Addressing High Infant Mortality Rate in Azerbaijan

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Introduction

It is undeniable that the Azerbaijan Government has made significant progress in addressing infant mortality during the oil boom (2004-2015). However, recent reports of the international organizations such as the United Nations International Children's Fund (UNICEF) and the World Health Organization (WHO) show that Azerbaijan has the highest infant mortality rate in Europe.

The main goal of the paper is to analyze causes of the high infant mortality rate in the country and recommend solutions to address these causes. The paper finds that there are gaps in the health system of Azerbaijan such as awareness during pregnancy, providing access to monthly checkup and consulting with doctor, providing essential drugs and medical equipment during birth and the first days and weeks of newborns, improving hospitals' and healthcare centers' clean water and sanitation facilities, as well as improving skills of the healthcare workers that lead to the high infant mortality rate. There are cost-effective and proven interventions in the world to address these gaps to reduce infant mortality rate, and the Government needs to increase healthcare expenditures for the next fiscal year.

The first section of the paper describes background of the country and share of the current health expenditures in the state budget and GDP. The second section presents direct and indirect causes of the problem and discusses its significance. The third section presents current state program to address it while the final section gives recommendations that the Azerbaijan Government should take into consideration to prepare a comprehensive policy to address the issue on

multiple fronts in the country.

Country background

Since gaining its independence in 1991, Azerbaijan has made remarkable economic progress and reduced the poverty rate from 49% in 2000 to 4.9% in 2015 due to its oil-gas revenues (World Bank, 2017). Substantial progress has also been made in reducing infant mortality rate since 1991: from 93 deaths in per 1000 live births to 28.2 deaths in 2015 (WHO, 2017) (See Annex 1).

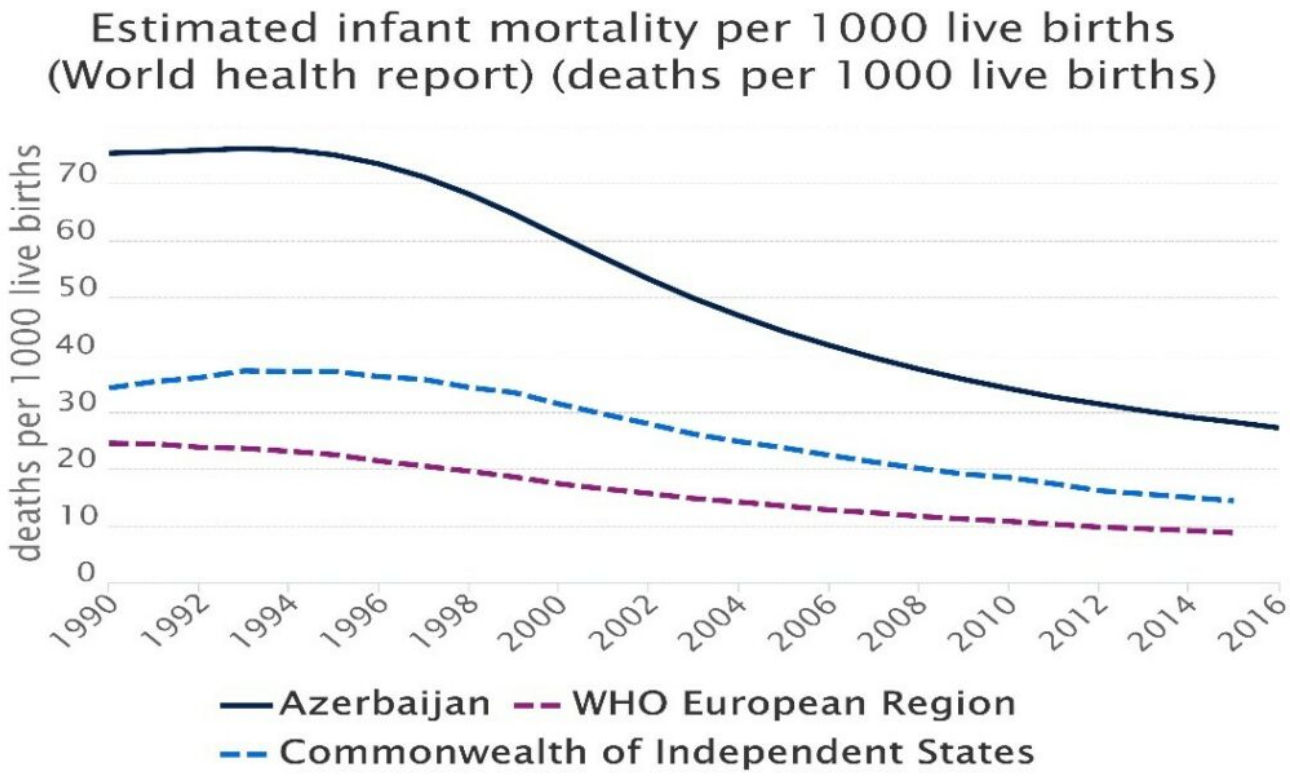
Azerbaijan is classified by the World Bank as an upper-middle income country[1]. It has a population of 9.8 million population, with 47% living in rural areas (AzSTAT, 2017). Its economy is heavily dependent on oil-gas revenues. Nearly, 92% of the exports of the country accounts oil-gas products while more than 50% of its state budget is made of oil revenues. The economy of Azerbaijan still remains insufficiently diversified and is heavily dependent on extraction and the export of oil-gas resources (UNDP, 2017). Social and economic indicators suggest that the country is moderately healthy and growing. Current gross domestic product (GDP) is 42.8 billion USD, GDP per capita is 4,438 USD, and 17,857 USD at PPP, which makes it comparable to other former Soviet countries (IMF, 2018). Life expectancy is average, at 70.8 years (World Bank, 2017), and unemployment is 6% (IMF, 2018). The current inflation rate is 14% (CBAR, 2017). The share of health expenditures by the Government is low, just 3.5% of the state budget, or 435.3 million USD for 2018 (Ministry of Finance, 2017, p. 25).

Problem analysis

According to UNICEF 2018, Azerbaijan has the highest infant mortality rate in Europe (See Annex 2). Current infant mortality rate is 27.2 deaths in per 1000 live births in the county. Recent news from local and international newspapers, as well as international organizations such as UNICEF, WHO and the European Union (EU) reports demonstrate that the problem

is serious in Azerbaijan, and the Government needs to take preventative measures to address it. As it is shown in Figure 1, even the rate is higher compared to other post-Soviet countries (Commonwealth of Independent States (CIS)[ii]).

Figure 1. Estimated infant mortality rate per 1000 live births



Source: World Health Organization, Regional Office for Europe 2018

Causes of the infant mortality

Analysis indicates that the following direct and indirect factors cause high infant mortality in the country:

Lack of facilities. It is undoubtedly that the Azerbaijan Government has built new hospitals in the country during the oil boom. However, these facilities are not equipped with sufficient technologies, uninterrupted clean water, sanitation facilities, as well as electricity generators to address electricity shortages, particularly in rural areas.

Lack of health care expenditures. Also, the last three-year

budget analysis shows that the share of health expenditure in country's budget is decreasing due to drop in oil price. The current total share of health expenditure in the state budget is 3.5% or 435.3 million USD for 2018 (Ministry of Finance, 2017, p. 25) while the budget allocations for the health expenditure were 455.6 million USD in 2017 (Ministry of Finance, 2016, p. 4). Most of the 2018 budget allocations for the health sector will be spent on maintenance of hospitals, polyclinics and outpatient facilities, as well as salaries of employees in the health sector. Only 1.6% of it or 6.87 million USD will be spent research and other services, while 1.76 million USD will be spent on addressing infant and maternal mortality in the country (Ministry of Finance, 2017, p. 30). It clearly indicates that the budget allocated for health care expenditures in Azerbaijan is low compared to other former Soviet countries. For instance, the government spending on health care was 8.9% in Georgia in 2016 while it was 13.79% in Belarus, 13.2% in Moldova, 11.92% in Kyrgyzstan, 10.9% in Kazakhstan, 9.5% in Russia, and 7% in Armenia in 2015 (World Bank, 2018) (See Annex 3).

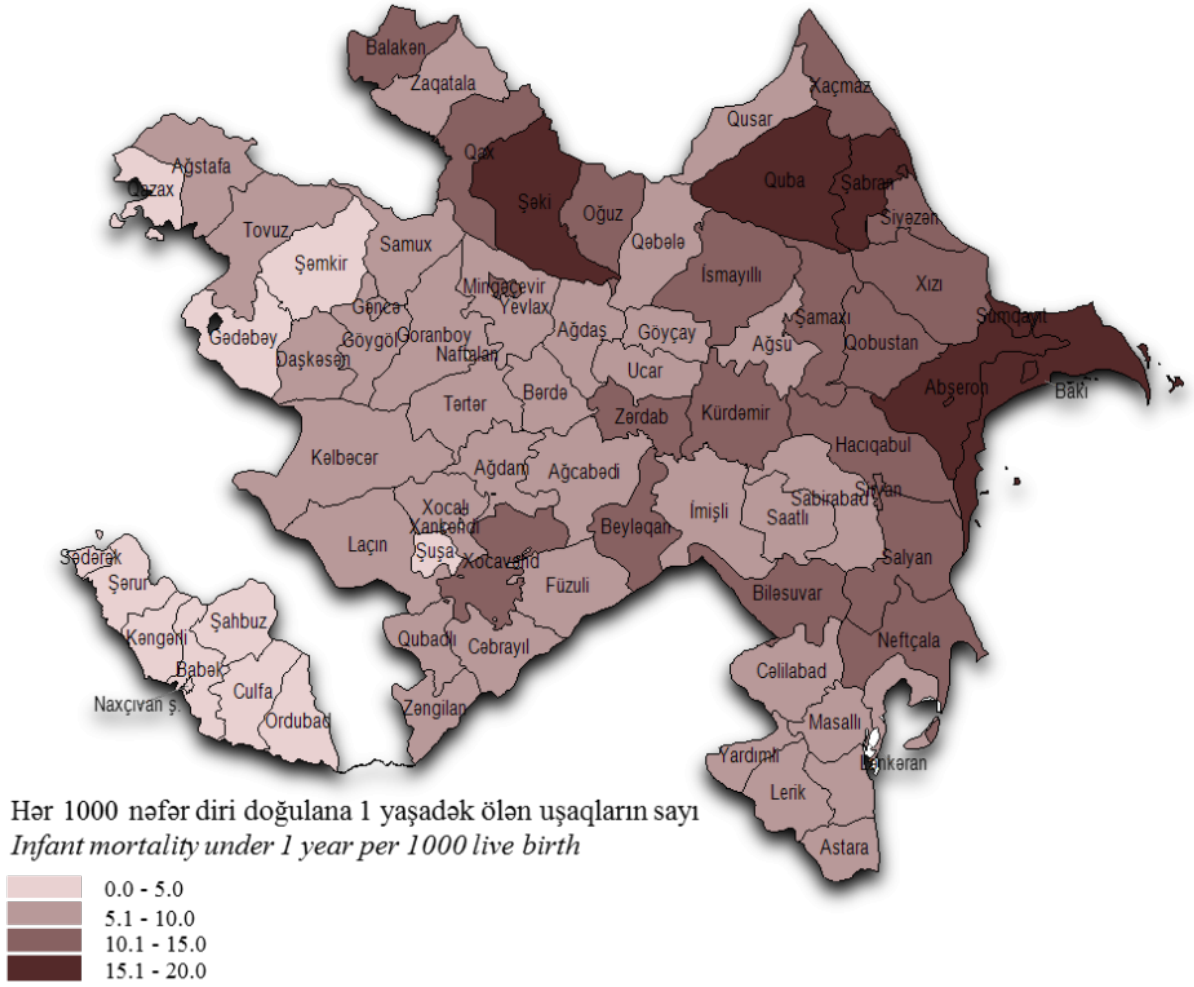
Shortages of midwives and nurses. Shortages of well-trained health workers, nurses and midwives are also other causes of the problem. For instance, the World Bank data indicates that the number of nurses and midwives in Azerbaijan have been decreasing significantly from 8.4 nurses and midwives per 1000 people in 2009 to 6.8 nurses and midwives in 2016 (See Annex 4). Also, the data from United Nations Population Funds (UNPF) shows that in 2012, the number of midwife graduates was 356 in the country while 6% of them or approximately 21 person were practicing in the country (UNPF, 2014).

Lack of quality and awareness. Lack of quality in delivering health services, as well as lack of awareness about pregnancy amongst pregnant women are other factors that contribute to the infant mortality in the country. Analysis indicates that pregnant women do not visit hospitals for a monthly checkup and consulting with the doctor during their pregnancy due to a

lack of knowledge about pregnancy and financial costs (Sputnik, 2017).

Lack of professionalism in caseration section. Also, the analysis shows that infant mortality rate is higher in urban areas than rural areas. As it can be seen below in the map, mostly, the trend is high in the capital city of Baku, Absheron, Guba and Shaki cities. One of the main reasons for high rate in these cities is due to a caesarean section rather than giving birth naturally (Rafigoglu, 2017)

Figure 2. Infant mortality rate in towns and regions of the Republic of Azerbaijan in 2016



Source: The State Statistical Committee of the Republic of Azerbaijan 2017

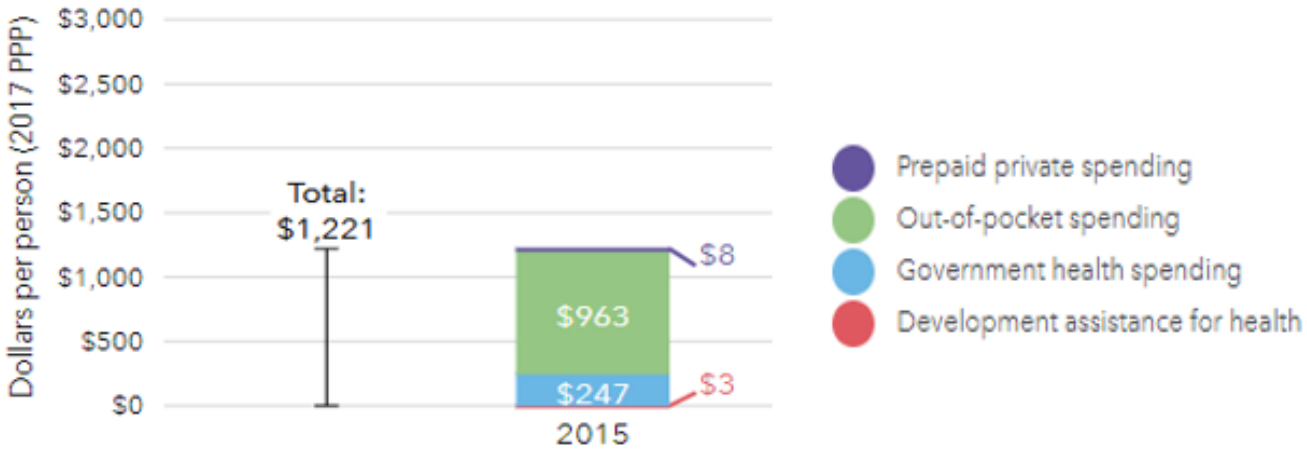
For instance, though the official data is distorted in the country, according to the State Statistical Committee of the

Republic of Azerbaijan, in 2016 number of the children died under one-year age were 1,666, of which 1380 died in the cities and 286 in rural areas (Isabalayeva, 2017).

Less data-based decision-making practices/distorted data collection. Inadequate standards for collecting official data have resulted in an underestimation of the problem the country is facing now. In addition, the distorted government statistics data and lack of data-based policy decision-making in addressing health issues in the country is another factor that contributes the significance of the problem. For example, the official data indicated that there was 9.8 death per 1000 per live births in 2006 while the Azerbaijan Demographic and Health Survey of 2006 is a nationally representative population-based survey conducted based on the internationally accepted methodology and found out that there were 46 deaths per 1000 live births in the country (Ibrahimov et al., 2010, p. 28). The same trend still is continuing in the country. For instance, a recent survey by Azerbaijan National Academy of Sciences approves that Ministry of Health does not register infant mortality cases officially in rural areas or register under a different name (Musavat, 2018).

Financial barriers. Taking into consideration that there is no compulsory health insurance in the country, as it is shown in Figure 3, citizens burden more than 78% health expenditures, – out-of-pocket spending – which create a barrier for low-income families to have access to the health facilities. This, in return, leads to home birth that contributes to the infant mortality as well.

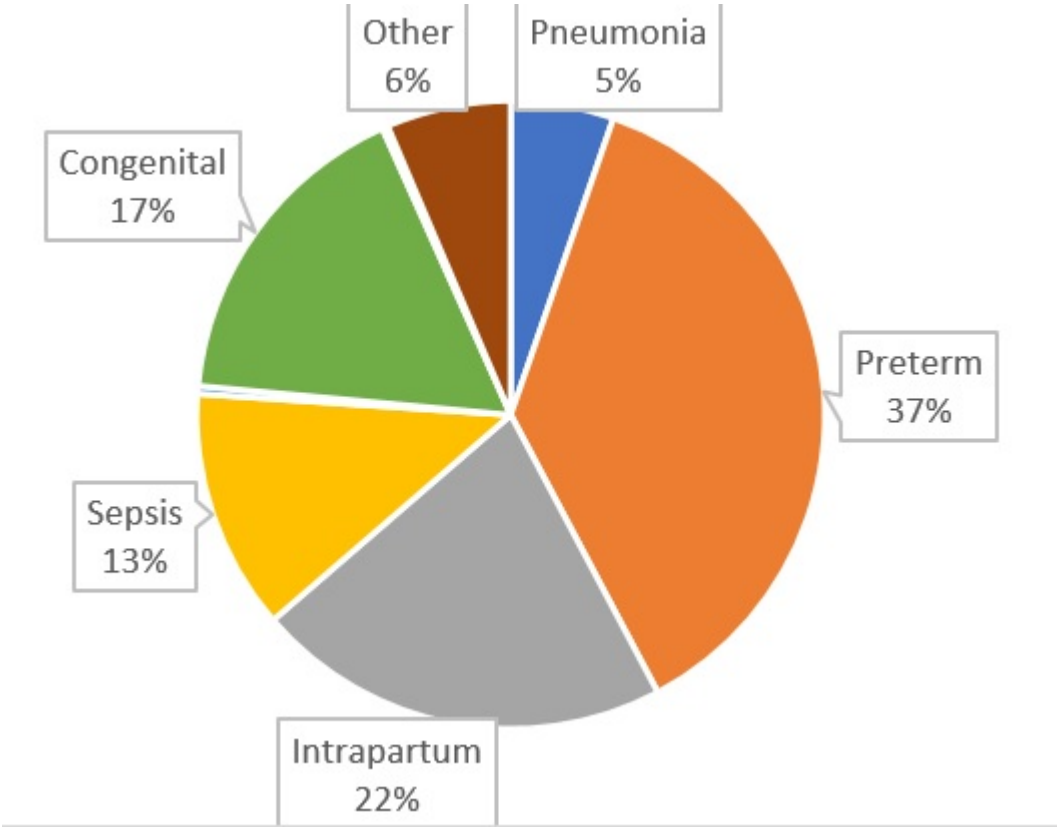
Figure 3. Health expenditures per capita from various sources



Source: Financing Global Health Database 2017

Specific causes. The analysis presents that specific causes of infant mortality are mainly preterm, intrapartum, and congenital. The details are shown in Figure 4.

Figure 4. Percentage of deaths by specific cause among all newborn deaths, 2017

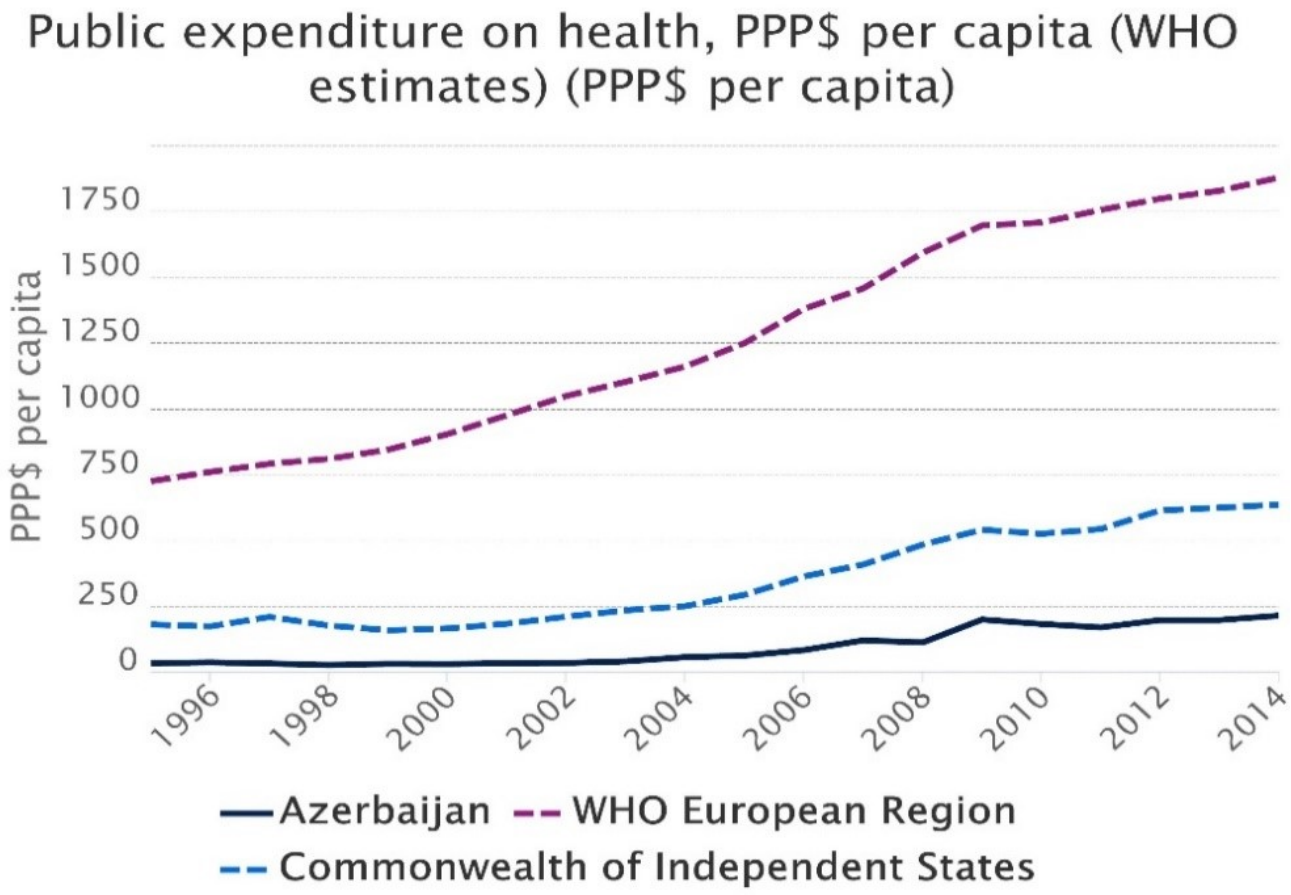


Source: Author calculations based on data from United Nations International Children's Fund 2017

Also, other causes of infant deaths are the respiratory system, congenital anomalies, deformities and chromosomal abuses (Isabalayeva, 2017).

Less per capita expenditure in health care. Analysis of public health expenditure per capita also presents the Azerbaijan Government's health expenditure per capita is too low, 197 USD, while the trend for CIS was 624 USD, and for European region was 1829 USD in 2014.

Figure 5. Public health expenditure on health, PPP$ per capita



Source: World Health Organization, Regional Office for Europe 2018

Other factors. Finally, insufficient level of accessibility to medical services, physician irresponsibility and illiteracy, failure of women to apply to women's counseling in some cases, inaccuracies in quality and timely medical service, and birth at home in remote areas contribute to the high infant mortality rate in the country (Musavat, 2018).

Current Government policy to address the issue

To address the issue, the Azerbaijan Government adopted a "State Program to Improve Health of Mothers and Children" in 2014. The program covers 2014-2020 years, and the main purpose of the state program is to increase the quality of treatment and services provided to women and children to enhance their health. Advancing the quality of medical services and staff training, the quality and effectiveness of medical care provided to children, including newborns and babies, adopting international standards to measure infant mortality rate are part of the state program. Furthermore, the state program also covers an increasing the health education awareness of reproductive health and family planning among the population, especially women and young families (President, 2014).

Recommendations to address the problem

Causes for infant mortality are mostly preventative but these causes cannot be treated by a single drug or policy intervention. However, there are cost-effective and proven interventions exist in the world to address it. Therefore, the Azerbaijan Government should take into consideration the following recommendations to prepare a comprehensive policy to address the issue on multiple fronts in the country:

Investing in women's and children's health. Investing in women's and children's health is a smart investment, particularly care at birth. According to the WHO and the UNICEF recent report, focusing on high coverage of care around the time of birth and special care for sick and small newborns cost additional 1.15 USD per person (UNICEF&WHO, 2017, p. 5). Currently, the Azerbaijan Government is implementing Compulsory Medical Insurance pilot projects in Yevlakh and Mingachevir cities, and the Government is planning to expand Compulsory Medical Insurance system to more than 600 hospitals in 2019 (Qafqazinfo, 2018). It is important to include pregnant women and birth delivery to the insurance system

coverage. Adding pregnancy of women and their birth delivery to Compulsory Medical Insurance coverage system will be able to address financial barriers for women to go to hospitals for the monthly checkup and counseling during pregnancy. For example, Rwanda case study shows that infant mortality rate decreased significantly due to the Government's action in implementing a national insurance scheme that reached to pregnant women. As a result, the infant mortality rate decreased from 41 in 1990 to 17 in 2016 (UNICEF, 2018, p. 14).

Educational/awareness program. It is also important that the Government should have an educational program regarding pregnancy to enlighten young girls and women of pregnancy. The educational program should cover about getting proper nutrition during pregnancy, healthy weight, as well as benefits of monthly checkup and counseling after birth process and breastfeeding. Civil society and media should be involved in this process too. Having the educational program will be able to play a behavioral change program role to increase demand for existing health care centers and change the views of young girls and women about regular checkup and counseling.

Increasing number of trained healthcare workers. There is no doubt that trained doctors, nurses, and midwives provide a great number of services to women during pregnancy, birth and after it. These services include antenatal care, micronutrient supplementation, delivery support, emergency obstetric care, postnatal care and treatment for small and sick newborns, support for early and exclusive breastfeeding, and vaccination. As mentioned in Problem Analysis section there is a lack of midwives and nurses in the country, and their number is 6.8 per 1000 people. However, according to the WHO, in countries with the lowest mortality rate, there are 12 average midwives per 1000 people. In addition, the recent UNICEF report indicates that a number of skilled midwives are strongly correlated with mortality rate. For example, Norway, which has a newborn mortality rate of 2, has 218 skilled health workers per 10,000 people. Brazil, a country which has

an economy that is comparable to Azerbaijan, has a newborn mortality rate of 8 and has 93 healthcare workers per 10,000 people (UNICEF, 2018, p. 21). To address the issue, there is a need to increase the quality of midwifery education system as well as their number in Azerbaijan. Currently, there is only one midwifery vocational education institution in the country, and it is under-equipped. The quality of education in this institution does not meet current challenges either. Currently, the Government is focusing on the vocational education system and building new institutions with the financial support of the European Union, and technical advice of Germany and South Korea. Analysis of ongoing vocational education and training projects shows that the Government is only focusing on electronics and hospitality vocational education system, and there is no project or development program regarding midwifery vocational education system (Ministry of Education, 2017). It is important to **improve midwifery vocational education system.** Government should also focus on midwifery education system and improve the existing institution's technical capacity and change its curricula to address current challenges in the country. Moreover, to increase demand for this education system, the Government should adopt a policy that hospitals should hire certified midwives from this institution. Finally, there is a need to increase skills of cesarean section doctors, as well as nurses, which is one of the causes for infant mortality in urban areas. It is important that improving skills of healthcare workers has been highlighted in the state program. Nevertheless, there is no any clear policy on this issue. Thus, the Government should take its state program seriously and prepare a policy to improve skills of healthcare workers. Short-term exchange programs of healthcare workers to European countries can be useful for them to acquire expertise and knowledge from their counterparts.

Improve health care facilities. There is a need to improve interrupted clean water and sanitation facilities and provide

hospitals, mostly in rural areas, with electricity generators and to address electricity shortages, which cause a great threat to newborn children, including pregnant women in hospitals. In addition, the Government should provide hospitals with drugs and products (See Annex 5 for details) that are essential for addressing infant mortality. Some of these supplies are sophisticated while some of them are simple. To implement this, the Government needs to increase the share of health expenditures in the budget for the next fiscal year and allocate financial sources to address this specific problem. The 2018 budget analysis, particularly health expenditures, shows that budget allocations to address maternal and infant mortality are too low, 3 million AZN or 1.7 million USD (exchange rate as of April 29, 2018 1 AZN=1.70 USD) for 2018 (Ministry of Finance, 2017, p. 31).

Conclusion

It is undeniable that during the oil boom, the Azerbaijan Government has built health centers, hospitals, as well as perinatal hospitals. However, a mere access to these services is not enough. As analysis indicates, there are some gaps in the health system of the country and a lack of awareness about pregnancy amongst young girls and women in the society, which leads to high infant mortality rate. Therefore, it is important that the Government should take into consideration the above mentioned recommendations to fill the gaps in its health care system to address infant mortality.

Successful case studies from developing countries such as Rwanda, Belarus and developed countries such as Japan, Iceland and Singapore demonstrate that factors such as well-resourced health systems, ample numbers of highly skilled health workers, a well-developed infrastructure, readily available clean water and high standards of sanitation and hygiene in health facilities, educational programs about pregnancy, and access to universal healthcare system are more likely contribute to low-rate infant mortality (UNICEF, 2018, pp. 12,

13). Above mentioned recommendations are cost-effective and target only gaps in the health system of Azerbaijan and behavioral changes amongst young girls and women, which lead to higher infant mortality. Taking into consideration that Azerbaijan is rich with its oil-gas revenues, and the oil price has been increasing in the world market (See Annex 6) steadily over the last year, which increases the country's financial resources, allocating extra financial resources for the next fiscal year to address the problem should not be a financial burden for the Government.

[1] According to the World Bank Atlas method upper middle-income countries are those with a GNI per capita between 3,956 USD and 12,235 USD. https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups

[ii] The Commonwealth of Independent States formed when the former Soviet Union totally dissolved in 1991. At its conception it consisted of ten former Soviet Republics: Armenia, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.

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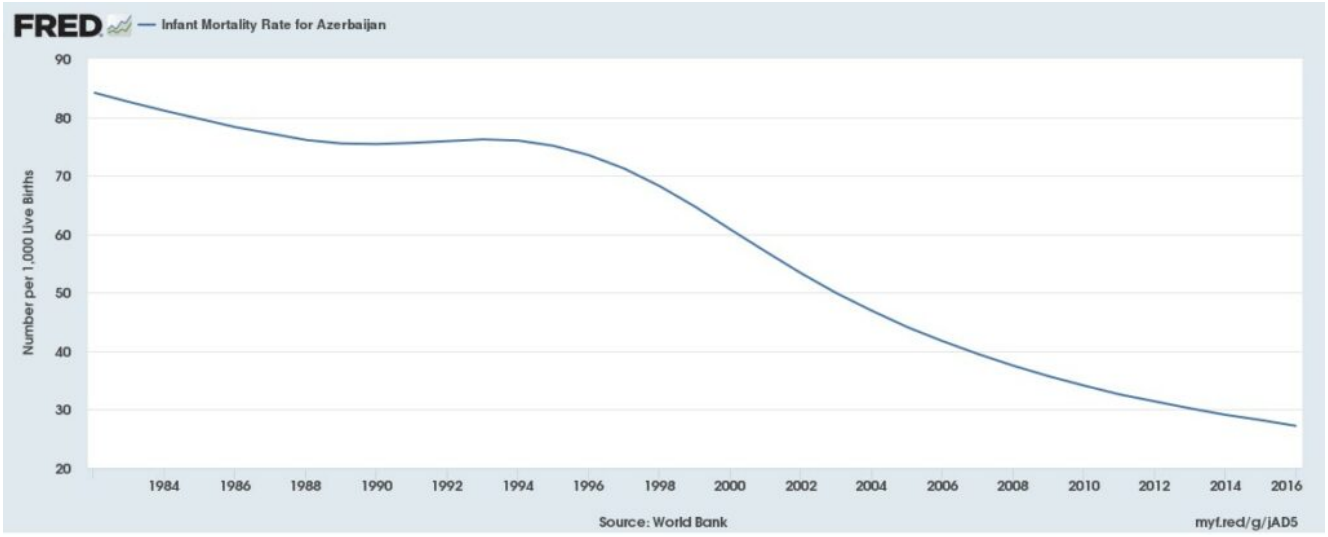
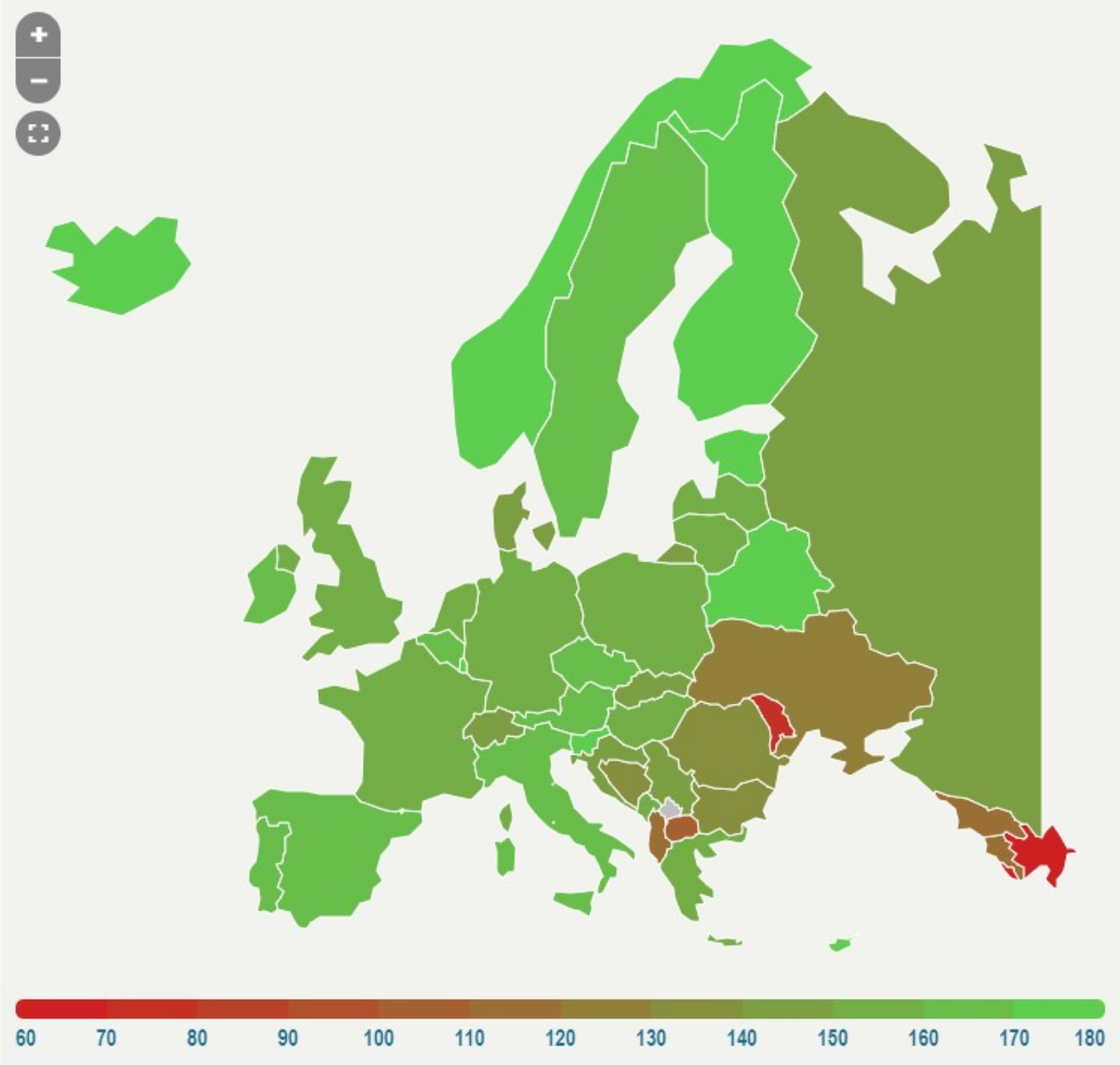
Annexes:

Annex 1: Infant mortality rate

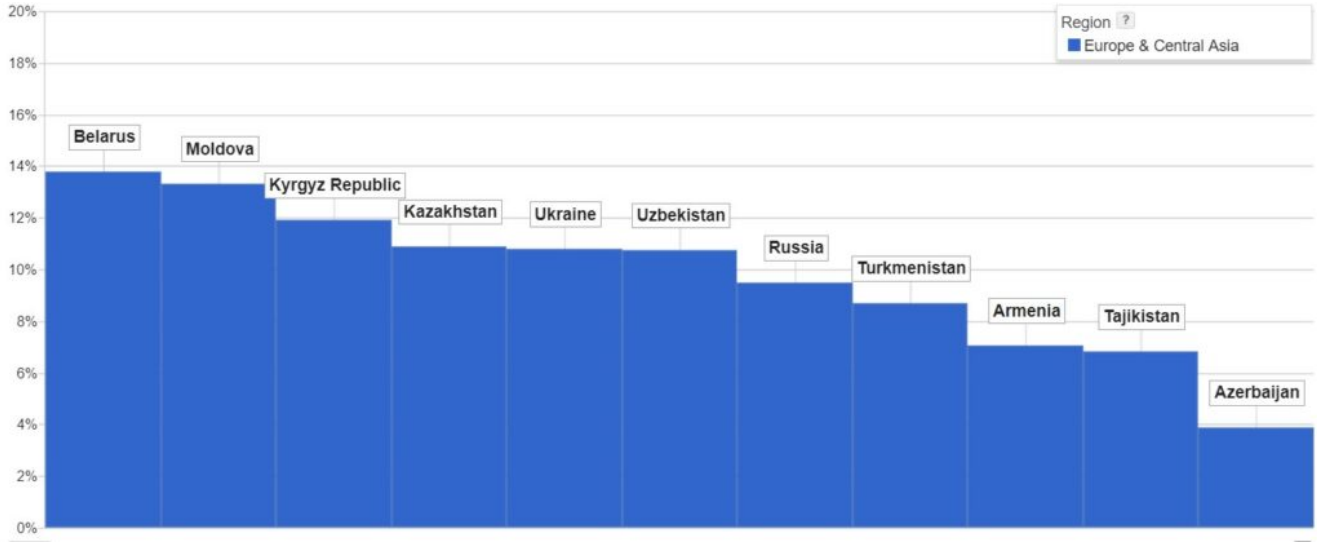


Annex 2: Infant mortality rate in Europe



Source: UNICEF 2018 (Azerbaijan is circled in blue color)

Annex 3: Health expenditure, public (% of government expenditure)



Source: World Bank Data 2018

Annex 4: Nurses and midwives (per 1,000 people)

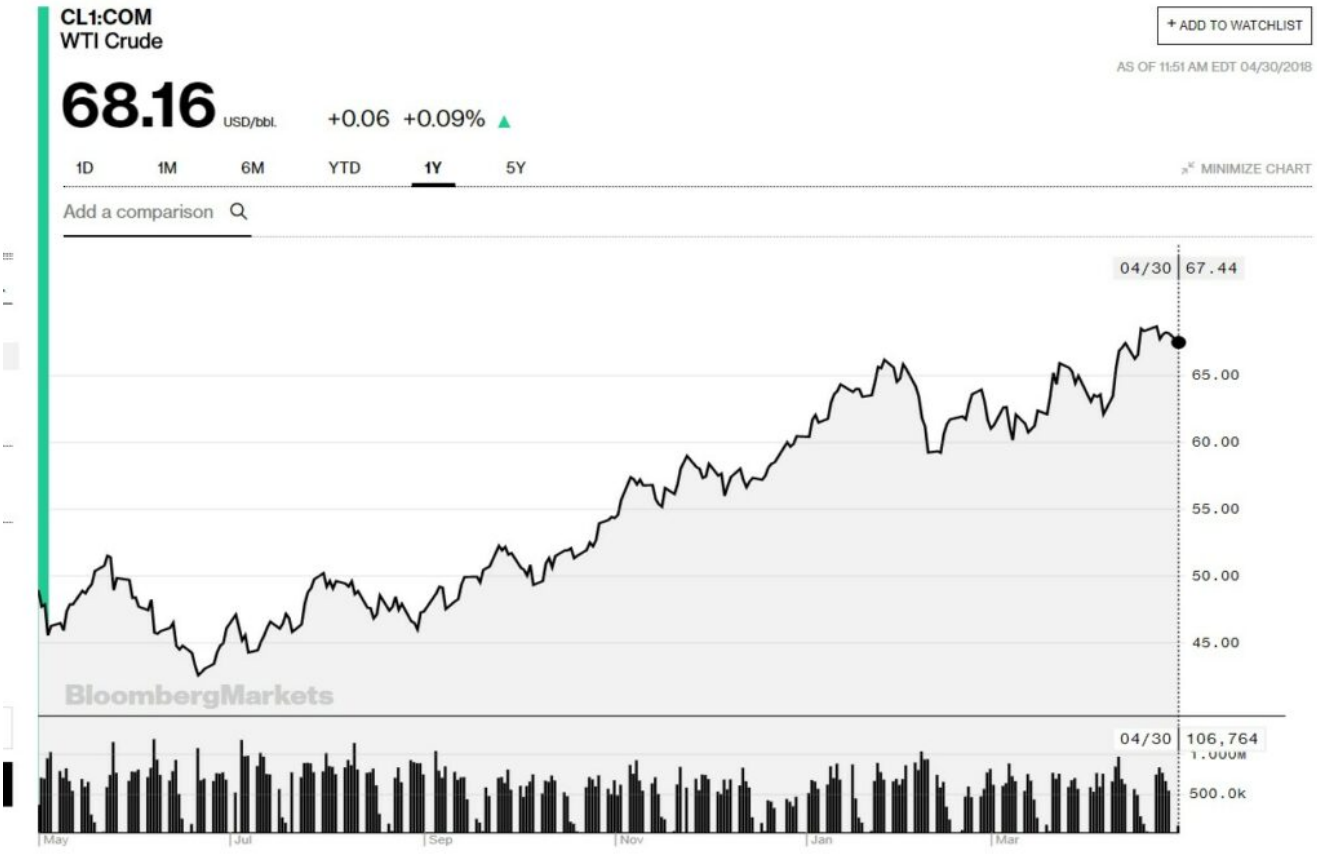
Source: World Bank Data 2018

Annex 5: The 10 most critical products for newborn survival

Ambu-bags, used to manually resuscitate newborns who fail to breathe after birth
Antibiotics to treat mothers and newborns who have infections
Blankets and cloth to keep the baby warm and support skin-to-skin contact, including during breastfeeding
Chlorhexidine, a broad-spectrum antiseptic used to prevent infection of the umbilical cord, which can lead to sepsis
Continuous positive airway pressure (CPAP) machines for premature babies whose underdeveloped lungs make it difficult for them to breathe
Oxygen concentrator equipment, used to help very low-birthweight babies breathe
Phototherapy machines to reduce jaundice in newborns
Micronutrient supplements, especially iron and folic acid to prevent iron deficiency anaemia in pregnant women and reduce the risk of low-birthweight babies and complications at birth
Tetanus toxoid vaccine to prevent tetanus infection, which can result from unhygienic birth conditions
Thermometers, used to closely monitor the temperature of sick newborns

Source: UNICEF, Every Child Alive Report 2018, page 21

Annex 6: Oil price from May 1, 2017 to April 30, 2018



Source: Bloomberg Markets 2018