikistan [39].</td>
<td>Psychiatrists were more readily expecting informal payments either for their services or for authorizing the hospitalization of a patient, who would then receive free drugs provided to the hospitals through the international humanitarian aid [50].</td>
</tr>
<tr>
<td></td>
<td>Mental Health care reforms: Low priority agenda [50].</td>
<td>2009: 86% of the sample population received prescription; 9% were unable to buy the drugs prescribed [37].</td>
</tr>
<tr>
<td></td>
<td>Essential drug list has been updated and standard treatment guidelines have been developed [37].</td>
<td>Wealthier households spend more on drugs in absolute terms; it is low-income households which spend a larger proportion of their budget on drugs in relative terms [37].</td>
</tr>
<tr>
<td>Ukraine</td>
<td>Provision of limited health care services free of charge at the point of use [56, 72].</td>
<td>OPE occupied an average of 32% of household effective income [56].</td>
</tr>
<tr>
<td></td>
<td>Health care reform plan initiated from 2000; Ukrainian health care system is still largely based on the Semasko model [62].</td>
<td>Health expenditure was 44.2% of the household total spending for HH with angina patient compared to 35.1% among non-angina households [56].</td>
</tr>
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<td></td>
<td>Hospital financing is based on the number of hospitals beds, which provides strong incentives for</td>
<td>95.5% of respondents who accessed care in the last four weeks (from march 2010) reported the median OPE when accessing outpatient care was $12.57 USD, for inpatient care, $62.84 USD and $18.85 USD for pharmaceuticals [56].</td>
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<td>The average efficiency score for all hospitals over the years (1997 – 2001) was 1.17, indicating a potential expansion of about 17% of all outputs.</td>
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<tr>
<td>Ukraine</td>
<td>No substantial changes to Maternity care since the collapse of the Soviet Union [72].</td>
<td>The average inefficiency was in excess of 30% in the initial period and declined rapidly thereafter [62].</td>
</tr>
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<td></td>
<td>Development of market economy and changes in the existing social and Political institutions [89].</td>
<td>The bargaining process between the pregnant woman (incl. her partner) and the obstetrician is an important part of the pre-delivery arrangement, including the informal payment [72].</td>
</tr>
<tr>
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<td>90%, of sampled population indicated that the economy had changed for the worse [89].</td>
<td>Education and medical services, which were free under the communist government, had become extremely scarce and fee-based [89].</td>
</tr>
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<td></td>
<td>Women had been especially hurt as a result of the lack of accessibility of all services in the new economy [89].</td>
<td>Women had been especially hurt as a result of the lack of accessibility of all services in the new economy [89].</td>
</tr>
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<td>Family structure and fertility have suffered as a result of political and economic changes in Ukraine [89].</td>
<td>Family structure and fertility have suffered as a result of political and economic changes in Ukraine [89].</td>
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<td>90%, of sampled population described their physical health as good, satisfactory or excellent. Variations existed on the perceived mental health. Almost three-fourths of the sampled population reported that their mental health was satisfactory [89].</td>
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<td>Average age of males (2001: 64.81; 2006:68.63) and females (2001: 66.68; 2006:71.82) with type</td>
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<tr>
<td>Country</td>
<td>Reform elements</td>
<td>Access elements</td>
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<td><strong>Ukraine</strong></td>
<td>2 diabetes at the moment of death [48].</td>
<td>Patients with diabetes are discriminated during selection of candidates for chronic hemodialysis due to lack of ability to conduct renal replacement treatment [48].</td>
</tr>
<tr>
<td>Healthcare quality improvement and indulging evidence-based practice initiated since early 2000 [6].</td>
<td>Evidence-based medicine has weak support from faculty heads, despite being declared to be among the institute’s priorities [6].</td>
<td></td>
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<tr>
<td><strong>Uzbekistan</strong></td>
<td>Implementation of DOTS strategy (1998)[42]. 100% DOTS coverage achieved (2005) [42].</td>
<td>Treatment success rates for new smear positive cases remain stagnant, at around 80% [42].</td>
</tr>
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<td></td>
<td>In addition to specific anti-tuberculosis drugs, patients were prescribed 7–8 non-TB drugs on average, irrespective of the presence of concomitant disease [42].</td>
<td>79% of the sampled population experienced financial hardship from the disease. A substantial part of this hardship (49%) was reportedly due to the cost of buying additional drugs [42].</td>
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</table>
7. Discussions

With the objectives of understanding the reform of health systems initiated by low and lower middle income countries of WHO Europe, we found variation across the region. The adoption of health security measures and protection from impoverishment arising from sickness were the hallmarks in Albania, Armenia, Georgia, Kyrgyzstan and Moldova. However, for Tajikistan generating resources for the health systems and improved efficiency has been the cornerstone. Ukraine has followed rationing of services as the demand side lever for cost containment and introduction of performance-based provider payments as the supply side lever for efficiency improvement. Service quality improvement occupied center stage in Uzbek health system reform initiatives.

Embracing of market mechanisms in the form of user charges at the point of service consumption, limiting public insurance coverage only for BBP, copayments, privatization of pharmacies and dental practices and granting self-financing status to health facilities were also in practice in different combinations in almost all countries except Moldova, Ukraine and Uzbekistan. Since, 1997, official copayments has replaced unofficial informal payments in Kyrgyzstan. SHI became the primary route of funding health systems in Albania (1995) and Georgia (1994) while Armenia has introduced CHI for the purpose, and mandatory (compulsory) health insurance in Kyrgyzstan (1997) and Moldova (2004) were generating finances for their health systems. The health systems of Ukraine and Tajikistan were purely tax funded; general tax revenue supported Albanian health system. Further, Ukraine did not change the traditional input based financing for the health facilities.

Health systems are complex adaptive system. To have the intended impact, the financial reform undertaken by these countries accompanied by alongside incidental reforms covering service organization, governance and service delivery process re-engineering. Albania has introduced system accountability with various performance measurement schemes. Decentralization of the public sector and functional deconcentration were found in Tajikistan.

Rebuilding the primary healthcare network around a family physician and installing a structured referral network occurred in Albania. Georgia witnessed orienting health systems towards a reinforced primary healthcare, improving the diagnostic facilities, geographical dispersion of primary healthcare and reorganizing hospital network. In Tajikistan there was
rationalization of scope of services and beds availability as well as vertical programs for high-priority health services. In Ukraine select chronic disease management program were introduced. Reinventing the internal process in the form of training and information dissemination, service monitoring mechanisms and reorganizing health facilities with youth-focused responsiveness were reform features of Moldova. Tajikistan introduced an essential drug list with inbuilt continuous updatation process; case management protocol adherence has become an integral part of Tajik and Uzbek health systems.

The implementations of such reform initiatives lack in-country and cross-country consistency and were also riddled with various policy weaknesses. This was evidenced in Albania and Armenia with policy provision for exemption of copayment and insurance contribution devoid of transparency and limited population coverage. Demand-side financing to encourage enrolment with private health insurers and linkage of BBP with insurance coverage was in existence in Georgia and health services tariff standardization introduced in Tajikistan.

In our attempt to examine the impact of such wide dimensions of reform initiatives that were in vogue in these countries, we have found mixed effects on the access to health services. We identified the extent of OPE, service consumption, denial of services when in need, health security coverage and service coverage as barriers to/enabler of access to health services.

Pre-payment contribution mechanism has reduced the burden of OPE (informal and formal payments) and chances of catastrophic health expenses in Albania and Georgia. Such a probability almost quadrupled during 1999-2007 in Georgia. OPE as a percentage of Total Health Expenditure (THE) has increased by more than 6% from 2003 to 2006 in Moldova. Expenses for OP prescription drugs increased substantially for the poor in Tajikistan though the overall OPE reduced marginally in the same period.

A significant financial barrier that denied services needed existed in Albania, and Moldova, and such phenomena were increased in Armenia (from 47% in 2007 to 78% in 2009) with a concurrent decline in OP service consumption, IP admissions and calls for ambulance services. The financial barrier was prohibitive for half of all Georgians. On the contrary, this barrier declined during the period substantially in Kyrgyzstan. The ability to pay for health services needed was found to be the most important determinants for Tajikistan. Despite
Ukrainian having a constitutional guarantee for free health services at the point of use, OPE shared 32% of HH consumption.

The health security coverage was less than 70% for the population in the countries where such a provision exists; in Moldova, it is less than 40% in 2010. Often it was the village population that denied such coverage.

Living outside the major cities posed a significant barrier for service consumption in Albania, Armenia and Tajikistan; the financial burden was more acute in sparsely populated areas in Tajikistan.

8. Conclusion

This review has involved studies with extreme degree of variations in objectives and methodological approaches. The concerned authors have finding from inconclusive to explicit. Fragmentation of health system financing, abysmally low health security coverage with doubtful enforcement of policy provisions for protecting vulnerable groups, absence of health facilities, and inconsistent use of case management protocol are the major deterrents to the reform initiatives conducted in recent times by the low and lower middle income countries of WHO Europe. Further, the intended effect this reform is also being decelerated by gender inequity prevalent in Albania, Tajikistan and Ukraine. Perverse incentives for efficiency improvement without counter balancing mechanisms in countries like Moldova and Georgia, and poor information dissemination to citizen groups in Albania, Georgia, Tajikistan and Ukraine. The introduction of market mechanisms in the health system critically demands a better legislation to protect and promote population rights for better health in Albania, Georgia and Ukraine. Furthermore, an increased propensity to seek alternate/informal care demands a regulatory environment for the supply provision in Georgia and Tajikistan to prevent an impending crisis in population health.

Positive changes in these countries include improvements in the governance mechanism in Albania and frequency of visits to HPs in Armenia, Kyrgyzstan and Ukraine. Other features are increased TB detection rate and reduced U-5 mortality in Moldova, improved chronic disease (diabetes) management in Ukraine, and decreased mean OPE in Georgia and Tajikistan.
The equity component deserves to be addressed in Albania, Georgia, Moldova, Tajikistan and Ukraine to reduce the ill effects of service consumption and in Armenia to improve health coverage. Finally, the study consolidates impact evaluations of the health system reforms from the perspective of population health needs and financing mechanisms of the health systems in WHO Europe.
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