ARMENIA HEALTH SYSTEM PERFORMANCE ASSESSMENT 2015

Stewardship

Fair Financial Contribution

Responsiveness

Creation of Resources

Service Delivery

Financing

Health Improv

Access to He e Serv

Quality and Safety

Financial Protection

ARMENIA
HEALTH SYSTEM PERFORMANCE ASSESSEMENT
2015

YEREVAN

HEALTH SYSTEM PERFORMANCE ASSESSMENT

ARMENIA

2015

ՀՏԴ 614.2
ԳՄԴ 51.1
Ա 720

Ա 720 Health System Performance Assessment, Armenia 2015/
D. Andreasyan, A. Bazarchyan, L. Bidzyan, A. Torosyan, S. Manukyan, G. Muradyan, A. Chamanyan. National Institute of Health after S. Abdalbekyan, Ministry of Health of Republic of Armenia, 2016, pages 124

The Republic of Armenia Health System Performance Assessment (HSPA) report presents the RA priority health strategies and concepts, health policy programs and legislation, international cooperation frameworks, as well as the RA health human resources availability, breakdown and demand; general health status of the population; most prevalent morbidity and mortality causes; healthy lifestyle challenges; and quality of and financial access to health care services.

This report is designed for health system organizers, health experts, clinicians, as well as other specialists interested and involved in health system issues. HSPA enables mapping the health system performance, thus improving the efficiency and effectiveness of the efforts pursued by the Government of Armenia to strengthen the capacities of the Ministry of Health.

ՀՏԴ 614.2
ԳՄԴ 51.1

ISBN978-9939-1-0321-1
National Institute of Health after S. Abdalbekyan, MoH, RA. 2016

CONTENT

ABBREVIATIONS

AMI	Acute myocardial infarction
AH	Arterial hypertension
AP	Arterial pressure
CerVD	Cerebrovascular disease
CSD	Circulatory system diseases
CIS	Commonwealth of Independent States
CC	Cervical cancer
EU-26	Union of 26 Eastern European countries
EU-27	Union of 27 Western and Central European countries
HFA-DB	European Health for All Database
HPIU	Health Project Implementation Unit
HSPA	Health system performance assessment
HCW	Healthcare worker
HCF	Healthcare facility
IHD	Ischemic heart disease
ICD-10	International statistical classification of diseases and related health problems, 10th revision
NIH	National Institute of Health after Academician S. Abdalbekyan, Ministry of Health of the Republic of Armenia
MoH	Ministry of Health of Republic of Armenia
MTEF	Medium-term expenditure framework
MDGs	Millennium Development Goals
NSS	National Statistical Service of Armenia
NGO	Non-governmental organization
NHIAC	National Health Information Analytical Centre
PHC	Primary healthcare
WHO	World Health Organization
YSMU	Yerevan State Medical University

The Report was prepared by Ms. Diana Andreasyan, Director of the National Health Information Analytical Center, PhD; Mr. Samvel Manukyan, M&E consultant, PhD; Ms. Gayane Muradyan, E-Health specialist of NHIAC IT Unit; Ms. Anna Chamanyan, HSPA specialist of NHIAC Unit; Ms. Arevik Torosyan, HSPA specialist of NHIAC Unit; Ms. Lilit Bidzyan, legal adviser of NHIAC Unit; and Mr. Alexander Bazarchyan, Director of the National Health Information, PhD.

HSPA was drafted with technical and financial support of the Ministry of Health of the Republic of Armenia.

The Armenian HSPA working group expresses their appreciation to the Institute for Political and Sociological Consulting (IPSC), on behalf of Mr. H. Grigoryan for sharing data of the 'Quality of Life Index in Armenia, 2014' survey conducted following the request of the Government , which supported estimations and analysis of HSPA data reflecting public perceptions.

FOREWORD

Improving performance of the healthcare system is among priority goals of the Government of the Republic of Armenia. It not only contributed to population health strengthening and promotion, but is also a key warrant of the country's socioeconomic development.

The Ministry of Health of Armenia, being committed to its engagements and guided by global healthcare and Health 2020 strategy and policy principles, continues the consistent efforts of health system performance assessment by implementing targeted and ongoing reforms to meet the increasing demands of the population.

HSPA is a helpful tool for health sector assessment and analysis. The annual HSPA reports are used to assess implemented reforms and expected outcomes, and are valid arguments for further investments.

Armenia has implemented a number of health reforms over the last years geared at improvement of population health, particularly reduction of the burden of noncommunicable diseases, promotion of healthy lifestyle, healthy family planning and strengthening. Implementation of these programs required coordinated efforts at central and regional levels involving areas like effective management, targeted use of financial resources, improvement of public health services, ongoing improvement of professional qualification of providers, etc.

Armenia is one of the few countries in the European Region that has started this process presenting achievements and gaps of the health system. HSPA is a helpful tool that can be used to collect necessary information to develop health policy and to implement progress monitoring. This is a critical process for which the country is responsible.

Attaching great importance to HSPA the Ministry of Health has institutionalized the process and provides full support to its implementation. HSPA assesses various healthcare aspects and trends and presents achievements and gaps of the system.

This Report will enable revealing health system performance tendencies, which is critical for system monitoring and coordination. Focusing all efforts and attention to improvement of health indicators can result in serious achievements, hence we should strive for improvement of the quality of and access to healthcare services on the one hand, and significant reduction of illegal out-of-pocket payments and elimination of other barriers on the other hand.

The prime goal of HSPA is the study of the population health status as well as detection and control of main risk factors triggering development of most prevalent diseases. Achieving this goal requires use of reliable tools for ongoing evaluations, recording accurate indicators and ensuring strict control, which is highly appreciated by Armenia. Statistical data of this Report were collected from various information sources, official statistical publications and dwell on findings of sample surveys.

Our goal is to develop a clear-cut vision for the RA healthcare system development, defining responsibilities of all stakeholders and detailing cross-sectoral cooperation based on 'responsibility for own health' approach.

Armen Muradyan

Minister of Health of the Republic of Armenia

1. PRIORITIES AND GOALS

Ensuring progress in health system performance is one of the fundamental and priority directions of the Republic of Armenia state policy. Health policy implemented by the Ministry of Health of the Republic of Armenia (MoH) implies ongoing reforms ensuring adequate quality of and access to healthcare services for the population across the country; promotion of healthy lifestyle, early detection and prevention of diseases; their effective diagnosis and treatment; improvement of health financing, organization and management, increased utilization of medical services, improved access to care for vulnerable groups, etc.

Health system reforms in Armenia started in 1999 and are currently underway. State policy is particularly geared at prevention of diseases through creation of conditions for healthy lifestyle.

Priorities include reproductive, maternal and child healthcare, education of healthy generation. Maternal and child care issues enjoy public and state protection.

Efforts are made to make reproductive health services maximally accessible and to ensure their utmost quality.

It is planned to create infrastructures meeting international standards that will help ensuring accurate and timely diagnosis and effective treatment through application of modern scientific methods and approaches. In particular:

- Building an oncology center meeting international standards and modern requirements, and
- Building a hematological center meeting international standards and modern requirements.

On 1st January 2015 Armenia launched the Emergency Cardiac Surgery Program, which guarantees emergency heart surgery for all RA citizens. The goal of this Program is to safe human lives in cases of acute myocardial infarction and clinical indications, by installing one drug-eluting stent. The program has both health and social importance and assumes huge responsibility. So far a total of 1400 human lives were saved within the framework of this program. Moreover, mortality dropped by more than 400 cases for January-June 2014, versus same period 2013.

Armenia plans the following activities in the sphere of healthcare:

- Implementation of a unified/integrated electronic information system,
- Starting modern biotechnology and pharmacy industries,
- Ensuring proper pharmacy activities,
- Modernization of healthcare facilities,
- Implementation of programs on introduction of leading technologies.

The 2014-2025 Strategy Program of Perspective Development sets the following health priorities and objectives to be achieved by 2025:

- Disease prevention, early detection and treatment activities.
- Further improvement and development of PHC in the medium term.
- Adequate access to and quality of key inpatient services, as well as institutional framework and relationships.
- Arrange development and introduction of quality standards for healthcare services.

- ❖ Gradual introduction of evidencebased healthcare standards and patient database management protocols to address quality management issues in the sphere of delivery for healthcare services.
- ❖ Child healthcare promotion and prevention of diseases, including immunization, facilitated access to inpatient care and improved rehabilitation services.
- ❖ Expansion of rehabilitation service network.
- ❖ Improvement of child nutrition, early detection of children with special needs and initiation of early interventions.
- ❖ Ongoing improvement of access to and quality of maternity services and prenatal care.
- ❖ Implementation of programs and activities aimed at improvement of access to drugs and their affordability.

2. NATIONAL STRATEGY FRAMEWORK

Main strategy papers on health system development are as follows:

- ❖ **The Republic of Armenia 2014-2025** Strategy Program of Perspective Development **(SPPD)** (RA Government Decree № 442-N adopted 27 March 2014)

The Program covers four priorities, one of them being the **human capital development**. The latter focuses on improvement of population health indicators through better access, affordability and quality of healthcare services.

- ❖ **Action Plan and List of Activities of the RA Ministry of Health aimed at Ensuring National Security of the Republic of Armenia** (RA Government Decree № 451-N adopted 15 April 2010)

The Program goals are as follows:

- Development of effective and efficient health system.
- Maternal and child health promotion.
- Reduction and in some cases elimination of hazardous and risk factors affecting population health.
- Public health protection through prevention of transmission of communicable diseases, sanitary protection of the country and its state borders.
- Control of most prevalent and high-mortality rate diseases.
- Prioritization of health problems faced by vulnerable population groups, addressing the proble of access to, affordability and quality of medical services, regulation of drug turnover, reduction of financial risks due to deteriorating public health.

- ❖ **Government of Armenia – UN. 2016-2020 Development Assistance Framework** (signed 31 July 2015)

  In the sphere of healthcare the Framework priorities include reproductive age persons', maternal, child and adolescent health promotion, exclusion of mater-to-child transmission of HIV, prevention and control of noncommunicable diseases, as well as promotion of healthy lifestyle.

- **Maternal and Child Health Strategy 2003–2015** (RA Government Decree № 1000-N adopted 8 August 2003)

  The goal is to improve quality control mechanisms for maternal and child health services; ensure ongoing improvement of the quality of delivered services; develop high-quality neonatal and emergency services, as well as early childhood rehabilitation services and intensive care capacities; include community and inpatient components in the Integrated Management of Childhood Illnesses; reduce infant (under1) and under-5 child mortality rate, etc.

- **National Reproductive Health Improvement Program** (RA Government Decree № 29-N adopted 26 July 2007)

  The goal is to improve population sexual and reproductive health through improving public awareness and execution of their rights as regards sexual and reproductive health, thus ensuring healthy sexual development and growth, responsible sexual behavior, to help safely plan family and have wanted children, prevent genital and reproductive system diseases and if needed ensure access to expensive therapy, reduce reproductive and sexual violations and abuse.

- **Child Nutrition Improvement Concept Paper 2015-2020** (RA Government Decree № 40-N adopted 25 September 2014)

  The goal is to ensure implementation of adequate procedures for organization of child nutrition, healthy growth and development of children and reduction of morbidity and mortality rates.

- **National Child and Adolescent Health and Development Strategy 2010-2015** (RA Government Decree № 37-N adopted 10 September 2009)

The Strategy encompasses the following priorities:

- Neonatal health,
- Early childhood health and development, including nutrition and immunization,
- Child development disorders and child disability,
- Health and development of school-aged children and adolescents,
- Mental health,
- Chronic conditions and diseases,
- Injuries and violence,
- Surrounding environment.

- **Child Hospital Care Improvement Strategy 2013–2015** (RA Government Decree № 1694-N adopted 27 December 2012)

  Main goals of the Strategy include achieving the MDG national target for under-5 mortality, at least 1/5 reduction of child mortality, and at least ¼ reduction of infant mortality.

- **National Immunization Program 2010-2015** (RA Government Decree № 46-N adopted 14 January 2010)

The goal of the Program is to reduce RA population morbidity rate due to vaccine-preventable communicable diseases, prevention of cases of death induced by them, and ensuring population immunization against communicable diseases.

❖ **Strategy on Promotion of Healthy Lifestyle and its Implementation Action Plan** (RA Government Decree № 50-N adopted 27 November 2014)

The goal is to develop and enforce legislative and structural mechanisms to promote healthy lifestyle, thus reducing early mortality and morbidity due to noncommunicable diseases and improving mental health of the population.

Main strategies of the Program are:

- Creation of a system for management of healthy lifestyle activities.
- Development of a policy promoting healthy lifestyle and limiting unhealthy diet, improvement of relevant legislation.
- Development of specialized services promoting and supporting healthy lifestyle.
- Inter-agency cooperation aimed at joint efforts promoting healthy lifestyle.
- Promotion of healthy lifestyle through strengthening of adolescent healthcare services.
- Development and implementation of a monitoring system for activities aimed at promotion of healthy lifestyle and restriction of unhealthy diet, boosting cooperation with international and nongovernmental organizations.

❖ **National Strategies on Three of the Most Prevalent Diseases with the Highest Mortality Rate – Circulatory System /Cardiovascular Diseases/, Malignant Neoplasms and Diabetes** (RA Government Decree № 11, adopted 24 March 2011)

- **Cardiovascular Disease Control Strategy**
  The goal is to prevent and/or defer the development of CVDs in all population groups equally, to reduce CVD complications maximally improving well-being and quality of life of the CVD patients and their families, in particular guaranteeing affordible and cost-effective detection and therapy, thus cutting down illegal out-of-pocket payments.
- **Malignant Neoplasm Control Strategy**
  The goal is to reduce the prevalence of malignancies and related disability and mortality rates, to conduct population health preventive screenings by PHC providers, as well as long-term follow-up of risk groups.
- **Diabetes Control Strategy**
  The goal is to prevent and/or defer the development of diabetes among all population groups; to implement best international practices for diabetes prevention, detection and effective management in Armenia in order to reduce the burden of the disease.

❖ **State Tobacco Control Program 2010–2015** (RA Government Decree № 475-N adopted 29 April 2010)

The goal of the Program is to protect people's health from harmful effects of tobacco use and tobacco smoke, as well as from the social, ecological and economic consequences. The main

objective is to consistently reduce the tobacco use prevalence (annually 1,5-2%) through implementation of a target policy for raising the number of quitting and non-smoking people.

- **Strategy for the Control of Most Prevalent Noncommunicable Diseases 2016-2020 (submitted for approval)**

  The goal of the Strategy is to improve population health, reduce NCD-induced morbidity, mortality and disability rates through complex activities implemented at the national, regional and local levels. Among strategic directions are development of obesity and overweight prevention policies, prevention of harmful effects and risk factors contributing to development of most prevalent NCDs (in particular tobacco use, substance abuse, being overweight, obesity, unhealthy diet, extensive use of salt, hypodynamics, arterial hypertension, etc).

  According to Vienna Declaration on Nutrition and Noncommunicable Diseases in the context of the WHO Health 2020, special importance is attached to development of policies on food production, consumption, marketing, accessibility as well as economic tools and educational system to address overweight, obesity and malnutrition issues.

  To regulate aforementioned challenges and achieve defined goals the following papers were developed:

- **Strategy on Mental Health Protection and Improvement in the Republic of Armenia 2014-2019** (RA Government Decree № 15-N adopted 17 April 2014)

  The goal is to development of mental health protection and improvement system and prevention of development of mental health disorders in the population.

  Main principles of the Strategy include:

  - Accessibility of mental health services.
  - Protection of rights of beneficiaries and their families
  - Delivery of community mental health services.
  - Psychosocial rehabilitation of beneficiaries.

- **Concept Paper on Delivery of Alternative Care and Social Services to Persons with Mental Health Disorders** (RA Government Decree № 17 adopted 2 May 2013)

  The goal of the Concept Paper is to render alternative services to persons with mental health disorders. The Paper presents current welfare system fro the standpoint of mental health services, the rationale for new alternative services or further development of current services. Based on international best practices, the paper recommends models acceptable for Armenia.

- **Action Plan 2013-2017 for the implementation of the Concept Paper on Delivery of Alternative Care and Social Services to Persons with Mental Health Disorders** (RA Government protocol decree № 36 adopted 13 September 2013)

Below is the list of activities envisaged by the Action Plan

- Study and analysis of legal acts regulating delivery of community-based wellfare and health services to persons with mental health issues, as well as their adjustment in accordance with provisions of the UN Convention on the Rights of Persons with Disabilities.

- Development of methodology on delivery of social services and care to persons with mental health issues, according to diagnosis, current situation and the severity of the condition. Also, launching an electronic database is envisaged.
- Development of standards of alternative service-delivery based on the methodology on delivery of social services and care to persons with mental health issues.
- Drafting of a pilot project on delivery of community services to persons with mental health issues, and implementation of other activities.

❖ **National Program on Combating Human Trafficking in the RA in 2013-2015** (RA Government Decree № 186-N adopted 28 February 2013)

The Program is aimed at effective organization of activities against human trafficking through improvement of law enforcement, prevention, protection and support of victims of human trafficking, conduct of surveys and monitoring and evaluation.

❖ **National Program on Donating Human Blood and Blood Components and Transfusion Medical Assistance for 2012-2017** (RA Government Decree № 8 adopted 1 March 2012)
The Program aims at ensuring adequate quantities of blood, blood components and preparation stored in the country through on-site blood collections (in educational institutions, workplaces, settlements where there are no blood service units), establishment of new blood service units in Marzes where these are non-existent, as well as continuous advocacy for blood donation.

❖ **National Infectious Disease Vector Control Program 2014-2018** (RA Government Decree № 22 adopted 29 April 2014)
The Program aims at preventing transmission of infectious diseases though vector control and limiting penetration into the territory of Armenia.

❖ **National Tuberculosis Control Program 2007–2015** (RA Government Decree № 52 adopted 28 December 2006)

The objective of the Program is to improve the TB epidemic situation through reduction of TB morbidity and mortality, as well as the prevalence of its resistant strains. Implementation of the program is expected to provide for efficiency and effectiveness of diagnoses, treatment, other medical and organizational measures, as well as to directly impact the epidemic situation.

❖ **National Program on Response to HIV Epidemic 2013-2016** (RA Government Decree № 232-N adopted 7 March 2013)

The Program aims at effective provision of HIV/AIDS-response measures. The objectives are reducing HIV epidemic transmission, as well as HIV/AIDS morbidity and mortality rates. Main directions include:

- Development of effective interagency HIV/AIDS response,
- Prevention of HIV epidemic,
- Treatment, care and support,
- Monitoring and evaluation,
- Management, coordination and cooperation,
- Financing and collection of financial resources.

- **State Program on Prevention of Malaria Importation and Development in Armenia 2011-2015** (RA Government Decree № 23 adopted 17 June 2011)

  The Program aims at preventing development of malaria in Armenia (emergency situations), improvement of surveillance system, ongoing monitoring and strengthening of the management system.

- **RA National Action Plan on Environmental Hygiene** (RA Government Decree № 1204-N adopted 1 August 2002)

  The Plan was drafted by the Ministry of Health in close cooperation with the Ministry of Environmental Protection and active participation of the WHO Euro and UNDP Armenia office. The goal is to identify environmental factors affecting population health in Armenia, to define the challenges and priorities and to recommend actions to reduce and/or prevent the negative impact.

- **Concept of Financing Medical Assistance and Services Guaranteed by the State Free of Charge or at Preferential Terms** (RA Government Decree № 21 adopted 29 May 2013)

  The Concept aims at establishing current principles of public health financing in Armenia, defining new methods of planning and allocation of budget funds to the sector, outlining main directions of improving efficiency of expenditures and introducing effective financing mechanisms of public guarantees in population health management.

- **Program on State Control of Health Sector and Addressing of Drug Policy Issues** (RA Government Decree № 42-N adopted 18 October 2012)

The Program sets the following problems requiring resolution in this area:

- Poor state control mechanisms and structures.
- Inefficiency of the centralized drug procurement system,
- Inefficient public procurement processes at medical institutions with public ownership.
- Imperfect and complicated mechanisms for registration of medicaments and biologically active food supplements.
- Poor capacities of the Scientific Centre of Drug and Medical Technology SNCO to perform fast, high-quality expertise and identification.
- Problems related to the physical access to drugs due to absence of their re-registration mechanisms.
- Underdeveloped safety and quality assurance mechanisms throughout all phases of drug turnover.
- Low efficiency of tools for control of the circulation of expired or non-registered drugs utilization in retail and wholesale markets.

- **PHC Development Concept** (RA Government Decree № 29 adopted 19 July 2012)
  The Concept goal is to improve the quality and effectiveness of outpatient services and to promote introduction of family medicine in urban polyclinics. This concept implies drafting of

business plans for all PHC settings taking into consideration their specifics and involving territorial administration and local government representatives in the process.

❖ **Health Financing and Primary Health Care Development Program** (24 February 1998)

The Program was launched in 1998 within the framework of the RA Government and the World Bank loan agreement. The goal is to improve health system effectiveness, performance and accessibility. It was comprised of two main components:

1) Strengthening of PHC system, and
2) Strengthening of health financing system.

Within the framework of the first WB-supported project **(1998-2003)** micro-projects were implemented in 81 communities, in particular local ambulatories were repaired and reconstructed, and modern and well-equipped ambulances were provided. Guidelines for family doctors (127) and family nurses (56) were developed, printed out and distributed.

The WB-financed Health Systems Modernization Project (HSMP) was a two phase Adaptable Lending Program (APL) with a lifetime of approximately ten years. The rationale behind the HSMP was to support the reform of the health sector in Armenia in the three main areas: (i) development of primary health care, (ii) hospital optimization and modernization, (iii) and strengthening of the government institutional capacities.

The first phase (ALP 1, loan agreement # 3920-AM and PHRD grant agreement # 053436 TF) started in December 2004 and closed in June 2010.

The second phase (ALP 2, loan agreement # 4267-AM) of the project started in June 2007 and is ended in December 2012.

An on-going additional financing to ALP2 (loan agreement # 7987-AM) activity was approved by WB executive directors 21 December 2010. The aim of the additional financing to APL 2 project is to

(i) facilitate transition to family medicine based on PHC and complete the marz hospital modernization process, and (ii) facilitate further institutional strengthening of the system.

For detailed information on the project activities see the MoH PIU website.

The following activities were implemented under the **second phase (No 4276) of the Armenia Healthcare System Modernization Project 2008-2012**.

1) Armavir MC (Armavir marz), Ararat MC (Ararat marz) and Aparan MC (Aragatsotn marz) were renovated.
2) Goris MC (Syunik marz) was renovated and a new attachment-building was constructed.
3) Gavar MC (Gegharkunik marz) was renovated and a new attachment building was constructed to meet modern requirements of a medical center.
4) All above MCs were equipped with modern medical devices, furniture and accessories. A new MC was built in Gyumri (Shirak marz) which opened its doors on 4 September 2012.

Below are the activities implemented under the **on-going additional financing to ALP2 (No 7987-AM)**

- The Aparan MC morgue building was fully renovated.
- Infectious disease building of Gavar MC was renovated and a new morgue was build,

- Gyumri MC was equipped with modern medical devices, furniture and accessories.

The following activities were implemented under the **on-going additional financing to ALP2 (No 7987-AM)**

- During 2012-2014 Kapan MC (Syunik marz) was renovated and a new building was erected for Meghri regional medical center.
- Berd MC (Tavoush marz), the building of the polyclinic Alaverdi MC (Lori marz) and Abovyan hospital (Kotayk marz) were renovated.

❖ WB-financed **Disease Prevention and Control** Project (Decree of Minister of Health № 1759-A adopted 21 July 2014)

The goal of the Project is to improve (i) the quality of and access to MCH services; (ii) prevention, early detection, and management of selected non-communicable diseases at the PHC level; and (ii) the efficiency and quality of healthcare services. Within the framework of the Project NCD (hepatitis, diabetes, cervical cancer) mass screenings will be conducted for risk groups aimed at their early detection and control. The Project commenced in 2013 and will close-up in December 2019.

Detailed information on Project components and progress is available in the MoH HPIU website.

The aforementioned state programs, projects and strategies are presented in Annex 1.

3. BUDGET FRAMEWORK OF MAIN POLICY PROGRAMS

The structure of public expenditures in health sector is projected to change in future. If 35-40% of sector expenditures are earmarked for primary healthcare services in the coming year, the priority will be given to hospital services starting 2018 by allocating 65% of total sector budget to the latter. Gradually, capital expenditures will decrease: 9-12% will be allocated to capital expenditures in the medium-term, while starting from 2018 - 7-10%. Financial plans are set per following priority areas defined for the medium-term:

1. Hygiene and epidemic safety of population.
2. Primary Healthcare of population.
3. Mother and child healthcare.
4. Medical services for special diseases and diseases with social dependence.
5. Provision of drugs to the population free-of-charge and on preferential terms .

1. Hygiene and epidemic safety of population

The main goals of Hygiene and Epidemic Safety of Population Policy are as follows:

- Exclusion of harmful and hazardous environmental impacts on humans, provision of favorable conditions for the life of humans and future generations.
- Further development and drafting of an integrated state policy on public health and hygiene and epidemic safety provision.
- Reduction of morbidity due to communicable diseases, prevention of mortality cases by these illnesses and immunization of population against infectious diseases.

- Prevention of import of communicable diseases into the territory of Armenia.
- Improve effectiveness of identification, investigation and research activities of communicable diseases' occurrence and causes and conditions for their transmission.
- Increase of public financing of the sector, especially in allocations to procurement of vaccines. The latter is determined by the commitment of the Government to GAVI (Global Alliance for Vaccines and Immunization) to ensure annual increases in purchases of newly-introduced vaccines. For instance, AMD 1.3 bln is allocated to procurement of vaccines in 2017 against AMD 0.5 bln in 2013 (vaccines are procured under National Immunization program).
- Continuous increase is projected in public expenditures on Sanitary-Hygiene Safety and Public Healthcare Services: AMD 4.2 bln is earmarked for this program in 2017 which is AMD 1.9 bln higher than expenditures in 2013

2. Primary healthcare of population

The beneficiary of PHC services is the entire population of Armenia. The PHC subsector includes medical assistance and services delivered at outpatient settings, namely,

- primary healthcare, disease prevention, medical assistance and continuous treatment,
- organization of hospitalization of patients when necessary,
- implementation of laboratory and tool diagnostic examinations per medical indications,
- provision of narrow specialization medical assistance in ambulatories, polyclinics and dispensaries,
- home visits,
- provision of drugs free-of-charge or at preferential terms to eligible population groups upon prescription of a family doctor, district therapist (pediatrician) and, for special diseases, relevant specialist.

Healthcare services of the social package

Organization and financing of state-guaranteed free healthcare services delivered to the beneficiaries under the social package, the social package of said services, the order of issuance of the Certificate of free healthcare services for social package beneficiaries, as well as development and management of the electronic database ensuring access to health package was approved by the RA Government Decree № 375-N of 27 March 2014.

According to this Decree the package of healthcare services and care delivered to beneficiaries includes:

1. Inpatient (therapy and surgery) care (see *exceptions* below), including below services, which are approved by the Decree of the Minister of Health; are delivered using modern and expensive technologies; and are included in standards of medical services:

a. Neurosurgical, including endovascular management of cerebrovascular diseases (including the cost of microcatherer, microspiral or ONYX),

b. Cardiac surgery and intravascular interventions (in fact financing of the placement of coronary stents includes the cost of both drug-coated and not drug-coated stents), including cardiac valve prostheses (grafting of cardiac pacemaker),

c. Placement of vena cava filter,

d. Scleroplasty and keratoplasty,

e. The cost metal constructions during trauma surgeries,

f. Lithotripsy (remote, percutaneous, uretherorenoscopy),

2. Outpatient management, medical assistance and care of **injuries** (fracture, dislocation, soft-tissue injuries, contusion, etc) in hospitals.

*Below are the **exceptions** for remuneration of medical assistance and care delivered to beneficiaries under the social package.*

- Outpatient medical assistance and care, including dental services,
- TB, mental health and drug-addictions, STIs, inpatient examination of individuals of preconscription and conscription age, oncology-related chemotherapy, rehabilitation (including resort health recovery), haemodialysis due to chronic kidney failure, obstetrical (maternity, gestation pathologies), HIV/AIDS medical assistance and care,
- Physiotherapeutic interventions and therapy,
- Examinations and treatment related to reproductive function and erectile dysfunction, dysmenorrhea, conservative contraceptive interventions, including IUD placement and removal, other contraceptives,
- Prosthesis of limbs and segments thereof,
- Prosthesis, endoprosthesis, medical devices, implants, audio and video devices, as well as other regulatory medical appliances (the exceptions do not apply to cardiac surgeries and intravascular interventions),
- Treatment of the following diseases: chronic conditions requiring permanent non-surgical, conservative therapy and long-term follow-up (except for severe cases/complications when the condition becomes life-threatening and requires emergency hospital care), including congenital anomalies, development abnormalities, other anatomic specifics, pediatric cerebral paralysis, periodic disease, epilepsy, diabetes, pulmonary emphysema, pneumosclerosis, spinal disc disorders, degenerative-dystrophic changes in the vertebral column, osteochondrosis, systemic autoimmune and connective tissue diseases, liver failure, chronic viral diseases (including viral hepatitis), chronic bacterial infections, chronic parasitic infections.

Beneficiaries, who according to **Government Decree No 318 of 4 March 2004** are entitled to state-guaranteed free and discounted medical assistance and care, can enjoy the services not financed under the social package. These services are financed under relevant projects of the 'Health' section of the state budget.

Following the **Government Decree № 1483-N of 25 December 2014** amendments and additions were made to Government Decree № 1691-N of 27 December 2012 and № 375-N of 27 March 2014, which resulted in below changes to the aforementioned package valid from 1st January 2015:

1) The scope of annual mandatory preventive medical examinations of the social package beneficiaries was approved.

2) Beneficiaries of the social package were given an opportunity, upon medical indications, to utilize special and difficult-to-access diagnostic tests at outpatient settings, as defined by the Decree No 53 of the Minister of Health, issued 20 September 2013. In fact, some tests (magnetic resonance imaging, computed tomography, angiography computed tomography, coronarography, cerebral angiography) are performed on co-payment basis.
3) Beneficiaries of the social package were given an opportunity to spend annually 72 thousand drams from their social package on acquisition of the following healthcare services to be financed by insurance companies:

a. ***For beneficiaries of the social package*** minimum package of additional health insurance services,

b. ***For families of beneficiaries of the social package*** minimum base package of health insurance.

In fact, beneficiaries of the social package can receive the above-mentioned packages from those insurance companies chosen by the beneficiary, whose templates of offered health insurance packages were approved by the Ministry of Health and placed in its official website, 'Social Package' section in Services Folder. If necessary, the beneficiary may additionally pay the difference between the package defined by the insurance company and the social package amount due to the beneficiary.

3. Maternal and child healthcare

Maternal and child healthcare has always been and will remain state priority. Health policy in the medium and long terms will be mostly directed at the achievement of the following goals:

- Improvement of access to and quality of medical services rendered to women and children.
- Provision of measures in adequate volumes, together with disease prevention, in medical service to children aimed at reducing child morbidity and mortality rates.
- Special focus on moternity issues, ensuring access to quality childbirth services aimed at reduction of maternal and perinatal morbidity and mortality, as well as improvement of reproductive health.

Financing of this sub-sector will continue to grow. Public expenditures on ambulatory obstetrician and gynecological medical services will grow by 56% between 2013 and 2017. Expenditures on hospital obstetrical services will increase by 14% during the same period. The projected increase in expenditures on medical services for children is relatively high - 16%.

In the medium-term, special importance will be given to the increased coverage of women in screenings (more than 50% increase is projected). To that end, the screening research program started in January, 2015 and involved free-of-charge medical observations for early diagnosis and prevention of more widespread noncommunicable diseases (hypertension, diabetes, cervical cancer). The activity is included in the WB-financed Prevention and Control of Noncommunicable Diseases Project.

4. Medical Services for Special Diseases and Diseases with Social Dependence

The main objective of public policy in this regard is the prevention of expansion of noncommunicable diseases (cardiovascular, diabetes and malignant neoplasm), diseases with high risks for the population (malaria, tuberculosis and HIV/AIDS), early diagnosis thereof and improvement in treatment efficiency. In 2015 'Emergency Cardio Surgeries' Project was implemented with public budget financing. The program enrolls citizens who are not included in any of social groups entitled to free-of-charge invasive heart operations.

Delivery of Specialized Hospital Medical Services to Vulnerable Groups and Individuals in Special Groups

The main goal is to improve access to medical services for vulnerable groups, and to ensure their quality medical assistance in general type and specialized hospitals and departments. The program implies medical assistance and other services to socially vulnerable groups, except for cosmetology, organ and tissue grafting and expensive dental services.

5. Provision of Free-of-charge and Discounted Drugs to the Population

The Program provides for centralized procurement of drugs. In particular, within the framework of the Program, drugs will be procured for patients with psycitropic drug needs, those with malignancies, diabetes types I and II, epilepsy, periodic disease, and patients after kidney transplantation.

Special importance is given to the organization of state control of the medicine quality in all stages of their circulation, full provision of drugs to eligible groups free-of-charge or at preferential terms (in terms of nominal and quantity aspects of drugs included in the list).

The medium-term policy will be ensuring continuity of this program.

4. INTERNATIONAL FRAMEWORK

European Union

The Armenia - EU cooperation key goals and priorities are set in two basic documents: the 2007-2013 Country Strategy Paper (CSP) for Armenia and the 2011-2013 National Indicative programs for European Neighborhood and Partnership Instrument (ENPI).

The CSP was elaborated by the European Commission and presents political, social and environmental situation in Armenia. The paper sets comprehensive goals of cooperation, policy activities and priority areas. The program was prepared in close cooperation with Armenian agencies and departments and is implemented by the European Neighborhood Policy Armenia Action Plan and Eastern Partnership programs ENP Action Plan.

Within the framework of the program the MoH has made efforts for the implementation of measures in health sector: They are as follows:

- Studies of best practice in EU in areas related to improvement of healthcare in Armenia.

- Ensuring implementation of legal and institutional reforms in the sector based on the EU member countries' experience.
- Development of a laboratory system and reference laboratory centre.
- Identification of problems relating to the gender-based abortions and improvement of public awareness.
- Introduction of antimicrobial resistance surveillance system.

European Council

Armenia joined the EC Convention on Fighting Human Trafficking, which sets the following:

- Take various measures to fight human, particularly women and child, trafficking,
- Recruit trained and qualified personnel in relevant bodies and ensure cooperation between various agencies in the field,
- Protect personal life and identity of trafficking victims and implement measures to support physical, psychological and social rehabilitation of the victims.

World Health Organization (WHO)

The WHO is an intergovernmental organization belonging to the UN system. Armenia joined the WHO in 1994.

Within the framework of cooperation the following priorities projects were set: ongoing improvement of maternal and child healthcare, reduction of mortality rate, integrated epidemiological surveillance, creation of a general public health system, implementation of drug rational use system, quality assurance and control, creation of a sustainable and effective health financing system, further development of primary healthcare system.

In addition, WHO helps drafting health policy papers by providing valuable technical assistance.

UNICEF Projects

A biannual Action Plan was signed for 2014-2015U uder the 5-year cooperation strategic document signed between UNICEF and Government of Armenia. A Child and Adolescent Health and Development Program was implemented covering neonatal care, immunization, early childhood healthcare, adolescent health and access to nutrition and quality.

UNICEF assists the MoH in drafting MCH strategies, procuring necessary equipments and implementing the Child Health Certificate Program.

The World Bank (WB)

The RA Government- World Bank cooperation started in 1997. Various projects were implemented with joint efforts aimed at improvement of the effectiveness of health system performance and access to healthcare services.

During the reference period WB supported to build 5 regional ambulatories and repair one ambulatory. Currently the Medzamor MC policlinic (Armavir marz) is renovated. In addition, 21 marz ambulatories were equipped with necessary furniture.

Commonwealth of Independent States (CIS)

Armenia has actively participated in the sessions of CIS health commissions, held discussions on key directions for Armenia, and has signed a number of regulatory papers on resolution of common problems.

United States of America (USA)

Cooperation with USA dwells on the Health and Social Reform Assistance Agreement signed between the RA Government and the United States Agency for International Development (USAID) on 6 August 2010, as well as the Cooperation Agreement of 28 September 2013. The goal is to support the country to improve ambulatory TB control, delivery of MCH and emergency medical care services as well as other health issues.

The USAID-supported 'Improved Emergency Medical Care Services' Project launched as part of the two-year grant agreement signed on 19 January 2012, was successfully implemented in the country. The goal was to enhance public awareness of emergency medical care services; resource planning and management; improve Armenia's Emergency Care Service staff skills, as well as the capacity to monitor emergency care services.

During the reference period, as was in the past, a number of working meetings and trainings were arranged by the US Department of Defense Threat Reduction Office and the RA MoH experts.

Russian Federation (RF)

Cooperation with RF is based on a number of Agreements and Memoranda signed between the Ministries of Health of Russia and Armenia, such as:

- Agreement on Cooperation in Health and Medical Sciences, signed on 25 September 2000,
- Memorandum of Understanding, signed on 13 September 2010,
- Agreement on Mutual Recognition of Certification Results, signed on 2 July 2002,
- Agreement on Influenza Pandemic Preparedness and Cooperation in Avian Flu Monitoring and the attached Administrative Contract, signed in Yerevan on 18 March 2008 between the RF Federal Service for Supervision of Consumer Rights Protection and Human Well-Being and the RA MoH .

On May 12-13 2014 the MoH delegation participates in the 4th Easter Europe and Central Asia AIDS Conference, held in Moscow. The parties discussed activities implemented and envisaged within the framework of 'MOU on Cooperation in Control of Communicable Diseases' signed between Rospotrebnadzor and MoH, as well as the HIV/AIDS response policy. As a result Armenia acquired Hepatitis A vaccine.

On 7 November 2014 Armenia hosted the Armenian-Russian Health Conference. MoU-s were signed between the two states regulating cooperation in drug policy, continuing medical development, telemedicine and e-health. In addition, the RA and RF Health Chambers signed cooperation agreements.

Within the framework of WHO ministerial conference held on 21-22 October 2015 in Minsk, Belarus, the Armenian Health Minister Dr. Armen Muradyan and the WHO Regional Director for

Europe Ms Zsuzsanna Jakab signed a Joint Framework Agreement defining cooperation and the directions for joint operations between the two structures for the period of 2016-2017.

The Agreement envisages to continue cooperation in immunization, national TB program, mental health reforms, building public health capacities, setting a system for study and control of risk factors of noncommunicable diseases, maternal and child healthcare, enforcement of International Health Regulations, and other directions.

The Armenian-Russian Health Conference, held on 10 November 2015 at the Research Center for Obstetrics, Gynecology and Perinatology after V. Kulakov, was attended by the Armenian Health Minister Dr. Armen Muradyan and Russian Health Minister Dr. Veronica Skvortsova, who conducted a detailed discussion of cooperation opportunities and outlined future steps for the improvement of population health in both countries.

This large-scale event once again brought together the key healthcare figures of the two countries, this time focusing on public health, healthy lifestyle, continuing professional development, nosocomial infection control, quality of healthcare, and pending health reforms.

During the plenary sessions lead specialists of Armenia and Russia discussed a number of critical health issues, including maternal and child healthcare, drug circulation, health reforms, ways of control of noncommunicable diseases, financial mechanisms, implementation of information technologies and e-health system. The Conference participants also reflected on substance abuse control activities as well as e-health and telemedicine.

At the end of the Conference the two countries signed a MOU on cooperation in public health.

Good cooperation is evident also in medical sciences and building human resources. During the reference period RF supported in arranging training and upgrading of a number of Armenian medical specialists, particularly pediatricians, anesthesiologists and reanimatologists at the leading clinics of Russia, sharing with them research and operational knowhow in reduction of infant, child and maternal mortality, based on best Russian practices and achievements.

5. LEGAL FRAMEWORK

Legal regulation of health sector includes a large number of law and by-laws. The most important ones are summarized below:

Constitution of the RA (with amendments) (adopted 5 May 1995 based on RA referendum, amended 27 November 2005, based on RA referendum)

Article 31.1. The state shall protect the interests of consumers, take measures prescribed by the law to exercise quality control over goods, services and works.

Article 37. Everyone shall have the right to social security during old age, disability, loss of bread-winner, unemployment and other cases prescribed by the law. The extent and forms of social security shall be prescribed by the law.

Article 38. Everybody has the right to receive medical assistance and service as determined by the legislation. Every person has the right to receive main medical services free of charge. The list thereof and methods of provision are determined by the law.

Article 48.4. The basic tasks of the state in the economic, social and cultural spheres are:

- to protect and patronage the family, the motherhood and the childhood,
- to implement health care programs for the population and contribute to the effective and affordable medical service for the population;
- to carry out a policy of preventive care, treatment and integration of the handicapped.

Law on Medical Assistance and Service to the Population (adopted 4 March 1996**)**

It defines the legal, economic and financial bases for the organization of medical assistance and services in order to ensure the realization of constitutional rights to protect one's health. Main types of medical assistance and services are: primary medical assistance and specialized medical assistance. The first one is a type of medical assistance and service based on more affordable methods and technologies which is guaranteed by the state free of charge, while the second is a type of medical assistance and services that base on diagnosis and special medical methods and complex medical technologies.

Law on Population Protection in Emergency Situations (adopted 2 December 1998)

It defines the bases and organization of protection of population in emergency situations, as well as roles and responsibilities of state bodies and local governments, enterprises, institutions and organizations (regardless of their legal-organizational type), officials and citizens**.**

Law on Ensuring Sanitary-Epidemiological Safety of the Population (adopted 16 November 1992)

It defines the legal, economic and organizational bases for the provision of sanitary and epidemic safety of population, as well as guarantees provided by the state which exclude the impact of the harmful and unsafe factors in the environment on human organisms and provides for favorable conditions for the vitality of present and future generations

Law on the Child's Right (adopted 29 May 1996)

The Law defines a child's right to health protection and strengthening, utilization of healthcare services for free of at preferential terms within the framework of annual state target programs.

The protection of the Child's Rights is carried out by corresponding authorized public and local self-government bodies. The government through its corresponding bodies cooperates with the associations of citizens, non-governmental organizations and private individuals advocating the protection of the child's rights.

Law on Human Reproductive Health and Reproductive Rights (adopted 11 December 2002)

The Law regulates the relations with regard to reproductive health promotion, ensuring reproductive rights, as well as terms and procedures on applying reproductive health technologies and other relations in this area.

Law on Prevention of Disease caused by Human Immunodeficiency Virus (adopted 3 February 1997).

The Law defines the order of HIV prevention, diagnosis and treatment, as well as organizational, legal, economic and financial bases for HIV prevention

Law on Transplantation of Human Organs and Tissues (adopted 16 April, 2002)

The Law defines the legal grounds for transplantation of human organs and/or tissues, as well as rights and responsibilities of donors, recipients and medical institutions and regulates the relations with respect to transplantation. The latter does not refer to the reproductive organs (ovum, ovaries, testicles, sperm, and embryos), blood and blood components.

Law on Donating Human Blood and Blood Components and Transfusion Medical Assistance (adopted 15 November 2011).

The Law regulates relations with respect to the circulation of blood and its components, quality and safety in donating and provision of transfusion medical assistance.

Law on Psychiatric Assistances (adopted 25 May 2004)

The Law regulates relations with respect to the protection of rights of individuals with problems of mental health and mental disorders, as well as processes of creating favorable conditions for the realizations of human rights and freedoms as stated in the Constitution of RA, European Convention on Human Rights and Fundamental Freedoms and international legal norms.

Law on Drugs (adopted 27 October 1998, K-770-27.04.2015-AM-010/1 draft adopted at first reading 21 December 2015)

The Law regulates drug turnover in Armenia, including production, preparation, weighing and measuring, packaging, registration, quality assurance and other activities aimed at receiving or disposing drugs, purchase, maintenance, storage, breakdown, sales, exports, imports, information thereon, advertising. It also defines the roles and responsibilities of RA public agencies in this sphere.

The Law does not include the entire frame of relationships requiring regulation, and there is an urgent need of addressing this gap. Hence the Government has drafted a new Law on Drugs to regulate drug turnover from manufacturing to consumption. This will contribute to improved effectiveness of local manufacturers by ensuring a strong legal framework. Some of the provisions of the draft law are still under discussion.

Law on Narcotic Drugs and Psychotropic Substances (adopted 26 December 2002)

The Law regulates the relations with respect to circulations of illicit drugs and psychotropic substances, as well as defines the legal bases of public policy to prevent their illegal circulation in order to ensure citizens' health and safety of the state and society, as well as main measures to fight drug-addiction.

Law on Social Assistance (adopted 17 December 2014)

The Law defines social services, social assistance and integrated social services, as well as main social services, bases for their classification and service providers, main principles of social service provision and social assistance, rights for social assistance, objectives, social assistance management system, rights and responsibilities of individuals receiving social assistance, sources of financing for social assistance; it also regulates relations with respect to implementation of social cooperation and local social projects and other relations in social assistance provision.

Law on Licensing (adopted 30 May 2001)

The Law defines types of activities subject to licensing and regulates relationships connected to the licensing. The Law does not apply to permits (licenses) issued for usage of the earth's interiors and natural resources, which are deemed state ownership or to license agreements signed during civic-legal relations.

The license is issued only for types of activities subject to licensing as specified by this Law

The license is valid on the entire territory of the Republic of Armenia, unless otherwise stipulated by the law.

Law on Procurements (adopted 22 December 2010)

This law regulates the relations with respect to the procurement of goods, works and services by clients, and prescribes the basic rights and duties of the parties in these relations
The purpose of this law is to ensure value-for-money in the procurement process, namely:

- Purchase of goods, works and services requisite to carry out the powers delegated to the Client and adequate to the Client's needs;
- Implementation of procurement process ensuring the efficiency, effectiveness and economy of procurement.

Law on Inspection Authorities (adopted 17 December 2014)

This law regulates legal state of inspection authorities functioning in the system of the RA executive power, their creation, specifics of organization of their activities, reorganization and termination of activities, as well as other relationships thereof.

Law on Advertising (adopted 30 April 1996)

The Law defines the legal basis of creating and disseminating advertisements on the territory of the Republic of Armenia and aims at:

a) providing necessary conditions for the creation and dissemination of advertisements corresponding to the interests of the public, advertisement consumers, advertisers, commercial producers, commercial transmitters;

b) preventing spread of unreliable information through advertising that may cause damage to legal and physical entities, to their honor, dignity, business reputation and the interests of citizens.

Law on Making Amendments and Addenda to the RA Law on Advertising (adopted 28 April 1999)

According to the Law, Article 15 was supplemented with clause 6 with the following content:

It shall be prohibited to

a) advertise baby formula and those for children of early age, any food or related products not considered baby formula for infants under six months of age;
b) place texts and pictures on boxes /packages of baby formula, which advertise the given product;
c) sale baby formula without placing a text on advantages of breast-feeding on the baby formula box/package;
d) distribute baby formula for free for the purpose of advertisement.

The Law defines some international code provisions of baby formula sale however does not reflect it in full volume.

Regular monitoring findings suggest that companies distributing baby formula manage to pass by provisions of International Code on Marketing of Breast-milk Substitutes and RA Law on Advertising, mostly because no legal sanctions are defined for such violations. Moreover, many healthcare providers are not familiar with the international code provisions and their direct duties and responsibilities in this regard. Public awareness on this issue is limited.

Law on Food Safety (adopted 27 October 2006)

The Law governs the relations with respect to the safety at stages of import, export, manufacture, processing, packaging, labeling, transport, storage and placing on the market of food, materials in contact with food and food additives, as well as at stages of trading and mass catering.

This Law is the first legal act to refer to the concept of 'genetically modified food'. It is defined as food obtained as a result of altering the genetic structure of living organisms (animals, plants, microorganisms) by adding a foreign gene or combining genes for the purpose of gaining the desirable qualitative characteristics.

Law on Breastfeeding Promotion and Regulation of Baby Food Marketing (adopted 20 November 2014)

The Law adopted most provisions of the International Code of marketing of Breast-Milk Substitutes. It regulates relationships as regards breastfeeding promotion, baby food and related foodstuff marketing, manufacturing, labeling, sale, breakdown, advertising, as well as public awareness and dissemination of information.

The goal of the Law is to ensure healthy and safe nutrition of infants and early age children by encouraging breastfeeding, and regulation of baby food marketing.

Law on Food (adopted 21 June 2014)

The Law regulates the relations with respect to import, export, production (including primary), production safety assurance, storage, maintenance, transportation, use, marketing, packaging, labeling and advertising of food and food supplements. The Law applies to all parties of public relations arising at all phases of food and food supplement production (including primary) and turnover, including food chain operators and officers responsible for food safety.

Law on Ensuring Food Safety (adopted 7 May 2002)

The Law regulates relationships in the sphere of food safety assurance in the Republic of Armenia and defines main directions of state policy on food safety.

Water Code (adopted 4 June 2002)

The Code defines the competencies of the Government of the Republic of Armenia as regards water use, conservation and protection of water resources, prevention of waters harmful impacts, public protection and ensuring security and safety of all citizens.

The main purpose of this Code is the conservation of the national water reserve, the satisfaction of water needs of citizens and economy through effective management of useable water resources, securing ecological sustainability of the environment, as well as the provision of a legal basis to achieve the objectives of this Code.

The list of legal acts with their adoption dates is provided in Annex 2.

6. HEALTH SYSTEM HUMAN RESOURCES

Health system professional workforce is the cornerstone of healthcare service delivery, quality of medical services and management of health system.

Assessment of health system human resources serves several goals, including evaluation of health planning and monitoring efforts, as well as health policy, programs and interventions. Existence of reliable information is critical for development and management of health system human resources.

The *Resource Management/Creation* function of the health care system deals with proper training of health personnel, their continuing education, professional development, availability of specialists, as well as their adequate breakdown and sufficient number to meet workforce needs of health care facilities.

The section reflects on key challenges of health system workforce (doctors and nurses), training of doctors and nurses, continuing professional education and upgrading, workforce availability, their concentration and demand. The Chapter of Health System Human Resources encompasses trends reflected in the HSPA 2009 and beyond.

Education of health system human resources

Professional education of healthcare human resources in Armenia is provided by Yerevan State Medical University (YSMU) and five private higher education medical institutions. Vocational education of secondary medical workforce is performed by 24 secondary medical vocational institutions (11 public and 13 private).

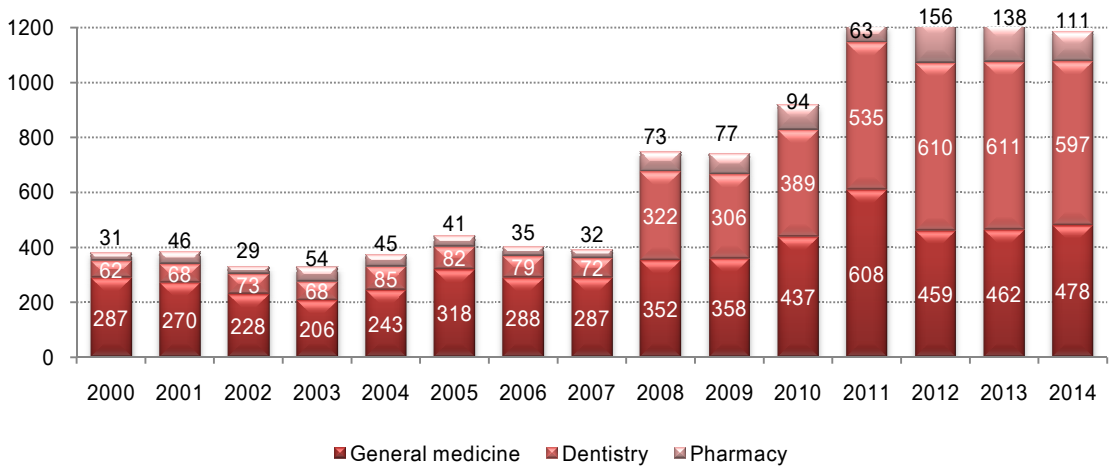
Table 1. The number of higher and secondary medical educational institutions in Armenia, 2010-2014

		2010	2011	2012	2013	2014
Higher educational institutions	Public	1	1	1	1	1
	Private	6	6	6	6	5
	Total	7	7	7	7	6
Secondary educational institutions	Public	12	11	11	11	11
	Private	10	10	11	12	13
	Total	22	21	22	23	24

Source: NSS, 2015 (2015 data will be available in April 2016)

The number of graduates from public and private higher medical institutions is presented in Figure 1, Tables 2 and 3. The data suggest an increase of graduates of dental specialties during the recent years. On the other hand, since 2010 the number of active dentists decreases in parallel, which may be due to migration to other CIS countries, particularly Russia where the demand of dentists is bigger, coupled with better payment and wider professional upgrading opportunities.

Figure 1. Number of graduates of higher public and private medical educational institutions according to specialties (data on private institutions are presented for 2008-2014 only)



Source: NSS, 2015

Table 2. Number of graduates of public higher medical educational institutions according to specialties, 2010-2014

Specialty	Total					Of them female				
	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
General medicine	284	344	295	294	305	153	197	124	165	246
Military medicine	33	33	39	31	23	-	-	-	-	-
Dentistry	132	-	250	265	219	55	-	74	87	115
Pharmacy	58	-	99	96	63	39	-	28	37	52
Total	507	377	683	686	610	247	197	226	289	413

Table 3. Number of graduates of private higher medical educational institutions according to specialties, 2010-2014

Specialty	Total					Of them female				
	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
General medicine	120	231	125	137	150	53	142	100	35	93
Dentistry	257	535	360	346	378	160	279	185	68	145
Pharmacy	36	63	57	42	48	34	34	24	15	40
Healthcare	90	-	-	-	-	73	-	-	-	-
Total	503	829	542	525	576	320	455	309	118	278

Source: NSS, 2015

In mid-1990s the healthcare system possessed a rather significant manpower potential (39 doctors per 10,000 population), who until 2002 were mainly educated by the YSMU- the only higher educational institution performing accredited diploma medical education. In 1990-1999 the annual number of graduates of all specialties varied from 600 to 700 and that of the secondary medical personnel from 1200 to 2500.

From 2004 education of medical specialists stepped up involving accredited public and private medical educational institutions. Particularly, during 2006-2014 YSMU produced 5090 graduates, in 2014 a total of 1186 people graduated from all public and private medical higher educational institutions.

In 2011 private higher educational institutions accounted for 377 graduates, while in 2014 their number reached 610, which means that the number of graduates of all specialties has increased nearly 1,6 ties. At that, the number of graduates of private higher educational institutions has decreased 1.4 times.

In 2014 YSMU provided 51.4% of graduates from higher educational institutions. According to specialties, 36% of graduates were from dentistry and 50% from general medicine department. Significant proportion (65,6%) of graduates of private higher educational institutions were dentists.

Table 4. Number of graduates of secondary public vocational institutions according to specialties, 2010-2014

Specialty	Total					Of them female				
	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
Nursing	1480	1282	890	895	796	1469	1211	882	888	782
Midwifery	831	698	553	433	417	819	696	553	432	390
Pharmacy	579	483	480	478	503	506	436	434	413	428
Dental prothesist	370	328	309	402	418	115	3	27	5	35
Therapeutic cosmetology	83	21	42	57	96	83	21	42	56	94
Organization of nursing	36	150	185	104	204	34	146	184	91	195
Therapeutic massage	34	14	14	16	28	14	8	5	5	10
Total	3413	2976	2473	2385	2462	3040	2521	2127	1890	1934

Source: NSS, 2015

Table 5. Number of graduates of secondary private vocational institutions according to specialties, 2010-2014

Specialty	Total					Of them female				
	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
Nursing	59	86	50	91	59	58	86	50	88	59
Midwifery	74	70	35	70	68	74	64	35	70	68
Pharmacy	25	60	75	152	148	14	53	64	130	130
Dental prothesist	22	37	57	162	83	-	1	2	10	6
Therapeutic cosmetology	-	21	27	34	47	-	21	27	34	47
Organization of nursing	-	-	-	-	-	-	-	-	-	-
Therapeutic massage	-	-	-	-	-	-	-	-	-	-
Total	180	274	244	509	405	146	225	178	332	310

Source: NSS, 2015

Comparison with international data and analysis show that in 2013 Georgia stood no competition with neighboring and European Region countries as regards training of doctors (Figure 2). The number of dentistry graduates in Armenia exceeds 15-17 times that of other countries (Figure 3).

Figure 2. Number of graduate doctors of higher educational institutions per 100 000 population, selected countries and country groups, 2013

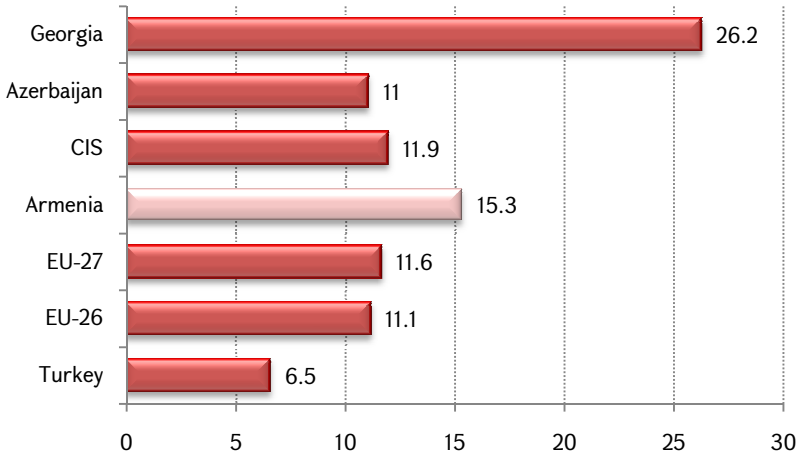
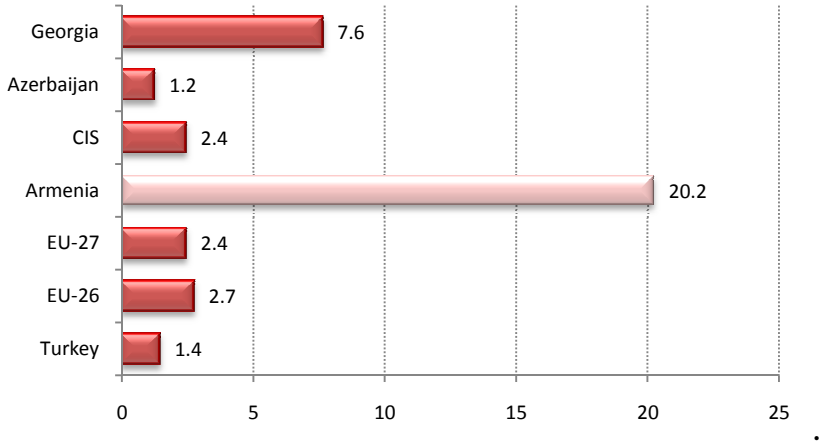


Figure 3. Number of graduate dentists per 100 000 population, selected countries and country groups, 2013



Source:'HFA-DB, WHO, 2015

Breakdown of active health workforce

Gender breakdown of health workforce

Health care system of Armenia like those of European Region countries (where women share 70-76% of health workforce) is genderized. The number of male and female doctors has increased between 2013 and 2014 (Figure 4).

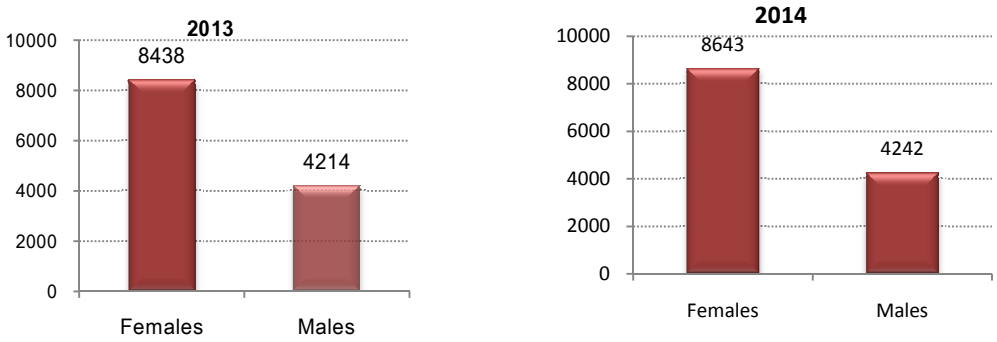
- **Women cover 67% of health workforce in Armenia.**

Gender and profile breakdown of health workforce suggests that women make the overwhelming majority of therapeutic (90-95%) and 10-38% of surgical profiles (Table 6). In the surgical profile proportion of female proctologists is 16,1%, female surgeons 12,0% and of female anesthesiologists – resuscitation specialists 40,9%. Gender-wise breakdown is even among dentists of general care and

surgical profiles. Besides, the number of dentists dropped by 496 between 2011 and 2014 (209 females and 287 males).

- **Women share 95-97% of paramedical staf**

Figure 4. Gender breakdown of workforce , 2013 versus 2014



Source: NHIAC, 2015

Table 6. Gender and specialty breakdown of workforce, 2011 versus 2014

Specialty	2011			2013			2014		
	Total	Female	%	Total	Female	%	Total	Female	%
General practitioners (FD, DT, pediatricians), of which	2566	2195	85,5	2414	2216	91,8	2365	2163	91.5
- Family doctors	761	672	88,3	703	616	87,6	682	602	88.3
- District therapists	1026	941	91,7	959	884	92,2	960	872	90.8
- Pediatricians	779	748	96,0	752	716	95,2	723	689	95.3
Obstetricians - gynecologists	967	763	79,0	947	749	79,1	934	754	80.7
Surgeons	599	56	9,4	590	61	10,3	573	69	12.0
Anesthesiologist – resuscitator	498	191	38,4	496	187	37,7	508	208	40.9
Proctologists	28	4	14,3	31	4	13,0	31	5	16.1
Dentists	1788	899	50,3	1319	706	53,5	1292	690	53.4
-Pharmacists	176	144	81,8	228	80	35,1	232	180	77.6
Nurses									
Nurses of all specialties, of which	13883	13827	99,6	13768	13711	99,6	13712	13650	99.5
-midwives	1335	1335	100,0	1300	1300	100,0	1307	1307	100.0
-feldshers	128	72	56,3	105	52	49,5	95	55	57.9
-dental prothesist	221	10	4,5	188	8	4,3	176	10	5.7
Pharmacists	137	129	94,2	124	118	95,2	133	130	97.7
- sanitary doctors and assistants to epidemiologists	502	479	95,4	476	455	95,6	362	352	97.2

Source: NHIAC, 2015

Dynamics of the number of doctors and nurses and the doctor-nurse ratio

To ensure accurate analysis of acting health workforce, and their geographic and professional breakdown, the patterns and trends of 2001-2014 NHIAC data were perused.

According to 2014 data the absolute number of workforce (doctors and nurses) employed at public, privet, academic, research, higher and secondary vocational educational institutions was 30,949 and the absolute number of doctors including all specialties (dentists inclusive) was 12,896 (42 per 10 000 population), which compared with 2011 is less by 594 – i.e. 13 490, (41 per 10 000 population), and by 18,484 for nurses (61,1 per 10 000 population).

Table 7. Active health workforce, 2004-2014 (private dental clinics included)

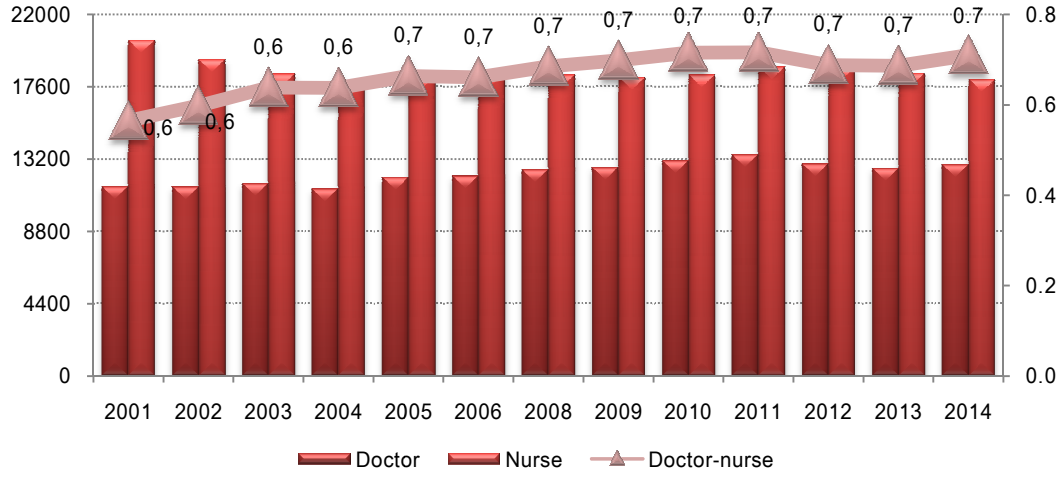
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Doctors of all specialties (including dentists)	11396	12307	12388	12251	12964	13177	13591	13490	12922	12664	12896
Nurses	17874	18364	18574	18595	18594	18516	18649	18484	18784	18426	18053
Total	29270	30671	30962	30846	18594	31693	32240	31974	31706	31090	30949
Number of hospitals	140	145	140	135	130	127	130	130	129	129	130
Number of hospital beds (thousand)	14,3	14,4	14,3	13,1	12,4	12,1	12,1	12,2	12,2	12,3	12.5
PHC settings	448	458	460	467	474	487	504	506	513	514	509
Pharmacists	133	143	157	163	176	204	214	199	176	228	232
Pharmacologists	112	113	118	121	124	125	129	137	130	124	133

Source: NHIAC, 2015

From 2005 the number of nurses ranged between 18,181 and 18,820. At that, from 2012 onward their number declined. Starting from 2011 a decline of the number of doctors of all specialties was recorded.

According to the Armenia Health System Optimization Concept, an increase of doctor/nurse ratio was expected. The latter showed stable level (0,72) between 2010 and 2014.

Figure 5. Number of active doctors and nurses, doctor-nurse ratio, 2001-2014



Source: NHIAC, 2015

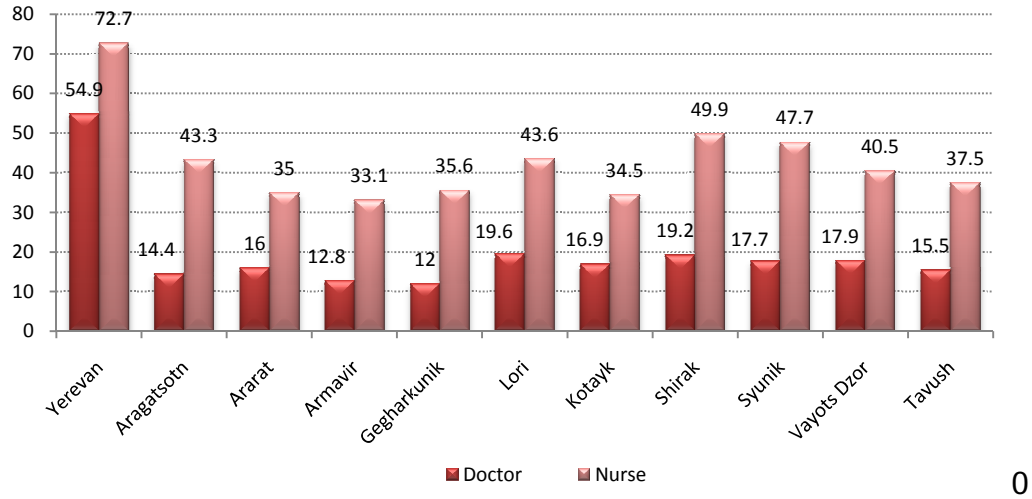
Breakdown of doctors and nurses across marzes

Concentration of healthcare professionals was assessed on the basis of the number of active doctors and nurses.

The overall concentration of active physicians for Armenia differs greatly across the capital city and peripheries. In 2014 the number was 54,9 per 10 000 population in Yerevan (Figure 6) Concentration of imnpatient and outpatiend healthcare workforce per 10 000 marz population 2014 and only 19,6 in marzes (Lori marz).

In addition, doctors are not evenly distributed across marzes. The lowest rates are seen in Gegharkunik (12,0 per 10 000 population) and Armavir (12,8), and the highest in Lori (19,6) and Shirak (19,2).

Figure 6. Concentration of inpatient and outpatient healthcare workforce per 10 000 marz population, 2014



Source: NHIAC, 2015

Breakdown of active nurses is also uneven. Here again the situation is better in Yerevan (72,7 per 10 000 population) and much worse in marzes, i.e. no higher than 33,1 in Armavir and 49,9 in Shirak.

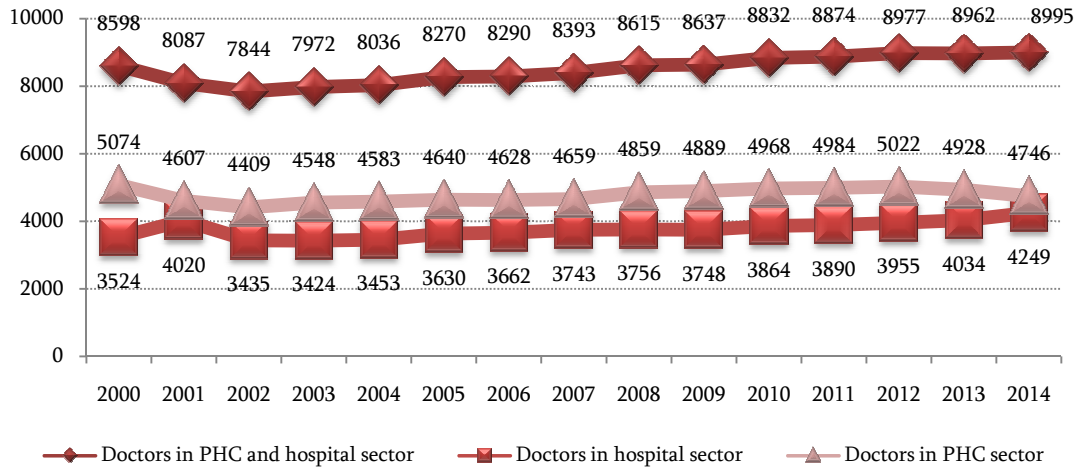
Workforce breakdown between outpatient and inpatient levels

According to the Armenia Health System Optimization Concept breakdown of workforce across inpatient and outpatients settings declined during 2000-2001 as regards both HCFs and personnel.

During this period the number of active staff employed by hospitals and PHC shrank by 511 doctors and 685 nurses, where 90% of doctors were from PHC (from 5,074 in 2001 to 4,607 in 2002, i.e. by 467 doctors).

From 2002 onward the PHC and hospital doctors' reduction tendency was replaced with that of an annual increase, except for 2014, when the number of PHC doctors shrank (Figure 7).

Figure 7. Numbers of PHC and hospital doctors, 2000-2014



Source: NHIAC, 2015

Concentration of doctors per main specialties and professional profiles

Concentration of PHC and hospital health workforce per population as well as main specialties and profiles during the last 5 years is presented in Table 8.

Concentration of pediatricians and general practitioners decreased by 318 between 2007 and 2014, unlike that of family doctors, dentists and pharmacists, where a two-fold increase is recorded. In addition, the supply of dentists rose between 2007 and 2011 around 1,5 times, and dropped in 2014.

Table 8. Concentration of doctors and nurses of main specialties, 2007, 2011 - 2014

Specialties/profiles	2007		2011		2013		2014	
	a.n.	10 000 population	a.n.	10 000 population	a.n.	10 000 population	a.n.	10 000 population
General practitioners (FD, DT, pediatricians)	2683	8,3	2566	7,9	2414	8,0	2365	7.8
-family doctors	488	1,5	761	2,34	703	2,33	682	2.26
-district therapists	1216	0,5	1026	0,32	959	4,12	960	4.13
-pediatricians	979	1,22	779	2,4	752	10,89	723	10.47
Dentists	1163	3,6	1788	5,5	1319	4,37	1292	5.56
Pharmacists	163	0,5	199	0,6	228	0,8	232	1.0
Nurses								
-Nurses of all specialties, of which	13592	42,1	11388	35,0	13768	45,6	13712	59.0
-midwives	1388	1,5	1335	2	1300	16,2	1307	16.5
-feldshers	198	0,6	128	0,6	105	0,3	95	0.4
-pharmacists	121	0,4	137	0,4	124	0,4	133	0.6

Source: NHIAC, 2015

The number of graduates of dental and pharmacy departments increases annually. The number of graduates of dental department has increased 7 times and the number of pharmacy graduates 2,5 times during the past decade.

Table 9. Number of graduates of dental and pharmacy departments of public and private higher educational institutions, 2000-2014

Year	Stomatology department	Pharmacy department
2000	62	31
2001	68	46
2002	73	29
2003	68	54
2004	85	45
2005	82	41
2006	79	35
2007	72	32
2008[2]	322	73
2009	306	77
2010	389	94
2011	535	63
2012	610	156
2013	611	138
2014	597	111

Source: NSS, 2015

The number of active dentists increased 2,6 times (from 834 to 2180) between 2000 and 2010 (Table 10) Number of dentist and pharmacists according to profiles, 2000-2014), followed by a decrease to 1629 until 2014 (i.e. 1,3 times). The number of pharmacists increased from 80 to 232 or 2,9 times (Table 11).

Table 10. Number of dentists and pharmacists according to profiles, 2000-2014

Year	Dentists Therapists and surgeons Total	Dentists Therapists	Dentists Surgeons Total
2000	834	659	175
2001	614	498	116
2002	594	474	120
2003	780	610	170
2004	884	682	202
2005	1171	969	202
2006	1254	1066	188
2007	1177	954	223
2008	1755	1508	247
2009	1987	1711	276
2010	2180	1843	337
2011	2097	1788	309
2012	1782	1460	322
2013	1606	1319	287
2014	1629	1292	337

Source: NHIAC, 2015

The dynamics of the number of dentists and pharmacists in the country supports dynamics of the number of dental policlinics (Figure 8). This number has increased by 2011 reaching 215 followed by a decrease to 176 in 2014. The decline of the number of dental clinics between 2011 and 2014 was slightly compensated with the increase of the number of independent dental clinics (Figure 9)

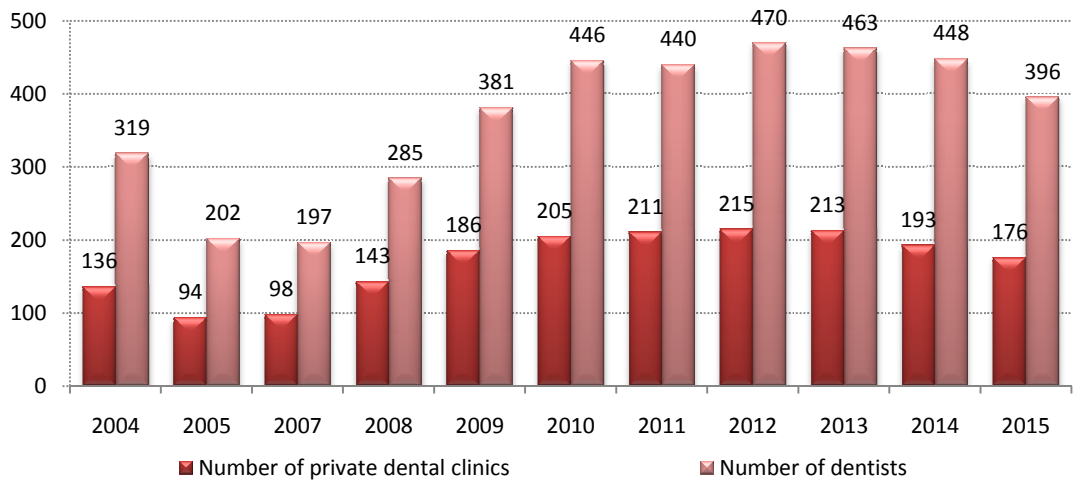
[2] Data on graduates of YSMU dental and pharmacy departments are presented for the period 2000-2007 and from 2008 data of 6 private higher educational institutions were included as well.

Table 11. Number of inpatient and outpatient pharmacists, 2000-2014

Year	Outpatient and inpatient pharmacists [3]
2000	80
2001	121
2002	142
2003	125
2004	133
2005	143
2006	157
2007	163
2008	176
2009	204
2010	214
2011	199
2012	176
2013	228
2014	232

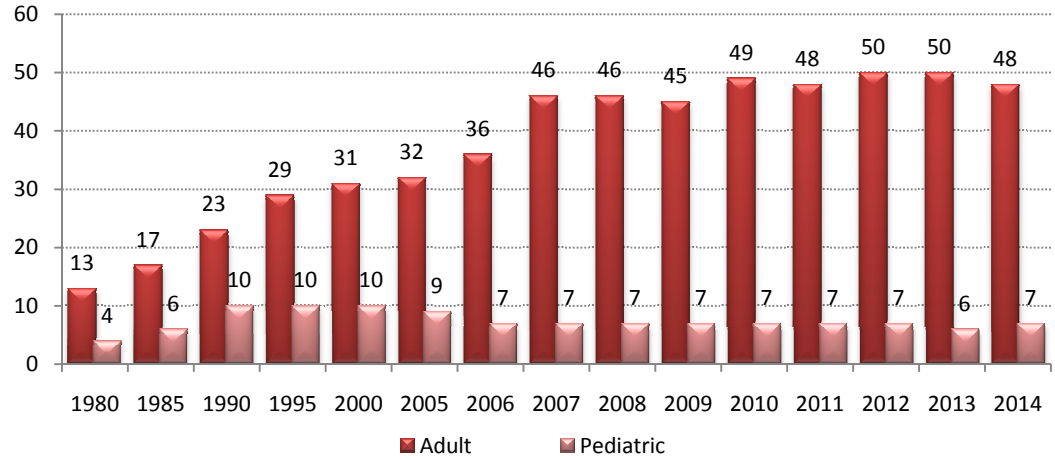
Source: NHIAC, 2015

Figure 8. Number of private dental clinics and dentists, 2004-2015



Source: NHIAC, 2015

Figure 9. Number of adult and pediatric independent dental polyclinics, 1980-2014



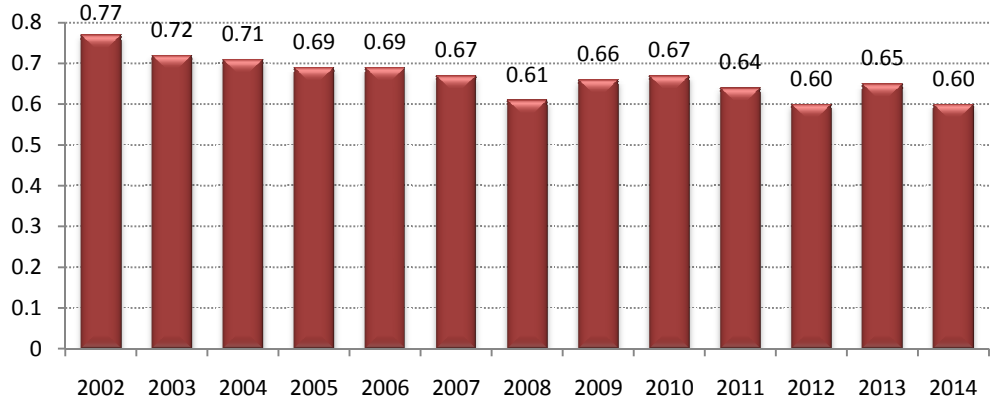
Source: NHIAC, 2015

[3] There are no data on pharmacists employed in pharmacies.

General practitioners of PHC

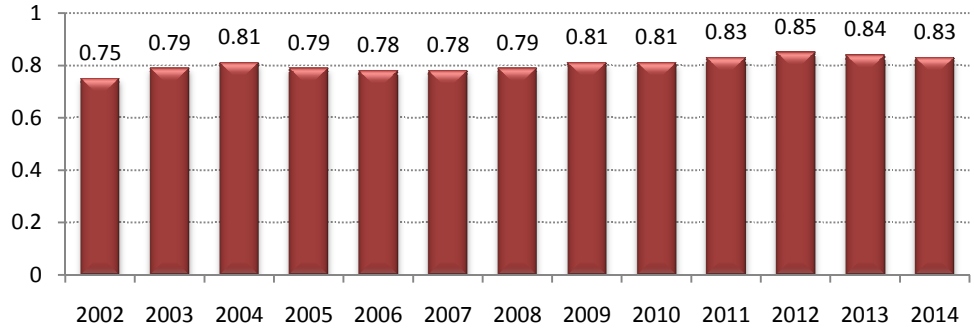
The ratio of active PHC general practitioners to narrow specialists decreased between 2002 and 2014 from 0.77 to 0.60 (Figure 10). Likewise, the ratio of active PHC nurses to all active physicians has decreased from 1.34 to 1.2 over the same time period (Figure 11).

Figure 10. Ratio of general practitioners (district therapists, pediatricians and family physicians) to narrow specialists in primary care settings, 2002-2014



Source: NHIAC, 2015

Figure 11. Ration of active nurses to active physicians in primary health care settings, 2002-2014



Source: NHIAC, 2015

Table 12. Number of PHC doctors per specialties and profiles, 2002-2014, changes of 2014 versus 2002

Specialties	2002	2004	2005	2007	2008	2009	2010	2011	2012	2013	2014	2014/ 2002
Doctors	4409	4583	4640	4650	4859	4889	4868	4984	5022	4928	4746	1.07
Narrow specialists	2486	2679	2746	2777	3023	2953	2916	3058	3123	3070	2952	1.18
General practitioners: DT,FD	1923	1904	1894	1873	1836	1936	1952	1926	1899	1858	1794	0.93
District therapist	973	938	917	872	821	768	754	723	730	700	684	0.70
District pediatrician	872	824	813	700	651	589	550	518	511	505	473	0.54
Family doctor	50	115	127	282	354	573	648	685	658	653	637	12.74
Nurse	5914	5667	5889	5988	6122	6006	6023	5984	5908	5811	5687	0.96
Obstetrician	595	531	535	547	552	543	536	525	533	517	496	0.83

Source: NHIAC, 2015

The number of primary care providers increased 1.1 times between 2002 and 2014. Most evident is the increase of the number of family physicians (12,7 times) and the decrease of district therapists and district pediatricians which is linked to the training of family physicians.

Health system job vacancies for doctors

- Despite the surplus of doctors and their growing number, Armenia nonetheless faces job vacancies for health practitioners.
- The dynamics of vacancies for doctors between 2003 and 2015 can be divided into three phases: increase during 2003-2006 and 2012-2015 and collapse during 2007-2011 (Figure 12).
- The absolute number of vacancies for doctors of different specialties has increased 1,4 times between 2003 and 2006 (361 versus 512).
- The absolute number of vacancies decreased by 20% between 2007 and 2011.
- And again, between 2012 and 2015 a 1,7 times increase was recorded.

Figure 12. Vacancies for doctors, 2003-2015

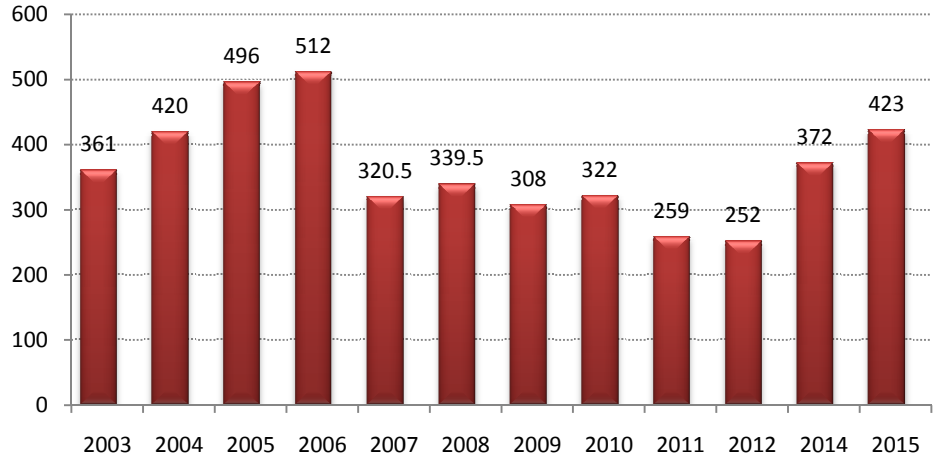
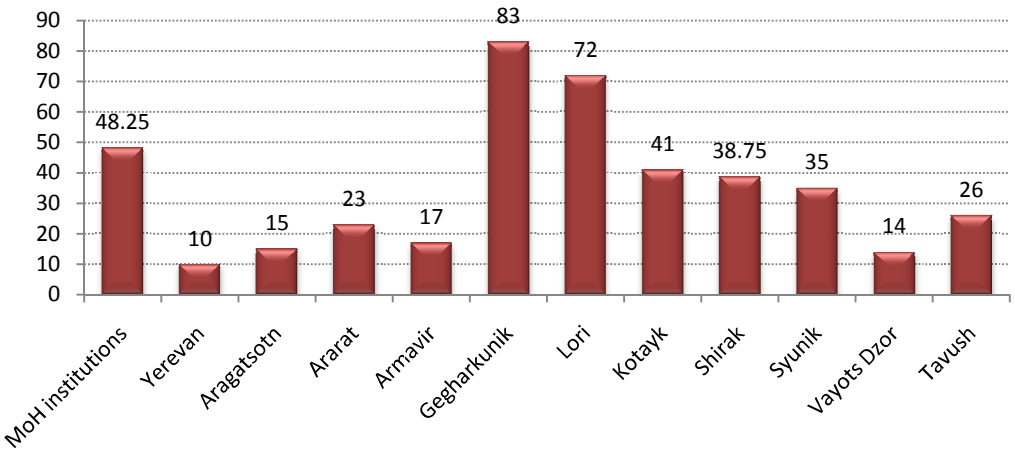


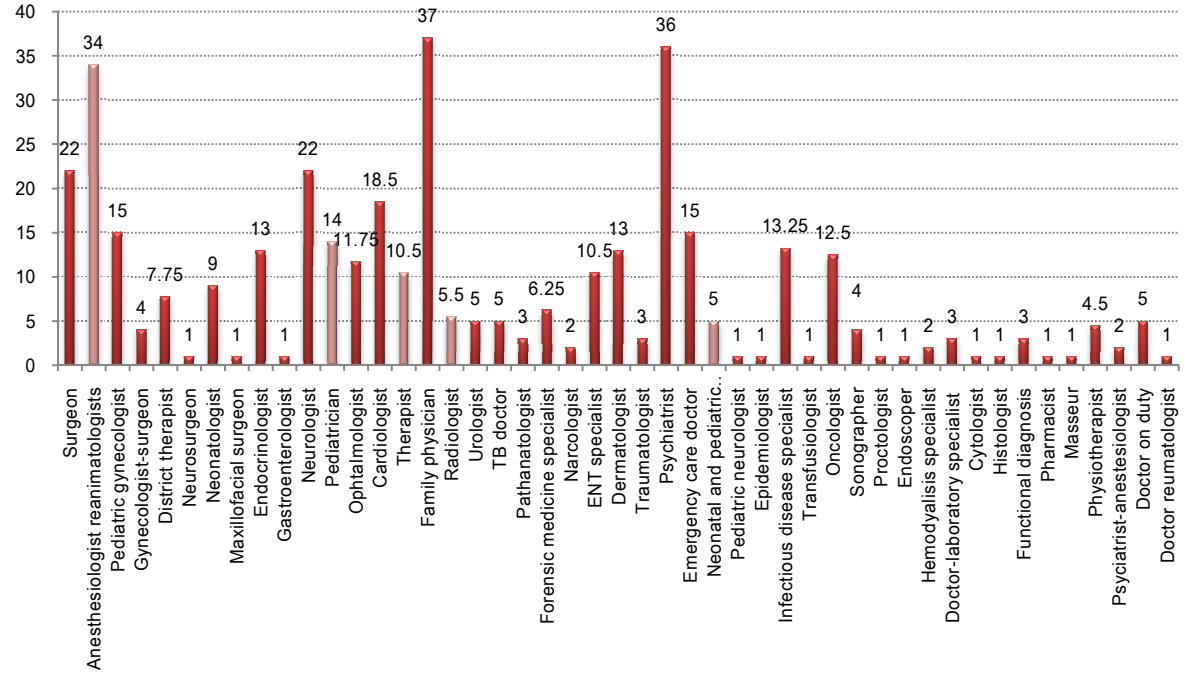
Figure 13. Vacancies for doctors across marzes, as of July 2015



Source: MoH, 2015

Especially significant is the number of vacancies for doctors of different specialties in remote marzes: Lori (72), Syunik (35), Gegharkunik (83), Shirak (39), Kotayk (41) (Figure 13). In fact, the biggest demand is for family physicians and psychiatrists, as well as anesthesiologists, cardiologists and neurologists (Figure 14).

Figure 14. Vacancies for doctors per specialties, as of July 2015



Source: MoH, 2015

Today the country lacks in well-developed and approved incentive mechanisms for health practitioners especially those in border and remote marzes, and mechanisms to provide social support and guide their professional development. Development of a package of incentives could greatly improve the situation with health workforce demands in marzes.

The workforce drain to Russia and European Region is significant. In fact, Armenia is a donor for other countries in terms of workforce development.

One of the mechanisms to meet workforce demand in marzes is mandatory secondment of graduates to regions. International experience shows that over 70 countries globally use the practice of mandatory job assignment.

Legislative regulation of mandatory assignment of resident doctors who were trained under the state order in marzes for a certain period can be discussed.

7. SURVEY OF PRIMARY HEALTH CARE WORKFORCE IN ARMENIA

This Chapter presents findings of the survey conducted among PHC doctors, namely district therapists, family doctors and obstetrician-gynecologists. The goal of the survey was to:

1. Study working conditions of PHC providers, including
   1.1. Availability of minimum working conditions,
   1.2. Catchment area population breakdown,
   1.3. Actual versus optimal workloads to ensure adequate quality care as perceived by providers,
   1.4. Actual versus expected remuneration.
2. Priority issues and problems as perceived by providers,
3. The need for development of providers' computer skills.

The survey was conducted among participants of the training conducted by the National Institute of Health of the Ministry of Health (NIH) and covered the period from July to November 2014.

The survey involved 451 PHC providers, including district therapists, family doctors, ob-gyns, department heads and clinic directors.

The survey was conducted with resources of the NIH HSPA Center.

Description of the survey and sampling

The survey sample included 451 providers, of which 191 from Yerevan, 148 other towns and 102 from rural ambulatories.

Respondent breakdown across marzes and healthcare facility types.

Respondents represent Yerevan city and marzes of Armenia, except for Aragatsotn and Vayotz Dzor. 42.4% are from PHC settings and 55.4%- from regional clinics, of which 32.% from urban and 22.6% from rural. No responses were provided by 2.2% of survey participants (Table 13).

Table 13. The survey sample according to marzes and type of residence (Yerevan–urban-rural)

Marz	Residence type – absolute number of respondents				Total	Residence type – marz breakdown of respondents				Total
	Yerevan	Urban	Rural	NA*		Yerevan	Urban	Rural	NA*	
Ararat	0	0	17	0	**17**	0.0%	0.0%	3.8%	0.0%	**3.8%**
Armavir	0	0	4	0	**4**	0.0%	0.0%	0.9%	0.0%	**0.9%**
Gegharkunik	0	16	15	3	**34**	0.0%	3.5%	3.3%	0.7%	**7.5%**
Yerevan	191	0	0	0	**191**	42.4%	0.0%	0.0%	0.0%	**42.4%**
Lori	0	46	19	1	**66**	0.0%	10.2%	4.2%	0.2%	**14.6%**
Kotayk	0	38	21	4	**63**	0.0%	8.4%	4.7%	0.9%	**14.0%**
Shirak	0	22	13	0	**35**	0.0%	4.9%	2.9%	0.0%	**7.8%**
Syunik	0	18	4	1	**23**	0.0%	4.0%	0.9%	0.2%	**5.1%**
Tavush	0	8	9	1	**18**	0.0%	1.8%	2.0%	0.2%	**4.0%**
Total	**191**	**148**	**102**	**10**	**451**	**42.4%**	**32.8%**	**22.6%**	**2.2%**	**100.0%**

NA – data not available

Specialty-wise, 44.7% of respondents were family doctors, 37.2% district therapists and 7.1% obstetricians-gynecologists; 7.3% were managers of healthcare facilities (HCF), 3.7%- heads of departments and practicing physicians at the same time (Table 14).

As for the types of represented healthcare facility (HCF), 44.4% of participants were from policlinics, 33.3% were from medical centers and 21.1% from ambulatories.

Table 14. Respondent breakdown according to occupied position

Position	Yerevan	Urban	Rural	Total
Family doctors	30.7%	48.3%	65.7%	**44.7%**
District therapist	57.1%	33.8%	4.9%	**37.2%**
Ob-gyn	7.9%	10.3%	1.0%	**7.1%**
Head of department	4.2%	5.5%	0.0%	**3.7%**
Manager of HCF	0.0%	2.1%	28.4%	**7.3%**
Total	100%	100%	100%	**100%**

Table 15. Respondent breakdown according to type of healthcare facility

Healthcare facility type	Yerevan	Urban	Rural	Total
Ambulatory	2.1%	3.4%	82.4%	**21.1%**
Medical center	29.8%	49.3%	16.7%	**33.3%**
Polyclinic	68.1%	44.6%	0.0%	**44.4%**
Hospital	0.0%	2.0%	0.0%	**0.7%**
Other	0.0%	0.7%	1.0%	**0.5%**
Total	100.0%	100.0%	100.0%	**100.0%**

Demography of PHC workforce

Overwhelming majority of respondents (93.8%) were women, mostly 36-50 age group, who comprised 43.6% of the sample, and 51-65 year-olds (42.3%) (Table 16).

Table 16. Gender and age breakdown of respondents

Age	Gender		Total
	Male	Female	
Under 35	0.7%	5.2%	5.9%
36-50	3.0%	40.6%	43.6%
51-65	2.0%	40.3%	42.3%
66 and older	0.5%	7.7%	8.2%
Total	6.2%	93.8%	100.0%

As for marital status - 79.3% of respondents were married, 69%- single, 4.9%- divorced and 8.9% widowed (Table 17).

The highest proportion of divorced was observed in 36-50 and 51-65 age groups (5.1% and 6.4% correspondingly) (Table 17). Those single were mostly in the under-35 age group (20.8%), whereas in the 36-50, 51-65 and 66 and older age groups they comprised some 5.3-6.8%.

Table 17. Respondent breakdown according to marital status and age groups

Age	Marital status				Total
	Married	Single	Divorced	Widowed	
Under 35	4.7%	1.2%	0.0%	0.0%	**5.9%**
36-50	37.4%	3.0%	2.2%	1.0%	**43.6%**
51-65	31.3%	2.2%	2.7%	5.9%	**42.1%**
66 and older	5.9%	0.5%	0.0%	2.0%	**8.4%**
Total	**79.3%**	**6.9%**	**4.9%**	**8.9%**	**100.0%**

Table 18. Marital status breakdown according to age groups

Age	Marital status				Total
	Married	Single	Divorced	Widowed	
Under 35	79.2%	20.8%	0.0%	0.0%	100.0%
36-50	85.9%	6.8%	5.1%	2.3%	100.0%
51-65	74.3%	5.3%	6.4%	14.0%	100.0%
66 and older	70.6%	5.9%	0.0%	23.5%	100.0%
Total	**79.3%**	**6.9%**	**4.9%**	**8.9%**	**100.0%**

Average number of HCW's family members (household size) is 4.31. In fact the value of this indicator does not change much across residence type (Table 19). Mostly providers' families are comprised of 4 persons (35.6%), those having 5 members share 19.1%, and 6 members -14.4%.

Table 19. HCW family breakdown according to number of members and the average number of family members

Number of family members	Yerevan	Urban	Rural	Total
1	2.7%	2.8%	6.1%	3.5%
2	10.2%	11.1%	3.0%	8.8%
3	16.6%	10.4%	8.1%	12.6%
4	36.4%	28.5%	44.4%	35.6%
5	14.4%	24.3%	20.2%	19.1%
6	14.4%	15.3%	13.1%	14.4%
6+	5.4%	7.7%	5.0%	6.0%
Total	**100.1%**	**100.1%**	**99.9%**	**100.0%**
Average	**4.21**	**4.44**	**4.30**	**4.31**

The average number of children in HCW's families is 2.03 (Table 20). The average number of children in Yerevan, other urban and rural HCWs' families is almost similar: 57% have 2 children, 23% have 3 children and 2% have 4 children.

Table 20. Breakdown of the number of children in HCW's family according to type of residence and the average number of children

Number of children	Yerevan	Urban	Rural	Total
0	3%	6%	13%	**7%**
1	14%	14%	3%	**12%**
2	58%	52%	60%	**57%**
3	23%	22%	22%	**23%**
4	1%	4%	2%	**2%**
5	0%	1%	0%	**0%**
Total	**100%**	**100%**	**100%**	**100%**
Average	**2.04**	**2.06**	**1.97**	**2.03**

Residence and work places

The survey studied also the residence and work places of PHC providers.

Most (86.0%) of survey participants resides in the same place where they work (Table 21). The biggest share of HCWs who work and live in different places are those who live in a marz town, but work in a village (6.4%), and 2.2% of respondents live in one village and work in a different.

Table 21. Residence and work place of HCWs

HCF site	Provider's residence				Total
	In settlement where HCF is located	Neighboring village	Marz town	Yerevan	
Yerevan	43.9%	0.0%	0.0%	0.0%	**43.9%**
Urban	31.7%	0.9%	0.0%	0.7%	**33.3%**
Rural	10.3%	2.5%	6.4%	3.4%	**22.8%**
Total	**86.0%**	**3.4%**	**6.4%**	**4.1%**	**100.0%**

Table 22. Breakdown of HCWs residence according to work place type

HCF site	Provider's residence				Total
	In settlement where HCF is located	Neighboring village	Marz town	Yerevan	
Yerevan	100.0%	0.0%	0.0%	0.0%	**100.0%**
Urban	95.2%	2.8%	0.0%	2.1%	**100.0%**
Rural	45.5%	11.1%	28.3%	15.2%	**100.0%**
Total	**86.0%**	**3.4%**	**6.4%**	**4.1%**	**100.0%**

On the other hand, in terms of residence type where the HCF is located, HCWs who live in a town but work in a village cover the biggest share (28.3% of rural HCWs).

In addition, 15.2% of rural PHC providers live in Yerevan. Only 45% of rural providers live and work in the same settlement. 88.7% of PHC providers lives in own or parental family house (Table 23). In fact, 3.9% of them rents and apartment, 6.% lives in an apartment owned by a different person but does not pay a rent and as little as 0.7% lives in service apartment.

Table 23. Housing ownership of providers

Housing ownership	Yerevan	Urban	Rural	Total
Owned by respondent of his/her family	93.6%	85.5%	84.2%	**88.7%**
Rented out	1.1%	6.9%	5.0%	**3.9%**
Not owned but no rent is paid	5.3%	6.9%	8.9%	**6.7%**
Service apartment	0.0%	0.7%	2.0%	**0.7%**
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Work experience and wage rate

The survey revealed that 60.3% of PHC providers work full time and 3.2% works at lower and 6.3% at higher wage rate (Table 24). Significant proportion of doctors (30.2%) works on contractual basis with no specified wage rate. Their proportion is higher in urban (39.2%) and rural (32.4%) places, and a relatively smaller proportion in Yerevan (22.0%).

The number of HCWs occupying more than one office is essentially higher in rural areas (16.7% of rural HCWs).

Table 24. Breakdown of HCWs wage rate according to residence type

Wage rate	Yerevan	Urban	Rural	Total
Less than 1 wage rate	7.3%	0.0%	0.0%	**3.2%**
1 wage rate	69.1%	55.4%	51.0%	**60.3%**
More than 1 wage rate	1.6%	5.4%	16.7%	**6.3%**
Contractual, no specified rate	22.0%	39.2%	32.4%	**30.2%**
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**

More than 1 wage rate was mostly reported by department heads (81.2%) and obstetrician-gynecologists (77.4%) (Table 25).

Contractual work was reported by predominantly family doctors (37.0%) (Table 25).

Table 25. Breakdown of HCWs wage rate according to specialty and position

Wage rate	Family doctor	District therapist	Ob-gyn	Head of Dpt	HCF manager	Total
Less than 1 wage rate	1.5%	6.1%	3.2%	0.0%	0.0%	**3.1%**
1 wage rate	56.0%	62.6%	77.4%	81.2%	50.0%	**60.3%**
More than 1 wage rate	5.5%	3.1%	3.2%	0.0%	33.3%	**6.5%**
Contractual, no specified rate	37.0%	28.2%	16.1%	18.8%	16.7%	**30.0%**
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

The 13.2% of HCWs occupy more than one office (Table 26). This is more common in among rural (18.0%) and marz urban providers (16.8%). Most often occupying more than one office was reported by HCF managers (16.7%).

Table 26. HCWs occupying more than one office

Description	Category	Occupy more than 1 office
HCF site	Yerevan	7.9%
	Urban	16.8%
	Rural	18.0%
	Total	**13.2%**
Position	Family doctor	11.6%
	District therapist	12.5%
	Ob-gyn	13.8%
	Head of Department	7.1%
	HCF manager	16.7%
	Total	**13.2%**

Working conditions of HCWs

The survey studied working conditions of PHC providers, minimum equipments and hardware available and the workload.

Minimum hardware and equipments available

As little as 6.9% of PHC staff has PC at the workplace (Table 27). The rate is relatively higher in rural HCFs (17.8%) and ambulatories (18.6%) (PHC facilities of villages).

PCs are available at workplace of HCF managers (37.1%) and Department heads (25.0%).

Table 27. HCPs who have a PC in their office

Description	Category	PC available in the cabinet
HCF site	Yerevan	3.7%
	Urban	3.4%
	Rural	17.8%
	Total	**6.9%**
HCF type	Ambulatory	18.6%
	Medical Center	5.4%
	Polyclinic	1.5%
	Hospital	0.0%
	Total	6.9%
Position	Family doctor	4.0%
	District therapist	3.7%
	Ob-gyn	0.0%
	Head of Department	25.0%
	HCF manager	37.1%
	Total	**6.9%**

Only 5.6% of PHC providers reported to have a PC and internet access in the office (Table 28).

Table 28. HCW who have PC and internet access in the office

Internet access	PC available in the office		Total
	Available	Not available	
Available	5.6%	0.0%	5.6%
Not available	1.3%	93.1%	94.4%
Total	6.9%	93.1%	100.0%

Arterial blood pressure meter (sphygmomanometer) is an essential tool that should be available in every PHC provider's office. Its' main technical parameters include the measuring method (mercury, vacuum, digital) and the cuff type (large, medium and small).

Most (95.1%) HCWs use digital sphygmomanometers (Table 29), and 75.5% use medium-size cuffs (Table 30).

Table 29. Types of sphygmomanometers used by HCWs

Description	Category	Sphygmomanometer type		
		Mercury	Vacuum	Digital
HCF site	Yerevan	1.1%	3.2%	95.7%
	Urban	4.2%	1.4%	94.4%
	Rural	3.9%	1.0%	95.1%
HCF type	**Total**	4.1%	1.0%	94.9%
	Ambulatory	4.1%	0.7%	95.3%
	Medical Center	1.1%	3.7%	95.3%
	Policlinic	33.3%	0.0%	66.7%
Position	Family doctor	3.1%	0.5%	96.4%
	District therapist	0.6%	3.8%	95.6%
	Ob-gyn	7.1%	3.6%	89.3%
	Head of Department	0.0%	0.0%	100.0%
	HCF manager	13.9%	2.8%	83.3%
	Total	2.8%	2.1%	95.1%

Table 30. Sphygmomanometer cuff types

Description	Category	Sphygmomanometer cuff type		
		Large	**Medium**	**Small**
HCF site	Yerevan	15.4%	73.4%	11.2%
	Urban	18.2%	79.0%	2.8%
	Rural	10.8%	74.5%	14.7%
HCF type	**Total**	13.3%	72.4%	14.3%
	Ambulatory	21.4%	68.3%	10.3%
	Medical Center	13.3%	81.0%	5.6%
	Polyclinic	0.0%	100.0%	0.0%
Position	Family doctor	19.7%	67.7%	12.6%
	District therapist	6.1%	89.6%	4.3%
	Ob-gyn	24.0%	72.0%	4.0%
	Head of Department	43.8%	43.8%	12.5%
	HCF manager	25.0%	61.1%	13.9%
Total		16.2%	75.5%	9.1%

Workload, remuneration and expectations of PHC providers

The survey reflected on actual workload of healthcare workers, their perception of optimal workload, actual remuneration of providers and expectations of future pay.

The workload indicators were calculated only for family doctors, district therapists and obstetrician-gynecologists.

The following indicators were set for the survey purpose.

1. Number of served (catchment) population,
2. Actual average number of daily patient visits, excluding home visits,
3. Optimal number of per day patient visits, excluding home visits,
4. Average length of patient consulting and examination for diagnosis,
5. Average length of per patient paperwork (records),
6. Average number of home visits per day,

7. Actual average salary of physicians including bonuses,
8. Salary expected by physicians for 1 full time wage rate.

To collect and study above data the following questions were developed:

1. Please indicate your average monthly net salary paid at your main workplace including bonuses (in AMD)
2. Please indicate the number of your catchment area population.
3. On average how many patients do you see per day, excluding home visits?
4. On average how much time do you spent on consulting and examination of the patient in order to decide the diagnosis?
5. On average how much time do you spent on paper work per patient?
6. On average how many home visits do you serve per workday?
7. According to you how much should the fair remuneration be for a full-time employed provider of your specialty and professional experience?
8. According to you how many patients on average should a full-time employed provider of your specialty and professional experience see per day in order to ensure adequate quality service-delivery?

Table 31 presents mean value of above indicators calculated based on the findings of the analysis, and with a breakdown according to provider's specialty, the settlements where HCF is located and provider's professional experience.

Table 31. Provider workload indicators

Description	No of catchment population	Actual No of per day visits	Optimal No of per day visits	1 patient examination (minutes)	1 patient paper work (minutes)	Home visits per day	Average salary (AMD)	Desired salary (AMD)
Respondent's position								
Family doctor	1,801	19.0	11.9	0:19	0:13	3.2	144,927	441,833
District therapist	2,163	17.4	10.9	0:18	0:12	2.6	117,889	387,192
Ob-gyn	2,569	13.6	13.7	0:22	0:12	3.5	129,638	354,167
HCF site								
Yerevan	1,862	16.9	11.3	0:18	0:11	2.8	107,076	373,019
Urban	2,085	18.8	11.5	0:19	0:14	2.6	128,809	441,789
Rural	2,098	18.7	12.1	0:21	0:13	3.6	197,845	458,095
Professional experience								
Less than 5 years	1,846	14.4	13.1	0:21	0:10	2.9	103,107	227,143
5-10 years	1,916	17.1	12.4	0:18	0:12	3.1	158,966	383,929
10-15 years	2,007	18.9	11.3	0:19	0:12	2.7	156,513	437,250
15-20 years	2,146	17.8	11.3	0:20	0:14	2.7	145,750	409,474
20-30 years	1,929	17.7	11.1	0:19	0:13	2.9	148,883	478,435
More than 30 years	2,120	18.0	12.4	0:18	0:13	3.0	142,145	385,755
Total	**2,028**	**17.8**	**11.8**	**0:19**	**0:13**	**2.9**	**145,198**	**415,789**

Table 32. The ratio of providers' actual and optimal workload; actual net pay as percent of expected pay; actual net pay as percent of expected pay for base wage rate

Respondent's position	Actual served patients/ optimal served patients ratio	Actual net pay as % of expected pay	Actual net pay as % of expected pay for optimal workload
Family doctor	1.6	33%	21%
District therapist	1.6	30%	19%
Ob-gyn	1.0	37%	37%
HCF site			
Yerevan	1.5	29%	19%
Urban	1.6	29%	18%
Rural	1.5	43%	28%
Professional experience			
Less than 5 years	1.1	45%	41%
5-10 years	1.4	41%	30%
10-15 years	1.7	36%	21%
15-20 years	1.6	36%	23%
20-30 years	1.6	31%	20%
More than 30 years	1.5	37%	25%
Total	1.6	32%	21%

Mean values of PHC providers' actual workload, optimal workload, actual net pay and expected net pay are presented in Table 32.

Indicators for the whole sample

Mean catchment population number - 2.028, mean number of patients served per day - 17.8, mean number of home visits per day -2.9, mean length of per patient consulting and examination -19 minutes, mean length of per patient paper work - 13 minutes, mean actual monthly net salary, including bonuses (regardless of wage rate or contract terms) - AMD 145.198, excepted average monthly net salary for full wage rate and quality performance - AMD 415.789.

According to PHC providers, their actual workload exceeds the optimal workload 1.6 times or by 60%m and the actual net salary is equal to 32% of the expected salary. On the other hand, if compared with the optimal workload estimated by providers, the actual saraly will make up 21% of the expected salary (32%/1.6).

Indicators according to providers' specialty

If viewed according to providers' specialties, the indicators suggests the following (see top of Table 31). The biggest number of cathment population is reported by obstetrician-gynecologists (2.569), but the daily average workload is 13.6 patients, which is in fact close to the optimal average workload (13.7). On average obstetrician-gynecologists spent 22 minutes on consulting and examination of a patient, which exceeds time reported by family doctors (19) and district therapists (18).

Actual average salary of obstetrician gynecologists (around AMD 130,000) is between the salaries reported by family doctors (around AMD 145 000) and district therapists (around AMD 120 000). As for the expected salary amount, here also the highest expectations were reported by family doctors (around AMD 440 000), followed by district therapists (around AMD 358 000), and obstetrician gynecologists (around AMD 355 000).

The expected salary-actual salary ratio is 37% for obstetrician-gynecologists, 19% for district therapists and 21% for family doctors.

Indicators according to HCF site

The number of catchement population in rural (2.098) and urban (2.085) areas is 12% higher than in Yerevan (1.801). The average number of patients seen per day in other towns (18.8) and villages (18.7) also exceeds the rate of Yerevan (16.9). The average optimal number of population served per day by rural providers (12.1) is slightly higher as opposed to urban places (11.5) and Yerevan.

The average length of patient examination and consulting in villages (21 minutes) is slightly higher than in other towns (19 minutes) and Yerevan (18 minutes), whereas the average time spent on paperwork is less in Yerevan (11 minutes) than in other towns (14 minutes) and villages (13 minutes).

The average number of per day home visits in rural areas (3.6) exceeds by 33% the indicator in other towns and Yerevan (2.6 and 2.8 correspondingly).

Actual salary of rural PHC providers (around AMD 200 000) significantly exceeds the pay in other towns (around AND 130 000) and Yerevan (around AMD 110 000). Similar ratio is applicable to the amount of expected salary: average monthly salary expected by rural health providers (around AMD 460 000) is slightly higher than the salary expected by other rural (around AMD 440 000) providers and essentially higher than expectations of Yerevan providers (around AMD 375 000).

The actual-expected pay ratio in villages is significantly (28%) more apparent than in other towns (18%) and in Yerevan (19%).

Indicators according to total professional experience of providers

The number of population attached to providers who have less than 5-year professional experience (1.846) is nearly 7% lower than the average catchment population number (2.028). Average number of patients seen per day in this group is the lowest (14.4), but according to them the possible optimal number of patients served per day (13.1) exceeds the total average (11.5) by 14%. Average length of per patient paperwork reported by the youngest age group is the lowest (10 minutes), but the highest when it comes to patient consulting and examination (21 minutes).

Besides, this group reported receiving the lowest actual remuneration (around AMD 105,000, when the total average amount equals somewhat AMD 130,000), hence also the lowest expectations (around AMD 230,000).

According to professional experience, the average daily optimal workload is low in providers with 10-15, 15-20, 20-30 years total work experience (approximately 12.2).

Tables 33-39 present the actual and optimal workloads of providers, as well as breakdown of actual and expected salaries. These data explain the above-described average values.

Table 33. Breakdown of catchment population

Catchment population	Respondent's position			Total	HCF site			Total
	Family doctor	District therapist	Ob-gyn		Yerevan	Urban	Rural	
<=1000	9.4%	0.0%	9.1%	5.2%	8.1%	2.5%	3.2%	5.3%
1001-1500	21.0%	7.8%	0.0%	14.5%	19.4%	11.0%	8.1%	14.4%
1501-2000	**37.0%**	**32.0%**	**36.4%**	**34.8%**	**36.2%**	**32.2%**	**38.7%**	**35.3%**
2001-2500	21.5%	**40.5%**	9.1%	29.6%	24.4%	**33.9%**	**33.9%**	**29.4%**
2501-3000	9.9%	17.6%	0.0%	13.0%	9.4%	17.8%	11.3%	12.6%
3001 <=	1.1%	2.0%	45.5%	2.9%	2.5%	2.5%	4.8%	2.9%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Average	**1,801**	**2,163**	**2,569**	**1,983**	**1,862**	**2,085**	**2,098**	**1,983**

Table 34. Breakdown of per day visits (excluding home visits)

Number of daily seen patients excluding home visits	Respondent's position			Total	HCF site			Total
	Family doctor	District therapist	Ob-gyn		Yerevan	Urban	Rural	
Less than 10	12.8%	13.1%	46.4%	15.4%	16.7%	14.4%	13.9%	15.3%
11-15	28.1%	30.0%	17.9%	28.1%	31.6%	22.0%	30.6%	28.0%
16-20	28.1%	39.4%	25.0%	32.6%	36.2%	31.1%	29.2%	33.1%
21-25	19.9%	13.8%	7.1%	16.4%	10.3%	25.0%	13.9%	16.1%
25 and more	11.2%	3.8%	3.6%	7.6%	5.2%	7.6%	12.5%	7.4%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Average	**19.0**	**17.3**	**13.6**	**17.9**	**16.9**	**18.8**	**18.7**	**17.9**

Table 35. Average number of per day home visits

Average number of per day home visits	Respondent's position			Total	HCF site			Total
	Family doctor	District therapist	Ob-gyn		Yerevan	Urban	Rural	
1	10.4%	19.0%	0.0%	14.2%	16.4%	13.8%	8.3%	13.8%
2	33.2%	34.2%	50.0%	33.7%	29.6%	43.1%	27.8%	33.7%
3	22.8%	31.6%	0.0%	26.6%	33.3%	24.1%	16.7%	26.8%
4	11.9%	7.6%	0.0%	9.9%	8.8%	9.5%	13.9%	10.1%
5	14.5%	4.4%	50.0%	10.2%	6.3%	7.8%	22.2%	10.1%
5 <	7.2%	3.2%	0.0%	5.4%	5.6%	1.8%	11.2%	5.5%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.1%**	**100.1%**	**100.0%**
Average	**3.2**	**2.6**	**3.5**	**2.9**	**2.8**	**2.6**	**3.6**	**2.9**

Table 36. Breakdown of the average length of per patient consulting and examination (in minutes)

Length of consulting and examination	Family doctor		District therapist		Ob-gyn		Total	
	Examination	Record	Examination	Record	Examination	Record	Examination	Record
Less than 5 minutes	0.5%	15.7%	0.0%	13.8%	0.0%	20.7%	0.3%	15.3%
6-10 minutes	10.8%	36.2%	14.5%	42.1%	6.7%	41.4%	12.0%	39.1%
11-15 minutes	26.2%	25.4%	30.8%	28.3%	20.0%	3.4%	27.6%	24.9%
16-20 minutes	38.5%	14.6%	35.8%	11.3%	33.3%	34.5%	37.0%	14.7%
21-25 minutes	5.6%	1.1%	10.7%	1.3%	0.0%	0.0%	7.3%	1.1%
26-30 minutes	16.4%	4.9%	8.2%	1.9%	36.7%	0.0%	14.6%	3.2%
More than 30 minutes	2.1%	2.2%	0.0%	1.3%	3.3%	0.0%	1.3%	1.6%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 37. Actual and optimal breakdown of the average number of per patient per day service

Number of patients	Family doctor		District therapist		Ob-gyn		Total	
	Actual average	Optimal average	Actual average	Optimal average	Actual average	Optimal average	Actual average	Optimal average
Less than 10	12.8%	61.9%	13.1%	66.9%	46.4%	42.9%	15.4%	62.8%
1-15	28.1%	26.8%	30.0%	28.2%	17.9%	38.1%	28.1%	28.1%
16-20	28.1%	8.3%	39.4%	4.9%	25.0%	19.0%	32.6%	7.6%
21-25	19.9%	1.2%	13.8%	0.0%	7.1%	0.0%	16.4%	0.6%
25 <	11.2%	1.8%	3.8%	0.0%	3.6%	0.0%	7.6%	0.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table.38 Breakdown of actual monthly salaries

Actual monthly salary	Family doctor	District therap.	Ob-gyn	Head of Dpt	HCF manager	Total	Yerevan	Urban	Rural	Total
Less than 80000	14.1%	17.4%	27.6%	7.1%	0.0%	14.7%	23.5%	13.6%	2.0%	15.1%
80001-100000	16.1%	22.9%	24.1%	14.3%	2.9%	17.9%	30.7%	11.4%	3.0%	17.8%
100001-150000	33.3%	46.5%	24.1%	50.0%	8.6%	35.7%	38.0%	53.0%	13.1%	36.8%
150001-200000	21.4%	12.5%	10.3%	7.1%	11.4%	16.2%	6.1%	15.2%	35.4%	16.1%
200001-250000	7.3%	0.7%	3.4%	7.1%	20.0%	5.8%	0.6%	3.0%	17.2%	5.4%
250001-300000	6.2%	0.0%	6.9%	7.1%	22.9%	5.6%	1.1%	2.3%	16.2%	5.1%
300001-350000	0.0%	0.0%	3.4%	0.0%	17.1%	1.7%	0.0%	0.8%	4.0%	1.2%
350001 and more	1.6%	0.0%	0.0%	7.1%	17.1%	2.4%	0.0%	0.8%	9.1%	2.4%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 39. Breakdown of optimal monthly salaries

Optimal monthly salary	Family doctor	District therap.	Ob-gyn	Head of Dpt	HCF manager	Total	Yerevan	Urban	Rural	Total
Less than 100000	0.6%	0.7%	4.2%	0.0%	0.0%	0.8%	1.2%	0.7%	0.0%	0.8%
100001-200000	11.7%	17.1%	29.2%	7.1%	9.7%	14.4%	19.2%	16.2%	5.7%	15.1%
200001-300000	22.2%	29.5%	12.5%	42.9%	16.1%	24.6%	25.1%	23.5%	25.0%	24.6%
300001-400000	23.9%	21.2%	16.7%	14.3%	22.6%	22.0%	21.6%	20.6%	26.1%	22.3%
400001-500000	25.0%	25.3%	33.3%	21.4%	25.8%	25.6%	26.9%	23.5%	22.7%	24.8%
500001<	16.7%	6.2%	4.2%	14.3%	25.8%	12.7%	6.0%	15.4%	20.5%	12.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Urgent work-related problems of PHC providers

The survey studied professional needs of PHC providers. Participants were asked to indicate the biggest work-related problem they face which they believe should be addressed as a priority (no response options were offered). Responses are presented in Table 40, which shows the numbers of providers holding same view.

Table 40. Most urgent and priority work-related problems of PHC providers

Work problem	Family doctor	District therap.	Ob-gyn	Head of Dpt	HCF manager	Yerevan	Urban	Rural	Total
Salary increase	32.4%	33.6%	25.0%	18.2%	9.5%	42.7%	29.9%	11.6%	31.3%
Improvement of working conditions	29.0%	22.4%	0.0%	9.1%	52.4%	17.6%	24.3%	42.0%	25.4%
Reduction of the volume of paperwork	22.1%	29.6%	0.0%	27.3%	4.8%	29.8%	26.2%	10.1%	24.1%
Improved access to hardware and equipments	18.6%	17.6%	12.5%	27.3%	4.8%	8.4%	27.1%	20.3%	17.6%
Provision of a personal computer	7.6%	8.8%	12.5%	9.1%	4.8%	7.6%	5.6%	11.6%	7.8%
Provision of a vehicle to the HCF	8.3%	2.4%	0.0%	0.0%	19.0%	0.8%	2.8%	20.3%	5.9%
Provision of a separate cabinet/office	5.5%	2.4%	12.5%	0.0%	0.0%	2.3%	8.4%	0.0%	3.9%
Legal protection of physicians	4.1%	3.2%	0.0%	0.0%	0.0%	6.9%	0.9%	0.0%	3.3%
Increased financing of ambulatories	0.7%	1.6%	0.0%	0.0%	23.8%	1.5%	0.0%	8.7%	2.6%
Increase of the scope of free services	0.7%	1.6%	12.5%	0.0%	4.8%	3.1%	0.0%	1.4%	1.6%
Shortage of narrow specialists	0.7%	1.6%	0.0%	9.1%	4.8%	0.0%	2.8%	1.4%	1.3%
Free trainings/upgrading	1.4%	1.6%	0.0%	0.0%	0.0%	0.0%	2.8%	1.4%	1.3%
Provision of a social package to HCWs	0.0%	0.0%	37.5%	9.1%	0.0%	0.0%	3.7%	0.0%	1.3%
Organization of rational registration of patients	1.4%	1.6%	0.0%	0.0%	0.0%	2.3%	0.9%	0.0%	1.3%
Provision of free drugs as part of humanitarian aid	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.9%	0.7%
Revision/provision of the list of free drugs	0.0%	0.8%	0.0%	9.1%	0.0%	0.0%	1.9%	0.0%	0.7%
Strengthening of preventive interventions	0.7%	0.8%	0.0%	0.0%	0.0%	1.5%	0.0%	0.0%	0.7%
Training on/awareness of legal issues	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	0.3%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

As the Table shows, overall, PHC providers shortlisted the following four problems requiring urgent solution.

1. Increase of the salary (indicated by 31.3% of respondents)
2. Improvement of working conditions (25.4%)
3. Reduction of the volume of paperwork (24.1%)
4. Improved access to hardware and equipments (17.6%).

In fact, **increase of the salaries** as an urgent problem was mentioned more often by respondents from Yerevan (42.7% of providers from Yerevan), and less by providers from other towns (29.9%) and villages (11.6%). These data match information presented in Table 31, according to which the average monthly pay of Yerevan PHC providers is the lowest (around AMD 105 000) ad is higher in other cities (around AMD 130 000) and villages (around AMD 200 000).

This problem is less urgent among HCF managers (9.5%) and Department heads (18.2%) in peripheries.

Improvement of working conditions was mostly reported by HCF managers (52.4%) and rural providers (42.0%).

This problem was not considered an urgent one by obstetrician-gynecologists.

Reduction of the volume of paperwork was relatively more often mentioned by Yerevan (29.8%) and other urban (26.2%) HCWs, and only 10.1% of rural providers.

This problem was skipped by obstetrician-gynecologists and only as little as 4.8% of HCF managers had mentioned it as a priority issue.

Poor access to hardware and equipments was reported by 27.1% of urban and 20.3% of rural providers. This problem was more often mentioned by department heads (27.3%).

It is noteworthy that some of the low priority issues are in reality quite serious for some provider groups: In particular, **provision of a vehicle to the HCF** is in fact a critical issue for rural doctors (20.3%) and HCF managers (19.0%).

Improvement of financing of ambulatories is an urgent problem for HCF managers (23.8%) and provision of a social package to HCWs was reported by 37.5%of obstetrician-gynecologists.

Computer training needs

Among other issues, the survey studied also the PHC providers' computer literacy, internet searching skills and the need for computer training. In fact, the latter seems to be quite high.

- Majority (72.3%) of surveyed physicians believed they need to upgrade their computer skills
- Most of respondents (70.1%) need to improve their internet use skills.

Table 41. Training needs to improve computer and internet skills

Description	Category	Improvement of computer skills	Improvement of internet skills
HCF site	Yerevan	70.4%	65.2%
	Urban	75.2%	74.6%
	Rural	71.7%	72.9%
HCF type	Ambulatory	71.1%	71.6%
	Medical center	64.6%	65.5%
	Polyclinic	78.9%	73.7%
	Hospital	33.3%	33.3%
Position	Family doctor	78.6%	77.7%
	District therapist	72.5%	68.8%
	Ob-gyn	41.9%	35.5%
	Head of department	75.0%	66.7%
	HCF manager	60.0%	64.7%
Total		**72.3%**	**70.1%**

Main findings and recommendations

Below Table 42 presents main findings of the survey and recommendations to address the revealed problems.

Table 42. Main findings and recommendations

Finding	Recommendation
1. **Low access of PHC providers to computer hardware (6.9%)** 2. **Extremely low access of PHC providers to internet in the office (5.6%)** 3. **Very high need for trainings for PHC providers to improve their computer and internet skills (reported by 72.3% and 70.1% of providers correspondingly)** 4. **Reduction of the standard /mandatory/ paperwork continues to be a topical issue. Average length of recording/population of paper forms/ per patient is 13 minutes, whereas the average length of one patient's consultation and examination is 19 minutes, hence working with papers takes 40% of the time defined for seeing one patient.**	• Every PHC provider needs to have a PC. • Ensure connection of all computers to internet. • Organize computer and internet trainings for providers. This will help to • Convert the entire manual paperwork to computerized system, • Reduce the time spent on paper work, • Ensure peer communication of providers from peripheries • Improve access to official documents, regulations and the ICD-10
5. **The average actual number of patients seen by family doctors and district therapists per day essentially increases the optimal number for delivery of quality services.** 6. **The average actual salary of providers is essentially below the expected average salary (it covers only 32% of the optimal salary)** **The problem is particularly urgent for family doctors and district therapists painful in Yerevan and other towns.**	Study possibilities for reduction of PHC providers' workload and increase of their remuneration. This reform will help to improve the quality of delivered of primary care services.
7. **Improvement of working conditions is a priority issue for PHC settings, including renovation of ambulatory buildings, improvement of heating and water supply systems.**	Study actual facilities of PHC sites and carry out improvement activities (renovation, enforcement, refurbishing, etc.).
8. **Provision of a vehicle to the HCF is an urgent issue for rural HCFs.**	Study motor pool of rural HCFs and consider possibilities of providing a vehicle to them.

8. HEALTH STATUS

This chapter looks at the main objective of health system - the public health promotion and strengthening. The assessment of general health status of the population was supported by NHIAC and NSS indicators.

Population health was assessed by using five indicators, which describe demographic and socioeconomic situation of the country as well as population health challenges.

- **Population number and structure –** this is the basic demographic indicator, which includes population number, gender, residence and age breakdowns
- **Life expectancy at birth**, which is the main integral indicator of population health and reflects the impact of all health factors.
- **Natural population reproduction**
- **Main causes of mortality**
- **Most prevalent diseases** - describes the most common diseases threatening the health of the population and undermining their life quality. Treatment and prevention of these diseases require special attention.
- **Child, infant, neonatal and maternal mortality.** The indicator is closely linked to the country's general health system development, since analysis of those indicators collected for dozens of years from all over the world showed that **under other equal conditions**, the more developed the country is - the more developed is the health system and the lower are the child, infants and maternal mortality rates. The first three indicators significantly affect the life expectancy indicator.

Population number and structure

As of 1st January 2015 the number of permanent population of Armenia was estimated 3 010,6 thousand. In 2014 the share of urban population was 63,4% and of rural - 36,6 %. Males comprised 47,8% and females 52,2% of the population. The average age was 36,2 years with males comprising 34,5% and females 37,8%.

- **Low population reproduction rate continues being one of the painful demographic challenges in Armenia.**

This is one of the main factors contributing to population aging in Armenia. Population aging is the result of long-term demographic changes, changes in population reporduction, birth rate, mortality and the correlations thereof as well as migration. According to the UN demographic aging scale when the proportion of 65 and above population exceeds 7% of the population structure, the latter is considered aging.

- **As of early 2015 the share of 65 and above population in Armenia comprised 10,7%.**

The proportion of under 15 population suffered drastic decline between 1990 and 2014. It comprised 32,2% in 1990.

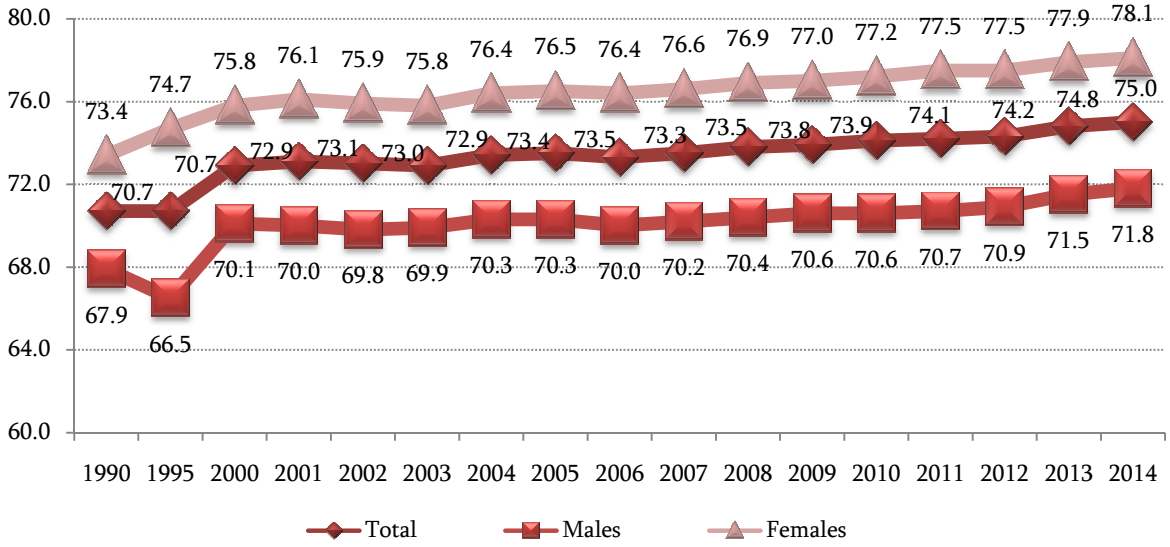
- **As of early 2015 the proportion of under-15 population was 19,1%.**

The share of work-capable population during the said period was 67,3% (versus 59,7% in 1990), and the share of those (elderly people) above the work-capable age, was 12,3% as of early 2014 (versus 8,1% in 1990). Source: Demographic Handbook of Armenia, NSS, 2014.

Life expectancy

As of 2014 the average life expectancy in Armenia was 75 years. At that, women live 6.3 years longer than men (Figure 15). The average life expectancy at birth increased between 2005 and 2014. The rate increased by 2.8 years compared with 1990, which is due to decreasing infant (under 1) mortality (18.5 per 1000 live births in 1990 while 9.7 in 2013).

Figure 15. Life expectancy at birth, 1990, 1995 and 2000-2014



Source: NSS, 2015

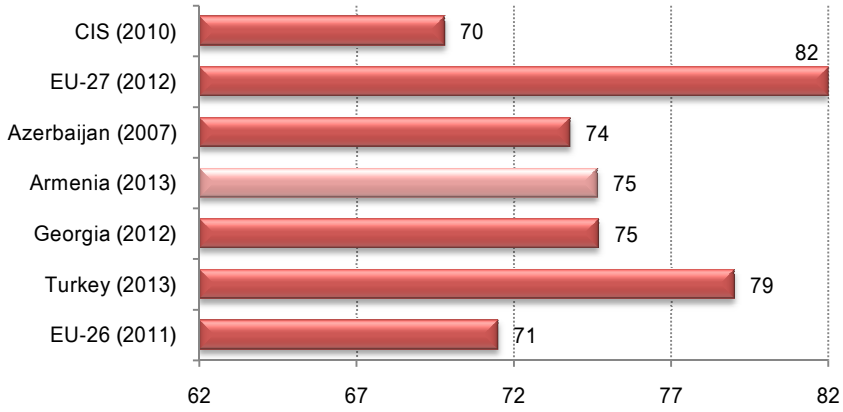
According to WHO estimates, life expectancy at birth is actually lower in Armenia than the officially reported results, likely by four years. This statement is explained by the fact that Armenia public agencies do not have the capacity to ensure accurate estimation of deaths of RA citizens residing outside the territory of the country.

Since labor migration from Armenia is mostly to Russia (around 190,000 people per year), hence

- **After Armenia joins the European Economic Union, registration of deaths of RA citizens in Russian Federation and reporting/exchange/ of this information to Armenian authorities should be regulated in cooperation with responsible agencies of Russia.**

Armenia has a higher rate of life expectancy at birth compared with 26 CIS and EU-26 countries. The rates do not vary much compared with Georgia and Azerbaijan, but are below the average level of developed European countries (EU-27) (Figure 16).

Figure 16. Life expectancy at birth, selected countries and country groups, 2007, 2010-2013



Source: DFA-DB, 2015

Natural reproduction of population

The **total mortality rate** showed decline tendency between 1949 and 1989 due to annual improvement of the country's socioeconomic situation, wellbeing and development of the health system (Figure 17). If in 1949 the total mortality rate was 10,9 per 1000 population, in 1989 it dropped to 6,0. The drastic increase of mortality in 1988 (reaching 10,3) was due to a natural disaster – the Spital earthquake.

In post-Soviet period the total mortality rate increased from 6,5 (1991) to 9,2 (2014).

- **The change of population age structure (population aging) is one of the main components contributing to increase of the total mortality ratio.**

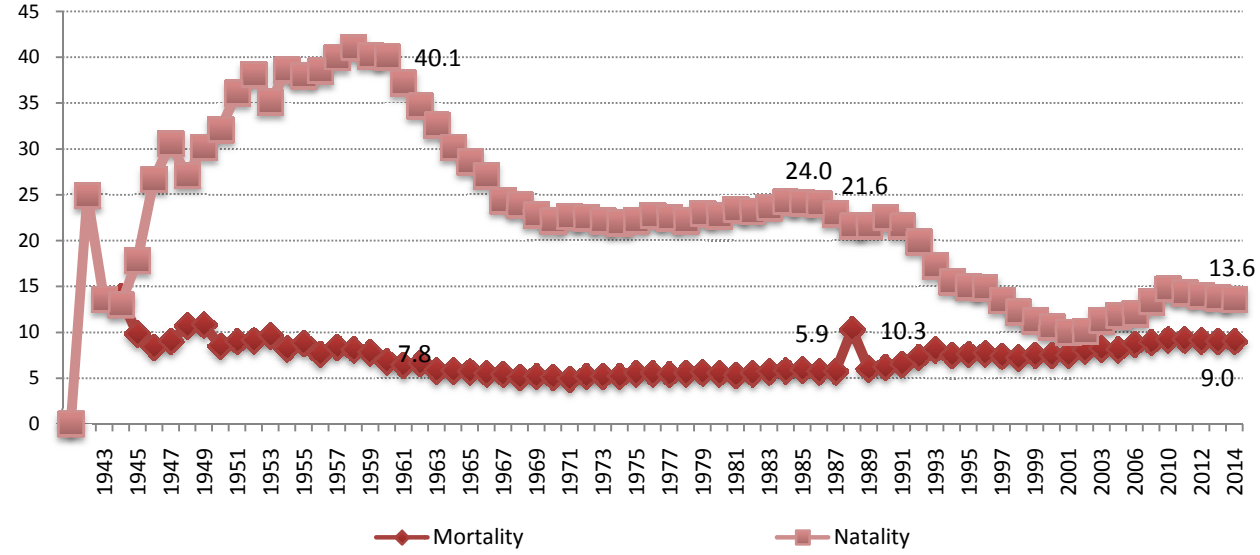
Total mortality ratio of 55 and older people significantly exceed the lower age ratios, hence population aging leads to the increase of the total mortality rate.

The total birth rate in Armenia has increased until 1958 reaching 41,1 births per 1 000 population. This increase was due to development of healthcare system in Soviet Armenia. During 1958-1973 the cumulative birth rate dropped to 22,1, which was the result of cultural changes in industrial society, as recorded in all industrial countries. Afterwards, the total birth rate increased slightly from 22,1 to 24,2, which may be explained by improvement of family social conditions, including the growing number of nurseries and kindergardens, improvement of housing conditions, increasing number of children's summer camps and resthouses and expansion of benefits for working mothers.

Due to reforms of the 1990-s economic collapse in Armenia resulted in mass migration of reporduction age population and mass poverty which had a negative spin-off on birth rate. The lowest rate was recorded in 2001, followed by very slow natural reporduction.

- **Another important factor contributing to low birth rate in Armenia is the vast spread of self-centered values and consumer culture,limiting the number of children to 1 or 2.**

Figure 17. Total mortality and natality rates of RA population, 1942-2014



Source: NSS, 2015

Natural reporduction across marzes

Dynamics of mortality, natality, natural growth and infant (under-1) mortality between 2000 and 2014 per marzes is described in Tables 43 through Table 46.

The higher the ratio in mortality tables (negative content) the darker is the shading of red in the cell, whereas in natural growth and natality tables the higher the rates (positive content) the darker is green shade of the cell.

In each table shadings of any two cells are compatible, which enables immidiately understanding both time dynamics of each marz (shades per line) and marz differences for each separate year (shades per column).

Cross-matching of total mortality rates across marzes (Table 43) suggests the following tendencies:

- **The highest mortality rate is recorded in northern marzes- Lori, Tavush and Shirak, with the highest rate recorded in Lori.**
- **The highest proportion of 55 and older population in all three marzes is a strong contributing factors.**
- **Total mortality rates are the lowest in Kotayk, Armavir and Gegharkunik. Here the number of 55 and older population is lower compared with other marzes.**
- **Mortality rate in all marzes shows an increase tendency which speaks of aging population in all marzes of Armenia.**

Table 43. Total mortality rates across marzes, per 1000 population, 2000-2014

Marz	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
RA	7.5	7.5	8.0	8.1	8.0	8.2	8.5	8.3	8.5	8.5	8.6	8.6	9.1	9.0	9.20
Yerevan	7.6	7.7	8.1	8.2	8.1	8.2	8.3	7.9	8.2	8.0	8.2	8.2	8.5	8.6	8.72
Aragatsotn	7.3	6.9	7.7	8.1	8.1	7.9	8.3	8.5	8.5	9.0	8.7	8.8	9.6	8.9	8.89
Ararat	6.5	6.6	7.2	7.4	7.2	7.5	7.4	7.7	7.9	7.9	8.1	8.1	8.4	8.4	8.65
Armavir	6.6	6.6	7.0	7.6	7.2	7.4	7.7	7.5	7.9	7.7	8.0	8.0	8.7	8.1	8.77
Gegharkunik	6.8	6.6	7.5	7.5	7.1	7.6	7.9	7.5	7.9	7.9	8.0	8.0	8.2	7.9	7.78
Lori	9.2	8.9	9.3	9.5	9.3	9.5	9.9	10.2	10.3	10.3	10.4	10.3	12.0	12.1	11.97
Kotayk	6.3	6.2	6.7	7.2	7.0	7.3	7.5	7.9	8.0	8.0	7.8	7.9	8.8	8.8	8.88
Shirak	8.1	8.5	9.0	8.5	8.9	9.0	9.3	9.4	9.3	9.8	10.0	9.9	10.7	10.1	10.91
Syunik	7.1	7.5	7.6	7.7	8.0	8.3	8.9	8.1	8.0	8.7	8.3	8.4	9.1	9.0	8.98
Vayotz Dzor	7.6	7.3	7.9	7.9	7.7	8.8	9.0	8.4	8.4	8.9	8.8	8.3	9.5	9.0	9.55
Tavush	8.5	9.0	9.5	9.7	9.4	9.5	10.2	10.1	10.3	10.6	10.0	10.0	10.3	10.3	10.54

Source: NSS, 2015

- **Birth rates are the lowest in Syunik and Tavush.**
- **The relatively small number of 20-29 population (the reproductive age) may be among the reasons.**
- **However other tangible determinants affecting marz differences in total natality rates should not be excluded.**
- **The cumulative natality rate has essentially declines between 2000 and 2014 in Syunik and Tavush, whereas other marzes see rate improvement.**

Table 44.Total natality rate across marzes, per 1000 population, 2000-2014

Marz	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
RA	10.6	10.0	10.1	11.2	11.7	11.7	11.7	12.4	12.7	13.7	13.8	13.3	14.1	13.8	14.28
Yerevan	9.5	9.3	9.5	10.2	10.9	11.1	11.2	12.1	12.6	13.8	13.9	14.0	14.7	14.4	15.09
Aragatsotn	12.4	10.8	11.1	12.1	12.6	12.7	12.8	13.3	13.5	14.3	15.2	13.9	14.3	14.7	14.65
Ararat	10.5	9.6	10.0	11.1	11.8	11.7	11.7	12.8	12.9	13.6	14.1	13.2	14.4	14.1	14.45
Armavir	11.0	10.1	10.0	10.9	12.2	12.2	12.0	12.7	12.6	14.0	14.2	13.8	14.0	13.6	13.53
Gegharkunik	11.5	10.5	10.5	12.2	12.9	13.2	12.7	13.1	13.5	14.2	14.3	13.4	13.5	13.5	13.18
Lori	11.7	10.7	10.6	12.2	11.8	11.4	11.2	11.3	12.0	12.3	13.1	12.0	14.2	13.6	14.64
Kotayk	10.8	10.1	10.0	11.5	12.2	12.1	12.4	13.6	13.3	14.7	14.0	13.6	14.3	14.2	14.82
Shirak	10.7	10.0	9.9	11.4	12.0	11.8	11.9	12.4	13.6	14.2	13.7	13.2	14.2	14.1	15.06
Syunik	11.4	10.1	10.3	11.5	10.9	10.5	10.7	11.4	11.5	11.5	11.3	10.4	11.0	10.5	10.69
Vayots Dzor	12.3	11.8	10.8	12.1	11.9	11.9	11.3	12.3	13.1	12.5	12.4	11.6	12.1	12.6	12.35
Tavush	12.0	11.0	11.3	12.4	12.5	11.6	12.0	12.4	11.4	13.4	12.6	11.3	12.0	11.7	11.81

Source: NSS, 2015

- **Natural growth is the lowest in Tavush, Lori and Syunik due to the already observed total marz mortality and natality rate values.**
- **Total natural growth rate between 2000 and 2014 was the highest in Yerevan. In 2000 it was the lowest across marzes, whereas in 2014 it leads the list (6,4).**
- **This may be the result of brisk development and improved socioeconomic situation of Yerevan as opposed to marzes.**
- **If the assumption is correct, Armenia should pay greater attention to even development of marzes.**

Table 45. Total natural growth rates across marzes, ‰, 2000-2014

Marz	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
RA	3.1	2.5	2.1	3.1	3.7	3.5	3.2	4.1	4.2	5.2	5.2	4.7	4.9	4.8	5.08
Yerevan	1.9	1.6	1.4	2.0	2.8	2.9	2.9	4.2	4.4	5.8	5.7	5.8	6.2	5.8	6.37
Aragatsotn	5.1	3.9	3.4	4.0	4.5	4.8	4.5	4.8	5.0	5.3	6.5	5.1	4.8	5.8	5.76
Ararat	4.0	3.0	2.8	3.7	4.6	4.2	4.3	5.1	5.0	5.7	6.0	5.1	6.0	5.7	5.80
Armavir	4.4	3.5	3.0	3.3	5.0	4.8	4.3	5.2	4.7	6.3	6.2	5.8	5.3	5.5	4.77
Gegharkunik	4.7	3.9	3.0	4.7	5.8	5.6	4.8	5.6	5.6	6.3	6.3	5.5	5.4	5.6	5.40
Lori	2.5	1.8	1.3	2.7	2.5	1.9	1.3	1.1	1.7	2.0	2.7	1.7	2.2	1.6	2.67
Kotayk	4.5	3.9	3.3	4.3	5.2	4.8	4.9	5.7	5.3	6.7	6.2	5.7	5.5	5.5	5.94
Shirak	2.6	1.5	0.9	2.9	3.1	2.8	2.6	3.0	4.3	4.4	3.7	3.3	3.5	4.0	4.15
Syunik	4.3	2.6	2.7	3.8	2.9	2.2	1.8	3.3	3.5	2.8	3.0	2.0	1.9	1.5	1.71
Vayots Dzor	4.7	4.5	2.9	4.2	4.2	3.1	2.3	3.9	4.8	3.6	3.6	3.3	2.5	3.6	2.80
Tavush	3.5	2.0	1.8	2.7	3.1	2.1	1.8	2.3	1.1	3.1	2.6	1.3	1.8	1.4	1.27

- **Infant mortality is relatively higher in Shirak, Syunik, Gegharkunik and Vayots Dzor marzes.**
- **Health system performance is a priority condition for improvement of this indicator.**

Table 46. Total infant mortality rates across marzes, 2000-2014

Marz	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Shirak	15.6	22.3	17.4	14.6	15.2	17.4	22.2	21.6	18.8	19.1	19.8	23.3	17.8	18.1	14.58
Syunik	11.3	14.0	11.6	7.5	14.8	11.2	14.7	14.4	9.1	8.0	15.1	16.2	18.0	15.4	13.98
Gegharkunik	16.3	17.8	15.6	12.8	6.6	12.1	17.1	10.0	11.8	7.7	16.8	13.1	9.4	15.1	12.63
Vayots Dzor	14.8	19.0	9.3	5.9	7.2	7.5	11.2	9.1	12.3	12.4	11.7	11.0	13.9	8.4	10.39
Lori	24.2	12.1	4.8	12.4	10.6	13.6	14.2	4.4	12.4	15.8	18.7	6.1	9.4	13.7	9.39
Tavush	17.6	14.4	16.2	15.9	14.8	15.0	16.9	15.9	18.8	17.1	16.1	13.3	11.6	10.4	9.60
RA	11.8	16.8	16.0	15.0	11.3	11.9	16.2	12.0	14.3	13.3	9.9	7.8	9.1	10.0	6.00
Kotayk	15.6	15.4	14.0	12.0	11.6	12.3	13.9	10.9	10.8	10.4	11.4	11.6	10.8	9.7	8.76
Armavir	17.8	15.3	12.4	10.4	9.4	8.1	13.8	13.7	8.3	10.6	9.6	13.2	11.7	9.6	9.57
Ararat	11.5	12.6	14.5	8.7	9.4	9.2	14.3	11.1	9.3	11.1	10.9	11.3	10.7	8.8	7.19
Aragatsotn	16.1	9.3	8.5	7.3	6.3	5.7	12.8	8.1	6.9	12.6	10.4	16.9	11,9	6.7	7.76
Yerevan	16.1	14.0	15.0	13.7	13.6	14.5	10.5	6.9	7.3	5.8	7.2	7.5	7.6	6.7	6.16

Source: NSS, 2015

Dynamics of mortality age indexes in Armenia over the period of 1999-2014 is presented in Table 47

Table 47. Dynamics of age indexes of mortality in Armenia, 1999-2014

- **Under-1 and 1-4 mortality has declines between 1999 and 2014.**
- **Mortality rate of 60 and older population has also declines.**
- **Hence, it could be concluded that the health status of the population of Armenia has somehow improved between 2000 and 2014.**

Table 47. Dynamics of age indexes of mortality in Armenia, 1999-2014

Year	0	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+
1999	15.4	3.4	0.2	0.2	0.5	0.5	0.7	1.1	1.5	2.5	4.4	6.6	11.8	19.3	30.9	72.0
2000	15.6	3.4	0.2	0.2	0.4	0.6	0.7	1.1	1.8	2.5	4.0	6.4	9.9	18.7	28.8	69.0
2001	15.4	3.1	0.1	0.2	0.4	0.5	0.9	1.3	1.8	2.6	4.0	6.1	10.7	17.6	27.3	67.3
2002	14.0	2.7	0.2	0.2	0.4	0.4	0.6	1.2	1.6	2.6	3.8	6.9	10.1	17.0	28.8	75.5
2003	12.0	2.6	0.2	0.2	0.3	0.5	0.7	1.0	1.6	2.5	4.1	6.6	10.5	16.5	28.7	75.9
2004	11.6	2.7	0.2	0.2	0.3	0.5	0.6	1.0	1.6	2.4	4.1	6.4	10.2	17.1	28.0	73.3
2005	12.3	2.9	0.2	0.2	0.4	0.4	0.6	1.1	1.6	2.5	3.8	6.7	10.4	16.1	27.1	75.4
2006	13.9	3.3	0.2	0.2	0.4	0.6	0.8	1.1	1.6	2.7	4.0	6.6	10.3	16.8	27.0	75.4
2007	10.9	2.7	0.2	0.2	0.4	0.5	0.7	0.9	1.5	2.6	4.0	6.4	10.0	15.7	24.9	74.0
2008	10.7	2.6	0.2	0.2	0.4	0.6	0.6	1.0	1.6	2.8	3.9	6.3	10.3	16.0	25.1	73.4
2009	10.2	2.7	0.2	0.2	0.5	0.5	0.7	1.0	1.5	2.5	3.7	6.2	10.0	16.5	23.5	72.9
2010	11.4	3.0	0.2	0.2	0.5	0.5	0.6	0.9	1.4	2.5	3.8	6.0	9.3	15.3	23.7	73.3
2011	11.7	2.9	0.2	0.2	0.5	0.6	0.6	0.8	1.5	2.3	3.7	5.8	9.1	15.4	22.0	72.6
2012	10.8	2.5	0.2	0.3	0.4	0.6	0.7	1.0	1.4	2.6	3.9	5.9	10.0	15.0	23.6	72.1
2013	**9.7**	**2.2**	**0.2**	**0.2**	**0.4**	**0.5**	**0.6**	**0.9**	**1.2**	**2.1**	**3.7**	**6.0**	**9.5**	**15.1**	**22.6**	**73.0**
2014	**8.7**	**2.1**	**0.2**	**0.2**	**0.4**	**0.5**	**0.7**	**0.7**	**1.4**	**2.3**	**3.7**	**5.6**	**8.9**	**14.9**	**22.2**	**77.5**

Source: NSS, 2014

Causes of mortality

A total of 27 714 deaths was registered in Armenia in 2014 (919,56 per 100 000 population). Table 48 lists the most prevalent causes of mortality in Armenia for the period covering 2009 to 2014. Presented data show that breakdown of causes of death during these years did not change much.

Table 48. Causes of death in Armenia, 2009-2014

Causes of death	2009	2010	2011	2012	2013	2014
Circulatory system diseases	49.1%	48.9%	47.6%	48.3%	47.7%	47.9%
Neoplasms	19.6%	19.8%	19.9%	20.4%	20.6%	20.6%
Respiratory system diseases	6.5%	5.9%	6.1%	5.8%	6.0%	6.7%
Digestive system diseases	5.9%	5.8%	6.3%	5.8%	6.0%	5.9%
Injury, poisoning and certain other consequences of external causes	4.4%	4.5%	4.9%	4.9%	4.7%	4.5%
Endocrine, nutritional and metabolic disorders	5.2%	5.2%	5.0%	4.8%	4.9%	4.5%
Diseases of the genitourinary system	2.6%	2.9%	2.8%	2.9%	3.4%	3.2%
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	2.9%	2.9%	3.2%	2.8%	2.6%	2.6%
Congenital malformations, deformations and chromosomal abnormalities	1.1%	1.5%	1.7%	1.6%	1.7%	1.6%
Certain infectious ansd parasitic diseases	1.0%	1.1%	0.9%	1.0%	0.9%	1.01%
Certain conditions originating in the perinatal period	0.7%	0.7%	0.8%	0.7%	0.6%	0.62%
Diseases of the nervous system	0.5%	0.6%	0.4%	0.5%	0.4%	0.41%
Duodenal ulcer	0.3%	0.3%	0.3%	0.3%	0,3%	0.39%
Diseases of the musculoskeletal system and connective tissue	0.2%	0.2%	0.2%	0.2%	0.4%	0.15%
Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	0.1%	0.1%	0.1%	0.08%	0.07%	0.07%
Diseases of the skin and subcutaneous tissue	0.1%	0.1%	0.0%	0.1%	0.3%	0.09%
Pregnancy, childbirth and the puerperium	0.0%	0.0%	0.0%	0.0%	0.3%	0.02%
Mental and behavioral disorders	0.0%	0.0%	0.0%	0.0%	0.0%	0.01%

Source: NHIAC, 2014

The two most prevalent mortality causes include:

- **circulatory system diseases, accounting for nearly 47.9% of all deaths in the country, and**
- **malignancies covering 20,6 % of all deaths.**

The proportion of deaths due to certain nosologies under the CSD (circulatory system diseases) is presented in Table 49. The proportions of mortality causes did not change much between 2009 and 2014. The percentage of deaths due to IHD, chronic and other forms comprise significant share (30,9 % in 2014). CerVDs and AMIs take nearly equal number of lives: 9,5 % and 8,6 % correspondingly.

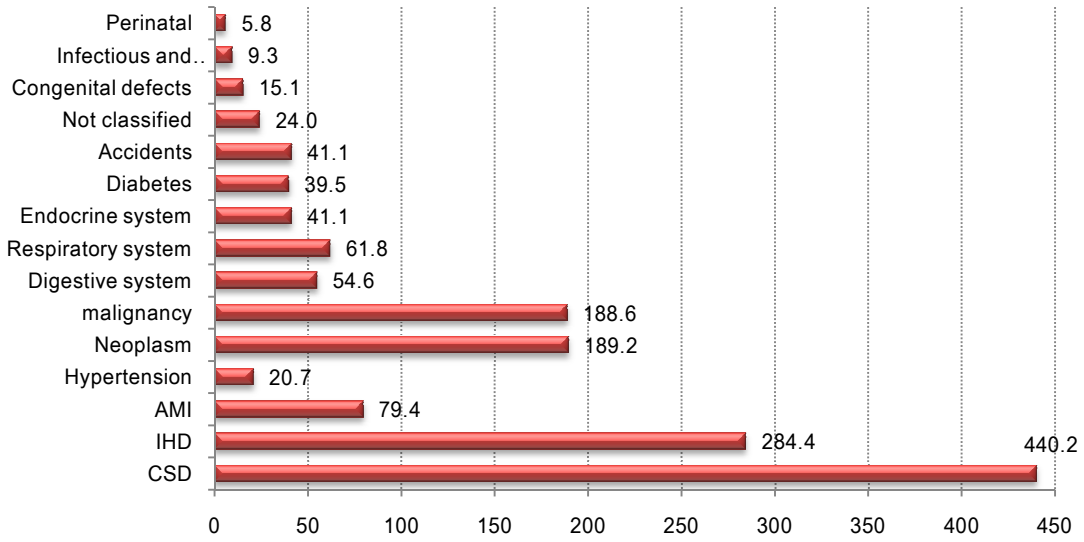
Table 49. CSD mortality per nosologies

Cause of death	2009	2010	2011	2012	2013	2014
Ischemic heart disease, chronic and other forms	29.1%	29.4%	29.5%	30.5%	31.2%	30.9%
Cerebrovascular diseases	11.5%	10.6%	10.4%	10.2%	9.4%	9.5%
Acute myocardial infarction	9.7%	10.0%	9.1%	9.4%	8.8%	8.6%
Hypertensive diseases	3.6%	3.9%	3.2%	2.8%	2.4%	2.2%

Source: NHIAC, 2014

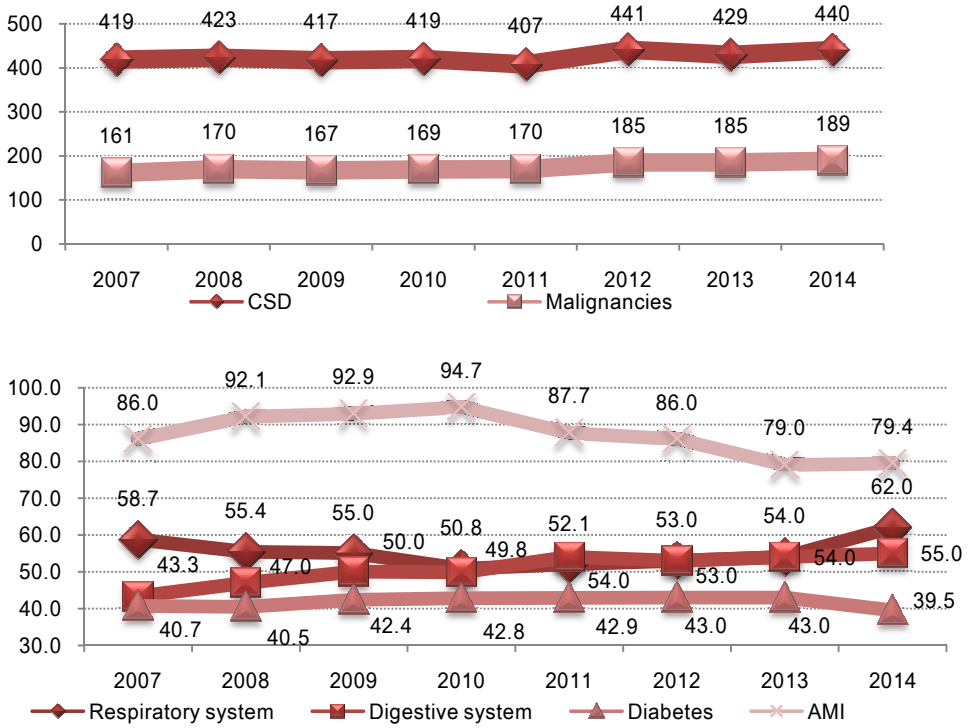
Figure 18 presents the lead causes of mortality in Armenia per 100 000 population, and Figure 19 A and B sectons show the dynamics of most prevalent causes per 100 000 population.

Figure 18. Mortality according to the causes, 2014, per 100 000 population



Source: NHIAC, 2014

Figure 19-A-B. Mortality due to most prevalent diseases , 2007-2014, per 100 000 population



Source: NHIAC, 2015

Table 50. RA population mortality (in all age groups and early deaths -under 65) according to cause and gender, 2014

	Gender	a.n	r.n.
Malignancies C00-C97	Male	1260	95.9
	Female	985	71.5
	Total	2245	83.4
Diabetes E10-E14	Male	160	12.2
	Female	144	10.4
	Total	304	11.3
Circulatory system diseases I00-I99	Male	1866	142.1
	Female	598	43.4
	Total	2464	91.5
Respiratory system diseases J00-J99	Male	203	15.5
	Female	80	5.8
	Total	283	10.5
Road accidents V01-V99	Male	134	10.2
	Female	34	2.5
	Total	168	6.2
Injuries and other external causes during accidents W00-W99	Male	68	5.2
	Female	7	0.5
	Total	75	2.8
Contact with poisonous animals and plants X20-X29	Male	4	0.3
	Female	0	0.0
	Total	4	0.1
Intentional self-harm X60-X84	Male	32	2.4
	Female	7	0.5
	Total	39	1.4
Harm –unknown and international Y00-Y98	Male	380	28.9
	Female	88	6.4
	Total	468	17.4
TOTAL MORTALITY	Male	5231	398.2
	Female	2491	180.7
	Total	7722	286.9

a.n.– absolute number
r.n – relative number per 100,000 population

Table 51. Total and early CSD mortality according to nosologies, 2014

Cause of death	2014			
	All age groups	%	Early (under 65)	%
Ishemic heart disease (I20-I25)	8570	64.6	1706	69.2
Including Angina pectoris (I20)	52	0.4	10	0.4
Acute myocardial infarction (I21)	2393	18.0	511	20.7
Subsequent myocardial infarction (I22)	300	2.3	80	3.2
Cerebrovascular diseases (I60-I69)	2637	19.9	452	18.3
Hypertensive diseases (I10-I13)	622	4.7	37	1.5

Source: NHIAC, 2015

According to statistical data 55 321 cases of CSD were recorded among 15 and older population of Armenia in 2014 (2272,2 per 100 000 population). The total number of patients was 224 636 (9226,4 per 100 000 population), and the mortality cases 13 268 (440,24 per 100 000 population).

Table 52. Prevalence of CSD in 18 and older population (morbidity and incidence), 2014

	Prevalence		Incidence	
	Absolute number	Relative number	Absolute number	Relative number
Total	223807	9632.74	54935	2364.42
Hypertensive diseases	115880	4987.52	24842	1069.21
Ischemic heart disease	68595	2952.35	16333	702.98
Including angina pectoris	22414	964.71	4456	191.79
Acute myocardial infarction	2127	91.55	1847	79.50
Subsequent myocardial infarction	770	33.14	504	21.69
Cerebrovascular diseases	18138	780.67	6065	261.04
Including subarachnoid hemorrhage	2039	87.76	906	38.99
Cerebral infarction	2320	99.85	1026	44.16
Stroke unspecified, as hemorrhage or infarction	1914	82.38	787	33.87
Not resulting in cerebral infarction, amyloidal angiopathy and cerebral arthritis	4308	185.42	1435	61.76

Source: NHIAC, 2015

In 2012 the CSD incidence in 15 and older population comprised 55989 cases (2280,8 per 100 000 population) , the total number of patients was 211 207 (8644,6 per 100 000 population), and the cases of death - 13 330 (440,79 per 100 000 population). As the figures suggest no mortality increase dynamics is seen compared with the previous year. However, unlike the mortality rate, the CSD prevalence shows annual increase which is apparetly explained by improved utilization of PHC services by the population.

In 2012 a total of 55 989 CSD incidences (first time in life diagnosed cases) (2280,8 per 100 000 population) in 15 and older population were recorded, the prevalence (total number of patients) was 211 207 (8644,6 100 000 population), and the number of deaths was 13 330 (440,79 per 100 000 population). The presented figures suggest no upward dynamics of mortality during the past

two years, whereas the CSD prevalence saw annual increase which is apparently due to improved utilization of PHC services.

Observation of 10-year statistical data points at the increase of CSD and decline of mortality (25 339 new cases of CSD were recorded among adult population in 2004, 1011,7 per 100 000 population). The total number of cases was 100 690 (4020,4 per 100 000 population), and mortality comprised 14 075 cases (438,0 per 100 000 population).

According to ICD-10, most prevalent nosologies under CSD include hypertensive diseases (I10-I13) which cover 51% of CSDs. In 2014 the incidence made up 24 936 cases, the prevalence 116 093, and the number of deaths due to hypertensive diseases – 623 (20,67 per 100 000 population).

IHDs are the second in terms of prevalence, yet they lead the mortality list (I20-I25), particularly acute myocardial infarction (AMI) and angina pectoris. In 2014 a total of 16 333 new cases of IHD were recorded of which 1847 were infarctions and 4 456 angina pectoris. The number of deaths due to IHDs was 8570, of which 2393 from AMI. Thus, 65% of deaths were induced by IHDs.

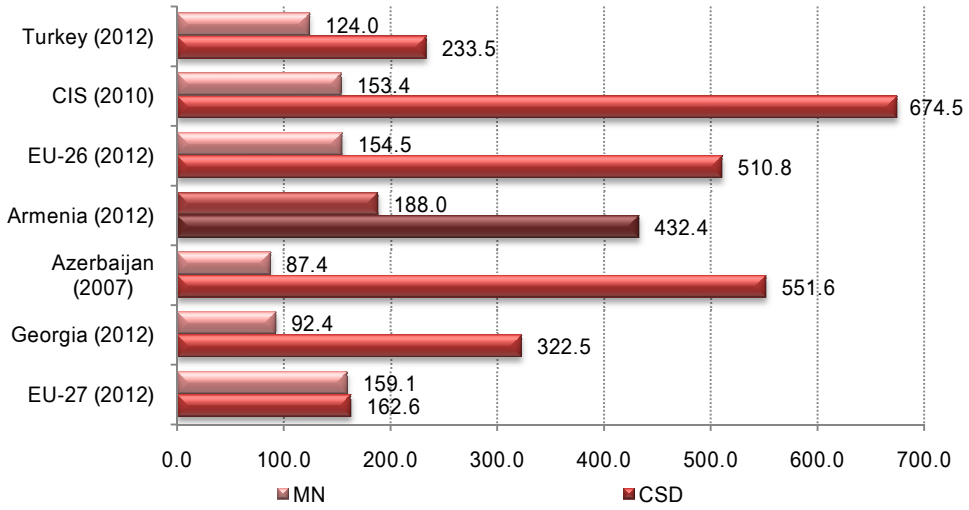
Cerebrovascular diseases (CerVD) are the third in terms of prevalence and mortality (I60-I69). In 2014 a total of 6 070 cases of CerVD were recorded, the total number of cases (i.e. prevalence) was 18 143 and the number of deaths 2637.

International comparison of most prevalent causes of mortality

The European Health for All Database does report age-standardized mortality rates due to different causes.

Figure 20 presents Armenia's mortality rates for circulatory system diseases and malignant neoplasms, compared with other countries. In Armenia the mortality rate due to circulatory system diseases is lower than in CIS and Eastern Europe countries, almost equal to Azerbaijan rate and higher than the Georgia rate. However, when it comes to malignancy-induced mortality rates Armenia shares one of the highest positions among the aforementioned countries.

Figure 20. Standardized mortality rates per 100 000 population due to cardiovascular diseases and malignant neoplasms, selected countries and country groups, most recent year available



Source: HFA-DB, WHO, 2015

The problem of diabetes Mellitus

Diabetes Mellitus is one of the main global social and health challenges. Over short time it leads to disability and shortens life expectancy.

Nearly 72 000 people in Armenia have diabetes. every year more than 8000 new cases are detected.

Most of the cases (82%) are Diabetes type II, i.e. managable and treatable

Table 53. Prevalence of endocrine system diseases

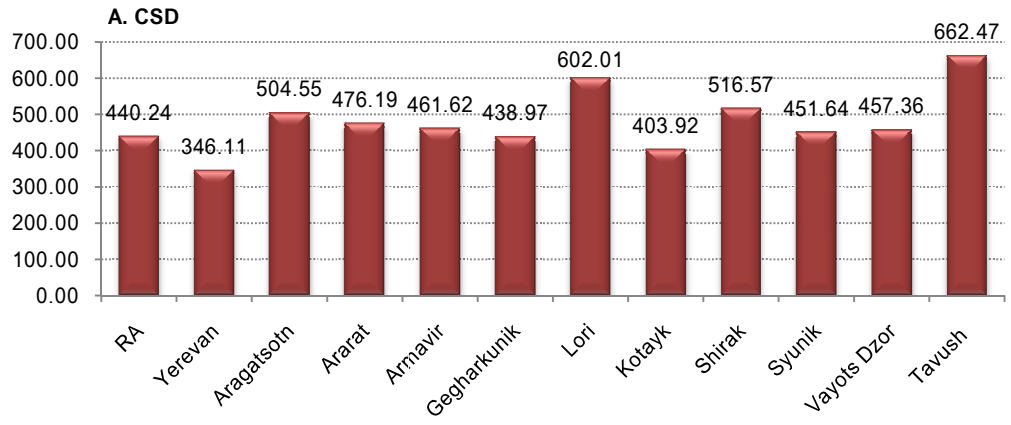
Disease	ICD 10	Morbidity and prevalence		Mortality	
		Prevalence (registered patients)	Morbidity (new cases)	In age groups	Early
Endocrine system diseases	E00-E90	87664	11038	1238	341
Diabetes type I	E10	12789	1538	35	9
Diabetes type II	E11	59037	6411	371	72

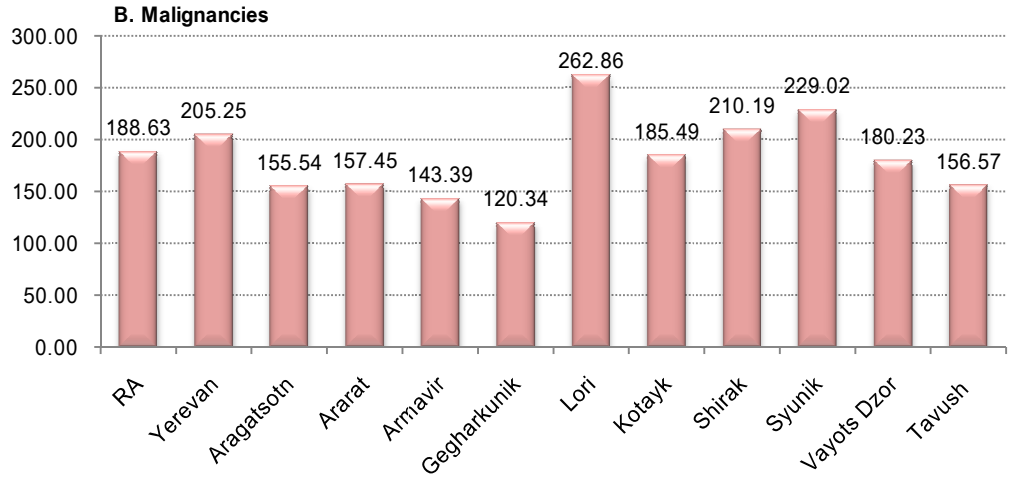
Most prevalent causes of mortality across marzes

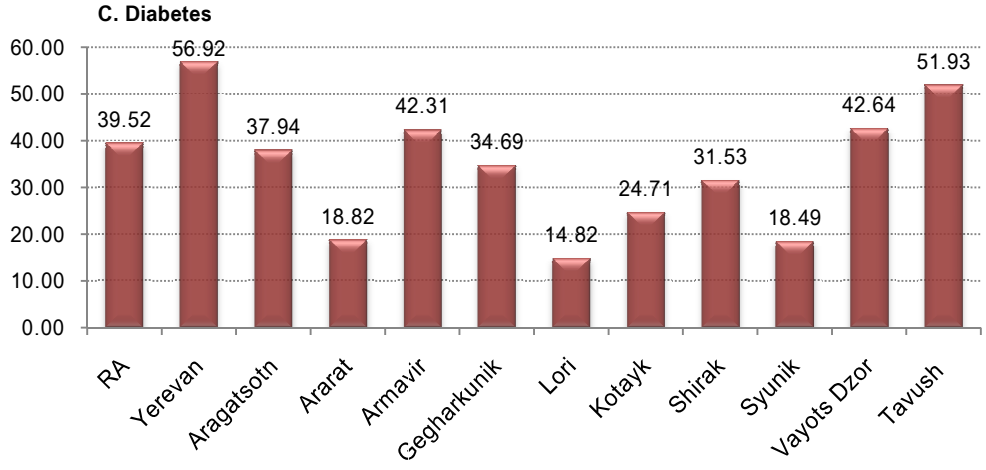
Figure 21 A, B and C present most prevalent mortality causes in marzes of Armenia. According to them:

- **CSD-induced mortality is essentially higher in Tavush and Lori marzes.**
- **Mortality due to malignancies is higher in Lori.**
- **Mortality due to diabetes is higher in Tavush.**

Figure 21. Most prevalent mortality causes, RA marzes, per 100 000 population, 2014







Child, infant, neonatal and maternal mortality

These indicators are closely linked to socioeconomic development of the country. They are included in the list of MDGs. Targets for child and maternal mortalities are defined in MDGs.

- **Under-five child mortality:** the MDG target is to reduce it from its level in 1990 by two thirds by 2015. In Armenia, that translates into a reduction from 24 deaths per 1000 live births in 1990 to 8 per 1000 in 2015.
- **Maternal mortality:** by 2015to reduce the ratio from its level in 1990 by three quarters. For Armenia, that means reducing it from 38.5 maternal deaths per 100 000 live births (the triennial average) to less than 9.6 by 2015.

Targets for these measures are also included in the Armenian strategy and program goals.

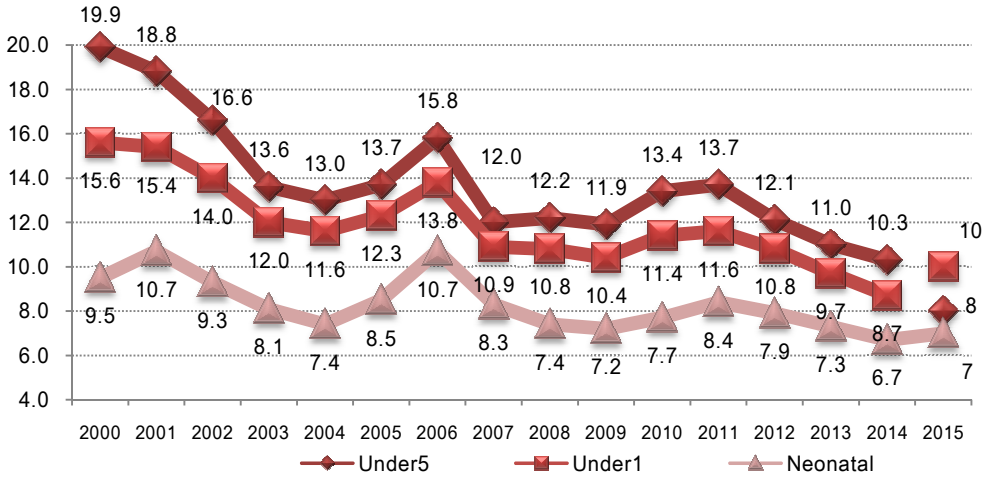
- **Infant mortality** (age 0-1) by 2012 reduce to at least 10 cases per 1,000 live births[4]
- **Neonatal mortality** (0-28 days) by 2012 reduce to 7 cases or less per 1,000 live births[5]
- **Perinatal mortality** by 2015 reduce to 10 cases or less per 1,000 live births[6]

[4] National Maternal and Child Health Strategy 2003-2015, this indicator and the child mortality target set in MDGs – 8 do not match since child mortality includes infant mortality and hence cannot be lower.
[5] National Reproductive Health Program 2007-2015
[6] National Reproductive Health Program 2007-2015

- **Maternal mortality** by 2015 reduce to 20 cases per 100,000 live births[7]

In 2005, Armenia adopted the WHO standard definition of live birth, which may partially account for the unusual increase in 2006. ence, when making extrapolations data of 2006 are taken as baseline. Figure 22 presents tendencies of child, infant and neonatal mortality rates since 2000.

Figure 22. Infant, child and neonatal mortality per 1000 live births, 2000-2015

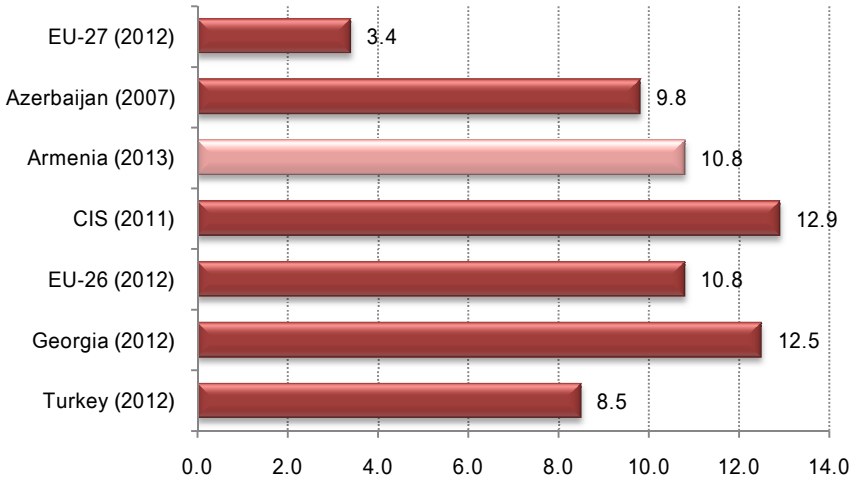


Source: NHIAC, 2015

Data depict decline of all 3 indicators of under-5 mortality rates during 2011-2014. In fact, the rates approached the Strategy targets.

Armenia generally has a lower infant mortality rate than in CIS, Eastern Europe (EU-26), Georgia and Turkey, but it is lower than in EU-27 (Figure 23).

Figure 23. Infant mortality ratio per 1000 live births, selected countries and country groups, recent years available, 2011, 2012-2013.

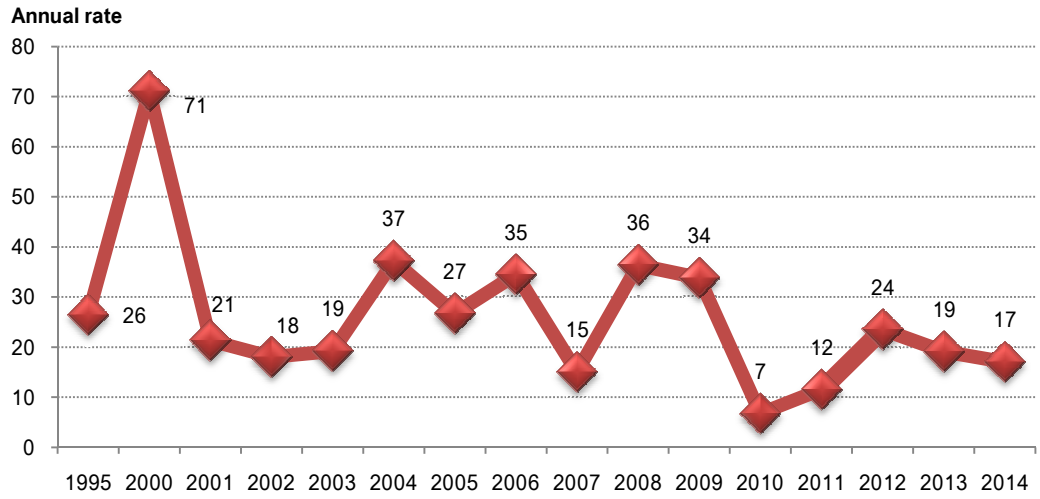


Source: HFA-DB, WHO, 2015

The number of maternal mortality cases is relatively small: a single event translates into approximately a 2.5% change in the ratio of all deaths. That is why maternal mortality ratio estimated per 100,000 live births is a rather unstable indicator. A triennial moving average of maternal mortality ratio is a more stable indicator. Both the annual and the triennial average ratios are presented in Figures 24 and 25.

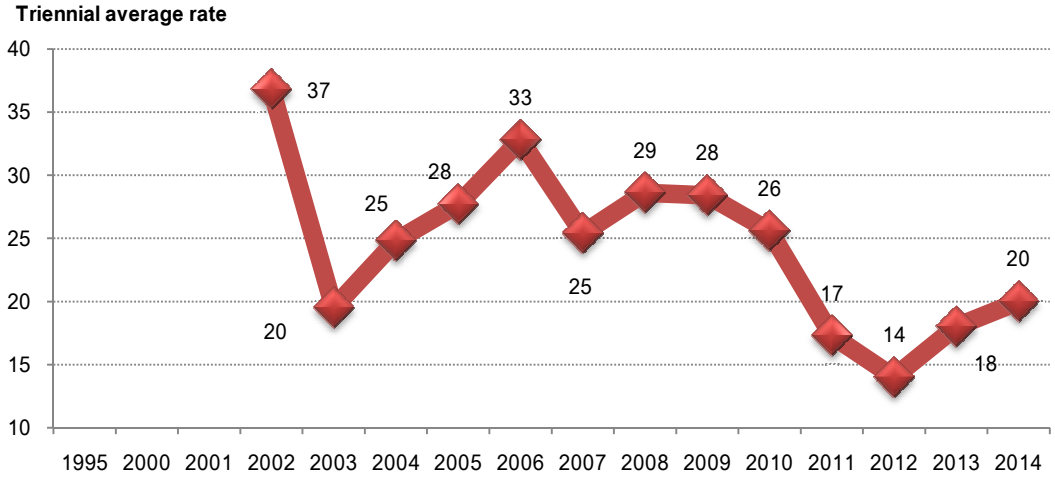
[7] National Maternal and Child Health Strategy 2003-2015

Figure 24. Maternal mortality ratio per 100 000 live births, 1995 and 2000-2014



Source: NHIAC, 2015

Figure 25. Maternal mortality ratio per 100 000 live births, 1995 and 2000-2014 (triennial average)



Source: NHIAC, 2015

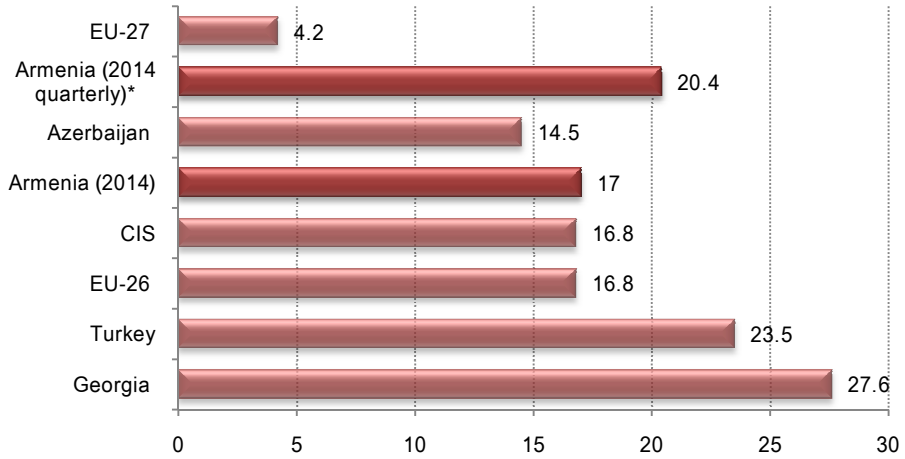
Maternal mortality ratio (triennial average) in 2011-2014 has been below the target set in National Maternal and Child Strategy.

Hence:

- **It is reasonable to set a new maternal mortality target adopting the MDG one – 10 deaths per 100 000 live births.**

Given the instability in annual ratios, international comparisons should be made with caution. Armenia's maternal mortality ratio is much lower than the ratios in neighboring countries and the average ratios in the EU-26 and the CIS. It is almost close to the rates of developed European countries (Figure 26).

Figure 26. Maternal mortality ratio per 100 000 live births, selected countries and country groups, 2013 - 2014



Source: HFA-DB, WHO, 2015

Miscarriages

Reflecting on natality rate, the following is noteworthy:

- **Low levels of total natality and natural growth rates in Lori marz may also be explained by rather high rate of miscarriage, in particular in fertile age women (Tables 54, 55, 56).**
- **Moreover, 94% of all miscarriages in Lori marz occur during the first 12 weeks of pregnancy. Some 67% are induced abortions.**

Table 54. Number of miscarriages according to causes across marzes, 2014

	RA	Yerevan	Aragatsotn	Ararat	Armavir	Gegharkunik	Lori	Kotayk	Shirak	Syunik	Vayots Dzor	Tavush
Total number of miscarriages	11892	6908	210	592	528	406	1436	808	518	210	23	253
Number of miscarriages per 1000 fertile age women	15.0	24.0	6.1	8.6	7.4	6.6	24.8	12.1	7.9	5.9	1.7	8.1
Including induced abortions	6040	2879	152	352	354	240	974	607	206	84	9	183
Per 100 000 fertile age women	7.6	10.0	4.4	5.1	4.9	3.9	16.8	9.1	3.2	2.4	0.7	5.9
Induced-upon provider's indication	2212	1904	11	4	31	3	134	49	64	0	0	12
Per 100 000 fertile age women	2.8	6.6	0.3	0.1	0.4	0.1	2.3	0.7	1.0	0.0	0.0	0.4

Table 55. Mini-abortion and medically-induced miscarriages, 2014

	RA	Yerevan	Aragatsotn	Ararat	Armavir	Gegharkunik	Lori	Kotayk	Shirak	Syunik	Vayots Dzor	Tavush
Mini-abortion	74	72	0	1	0	0	0	0	0	0	0	1
Medically-induced miscarriage	53	53	0	0	0	0	0	0	0	0	0	0

Table 56. Number of miscarriages according to causes across marzes, 2014, (absolute number)

	RA	Yerevan	Aragatsotn	Ararat	Armavir	Gegharkunik	Lori	Kotayk	Shirak	Syunik	Vayotz Dzor	Tavush
First 12 weeks	10536	6163	189	507	492	366	1351	776	271	163	19	239
12-22 weeks (including)	1356	745	21	85	36	40	85	32	247	47	4	14

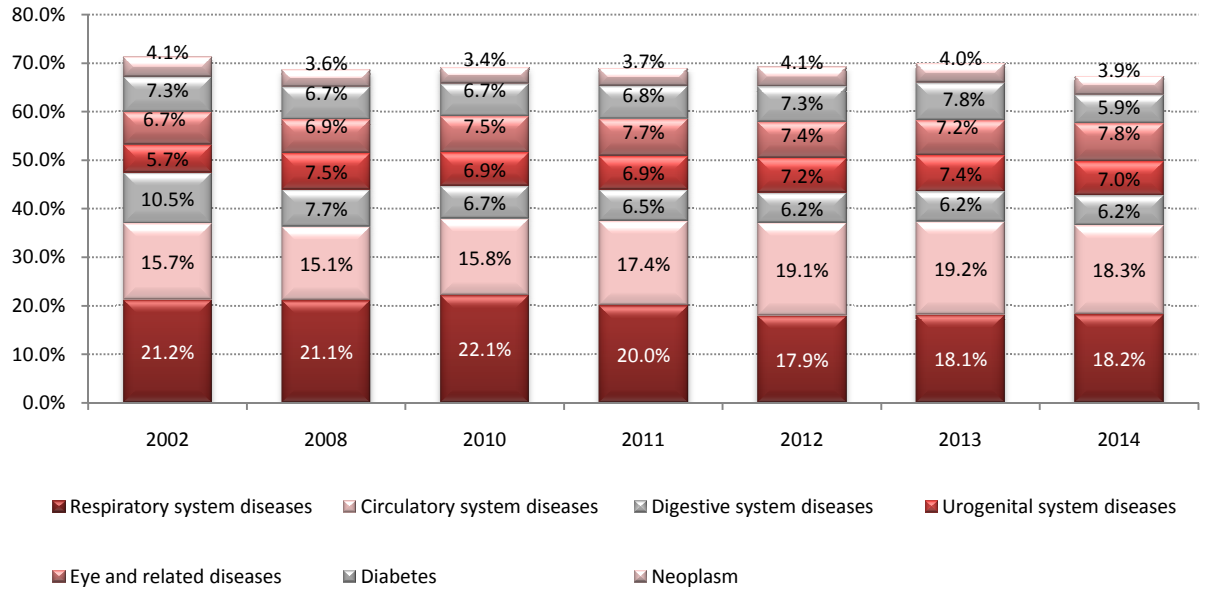
Disease prevalence and tendencies

The total of seven most prevalent diseases in Armenia account for 67.3% of the total morbidity rate. These diseases include:

1. Respiratory system diseases
2. Circulatory system diseases
3. Digestive system diseases
4. Urogenital system diseases
5. Eye and related diseases
6. Endocrine system diseases
7. Neoplasms

The prevalence structure of these diseases in 2002, 2008, 2010 -2014 is presented in Figure 27. Most prevalent are respiratory system diseases and circulatory system diseases.

Figure 27. Most prevalent diseases, 2002, 2008, 2010-2014

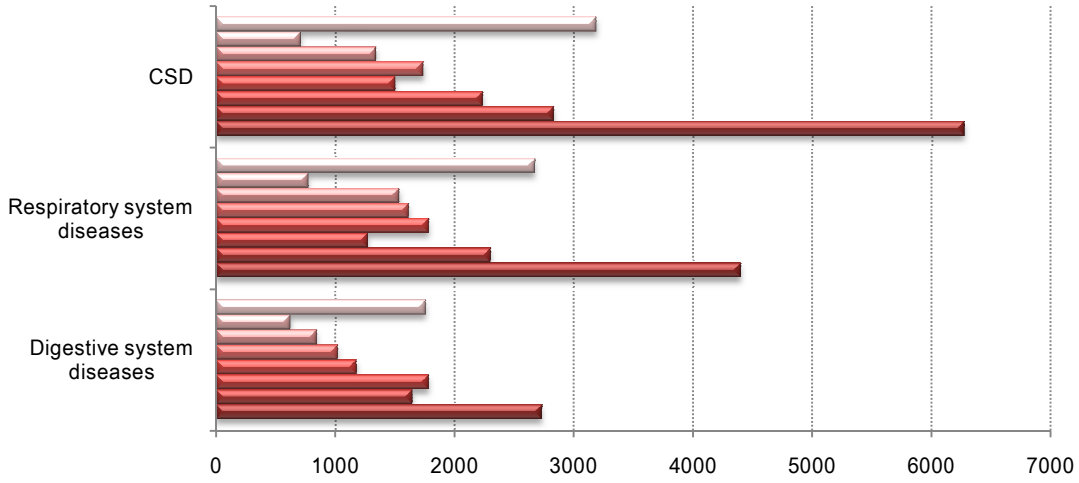


Source: NHIAC, 2015

Although there are no readily available data that would enable direct international comparison of the prevalence of these diseases, Figure 28 presents the results of hospital discharges for major disease categories. As the Figure suggests the prevalence rates for Armenia are similar to those for Georgia and Azerbaijan, and much lower than the average hospital discharge rates per 100 000 population (for major diseases) for EU-26 and EU-27 countries.

- **In each country hospitalization rates are essentially influenced by access to hospital care.**

Figure 28. Hospital discharges per 100 000 population by selected diseases, selected international comparisons



	Digestive system diseases	Respiratory system diseases	CSD
CIS	1756	2673	3188
Azerbaijan	620	770	708
Georgia	840	1533	1341
Armenia	1017	1613	1737
Turkey (2010)	1172	1782	1502
EU-27 (2009)	1782	1266	2236
EU-26 (2012)	1645	2300	2831
Belarus	2733	4400	6276

Source: HFA-DB, WHO, 2015

Interpretation of data first of all requires reflecting on total morbidity rates in 1990 and 1995. In 1995 morbidity rates for all diseases dropped drastically. The reason is obvious - in 1995 the economy was collapsed, the population was poor, the infrastructures was destroyed, PHC services were paid making healthcare difficult-to-access. As a result the impoverished population preferred not seeking care when needed.

The 2005-onward increase of the total morbidity rate at PHC level for all diseases is first of all due to improved access to primary care services and not the health status of the population. Improved utilization of healthcare services was due to health system reforms. The data imply that if the population is more eager to utilize PHC services, their health status is supposed to be improved. That is why a need of sample surveys of population health occurred, to give an insight on population health status and particularly the reasons for not seeking care when needed, as well as the prevalence of various health conditions and symptoms.

Table 57. Total morbidity of 15 and older population of Armenia according to disease groups and years, 1990, 1995, 2005, 2010-2014

Disease	1990	1995	2000	2005	2010	2011	2012	2013	2014
TOTAL	62665	35944	25537	31964	41969	42756	48263	49352	50439.0
Respiratory system diseases	16420	8145	5825	7535	9292	8547	9135	9419	9200.4
Circulatory system diseases**	8709	5588	4047	4430	6599	7414	8645	8903	9226.4
Eye and adnexa diseases	-	-	-	1626	3117	3272	3756	3790	3911.3
Endocrine, nutritional and metabolic disorders	2003	1766	1703	2237	2777	2896	3398	3706	3930.9
Genitourinary system diseases	3450	1948	1383	1948	2870	2960	3372	3536	3532.7
Digestive system diseases	11813	4992	2751	2751	2824	2762	3059	3084	3116.2
Diabetes	1434	1350	1331	1576	2056	2151	2515	2771	2955.4
Mental health disorders	2978	2126	1796	1897	2296	2285	2456	2445	2522.0
Pregnancy, childbirth and the puerperium complications*	2521	1274	1530	2043	1948	2004	2335	2353	2169.2
Infectious and parasitic diseases	1600	1333	1488	1899	2241	2224	2499	2274	2274.5
Diseases of the musculoskeletal system and connective tissue	1965	962	724	941	1462	1588	1915	1961	2022.2
Diseases of the nervous system	4600	2719	1785	1265	1588	1624	1834	1875	1957.0
Neoplasms	1152	1085	931	1219	1433	1598	1849	1855	1962.6
Injury, poisoning and certain other consequences of external causes	4945	3065	1689	1495	1678	1688	1851	1852	1945.0
Diseases of the skin and subcutaneous tissue	1965	1504	659	1037	1541	1536	1798	1807	1967.4
Diseases of the ear and mastoid process	-	-	-	584	1020	1091	1233	1318	1410.9
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	41801	79	41779	43	146	121	157	202	214.9
Congenital malformations, deformations and chromosomal abnormalities	58	47	43	77	95	95	100	111	100.5

Source: NHIAC, 2015

Screenings

In January 2015 Armenia launched the PHC Screenings Program designed for women of 30-68 age. Between January and September a total of 33 473 Pap-smear tests were conducted, which resulted in detection of various cytological disorders in 6,3% of the target group women.

In addition, during the same period 136746 citizens had their blood glucose level checked and deviations from the norm were detected in approximately 8,1% (6,1 mmol/L and higher).

A total of 195 695 citizens had their arterial blood pressure measured; deviations were detected in 10,1% (140/90 and higher).

All detected deviations will require further adjustment and consideration according to adopted guidelines and standards.

9. UTILIZATION OF SERVICES

An effective health system implies delivery of maximally effective and adequate health care services to the population against compatible level of resources.
According to the WHO definitions there are three types of access:

- **Financial:** when the ability to access care is limited due to financial restrictions of the household.
- **Geographic:** when the ability to access care is limited due to physical distance of the health settings or their absence.
- **Information**: when the ability to access care is limited due to lack of information and citizens' not being aware of their rights to health services.

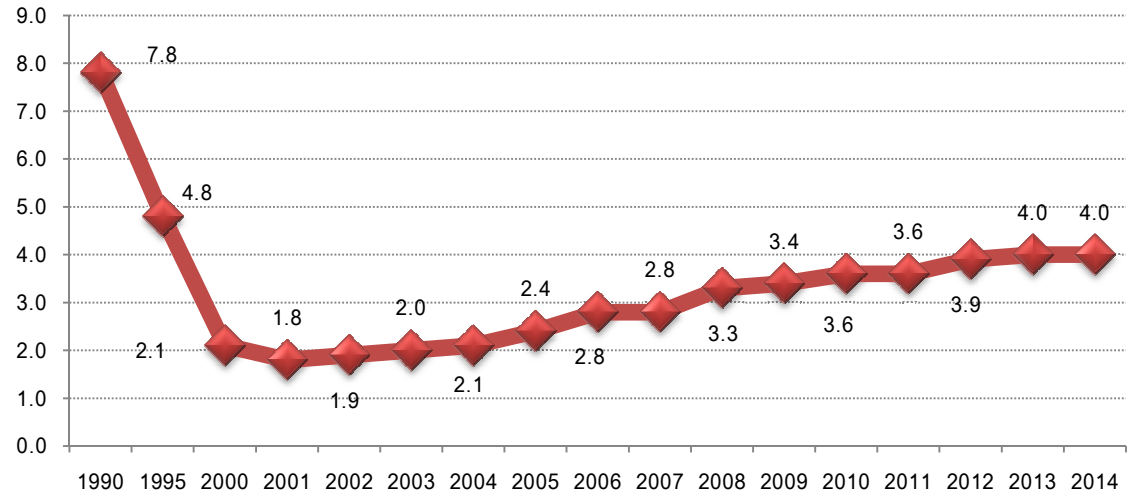
According to NSS data published in 2013, some 32% of the population of Armenia were considered poor, which implies that financial barriers to access of health care services is a key challenge for the country.

The problem of physical access to care and the current situation is conditioned with strongly uneven distribution of the population cross the country. The capital city of Yerevan hosts 34.4% of the country population, marzes 29.6% and villages 36%. The population of two marz cities – Gyumri and Vanadzor - significantly outnumbers those of other marz towns. That is why the dominating majority of health facilities and especially the specialized ones are located in Yerevan. In this regard both Gyumri and Vanadzor are in better situation. This uneven distribution of inpatient settings resulted in very high concentration of doctors (including the qualified ones) in Yerevan. A factor contributing to worsening of physical access to care is the mentality of the population: most of people tend to believe that the quality of care in marz hospitals is lower than in Yerevan, which makes part of marz residents seek inpatient care in the capital. To improve access to marz hospital care the health system optimization strategy envisages establishment of a multi-profile hospital in each marz and making tangible investments, providing modern instruments and equipment and creating all necessary conditions for delivery of care.

The **informational** barrier to health care deserves attention, because although there are different benefits and regulations facilitating utilization of healthcare services, many people are not aware of them and make voluntary or forced out-of-pocket spending which could be avoided.

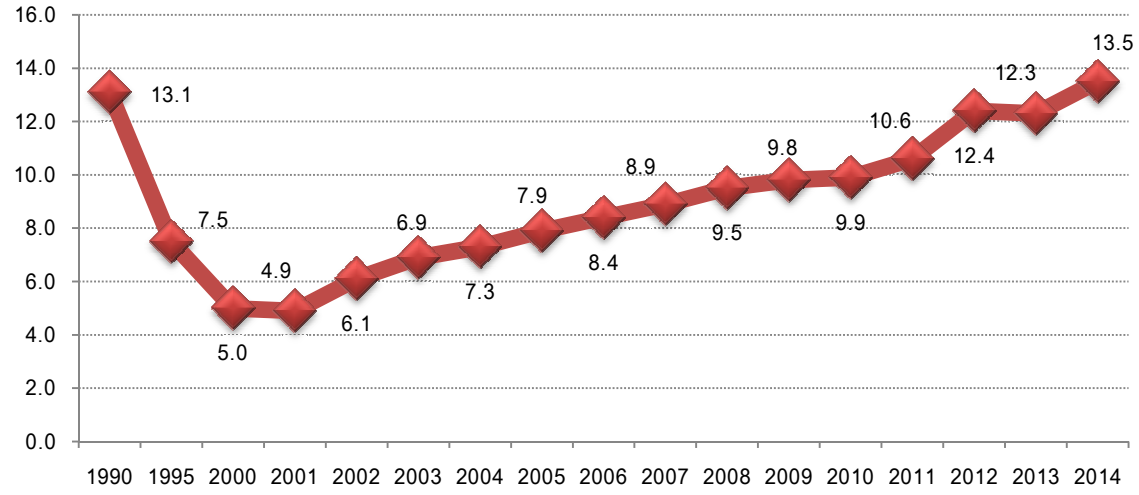
The number of per capita per annum outpatient visits and the number of per capita per annum hospital admissions in Armenia declined abruptly compared with 1990 (Figure 29 and Figure 30). The indicators increased from 2000 supported with the significant economic growth in the country. Nonetheless the rate of hospital visits increased more than that of outpatient ones. This can be explained also with the fact that majority of patients go directly to hospital narrow specialists when health problem arise, passing by the PHC level.

Figure 29. PHC per capita visits, 1990, 1995 and 2000-2014



Source: NHIAC, 2015

Figure 30. Annual hospitalization rate per 100 population, 1990, 1995 and 2000-2014



Source: NHIAC, 2015

The presented indicators can be explained as figures reflecting increased access to both inpatient and outpatient services by the population.

The hospitalization rate for Armenia is higher than the rates for Azerbaijan and Georgia, and below the rate of Turkey, CIS, EU-26 and EU-27 countries. A similar picture is seen in outpatient visits with a difference that Armenia rate is slightly lower than Azerbaijan (Figure 31 and Figure 32).

Figure 31. Hospitalization rate per 100 population, selected countries and country groups

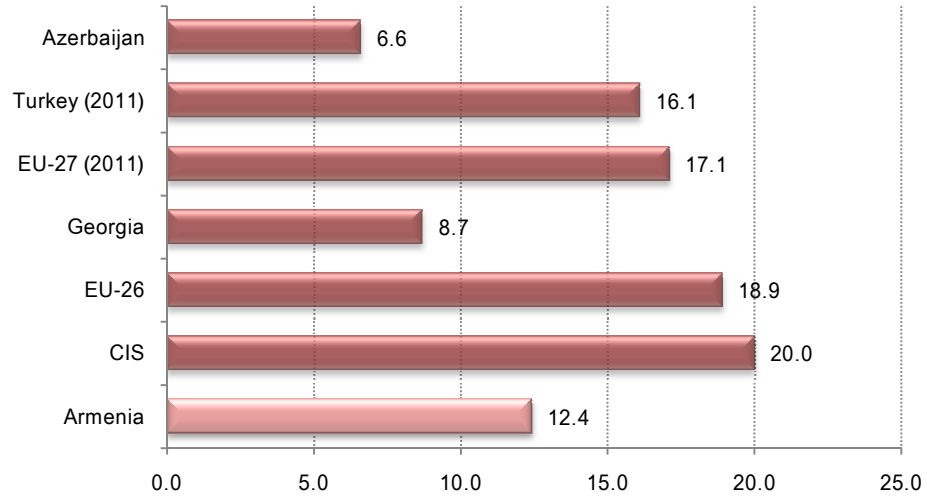
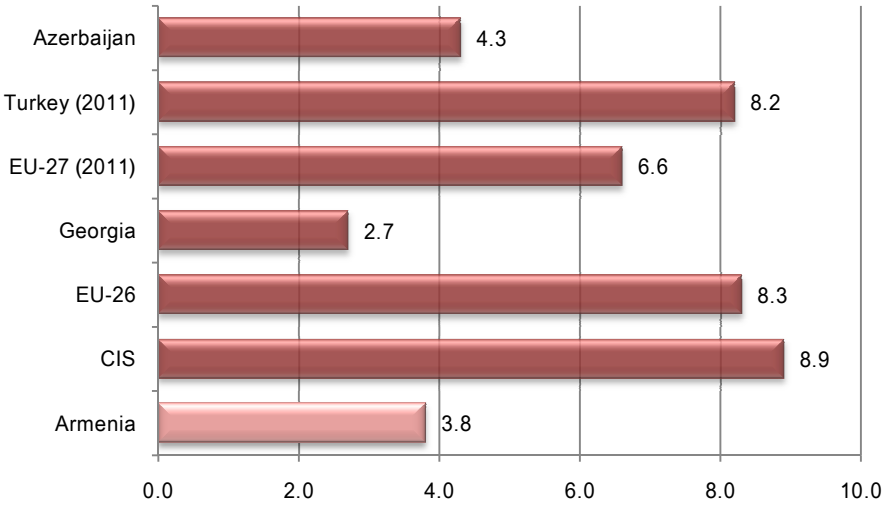


Figure 32. Ambulatory visits per capita, selected countries and country groups



Source: HFA-DB, WHO 2015

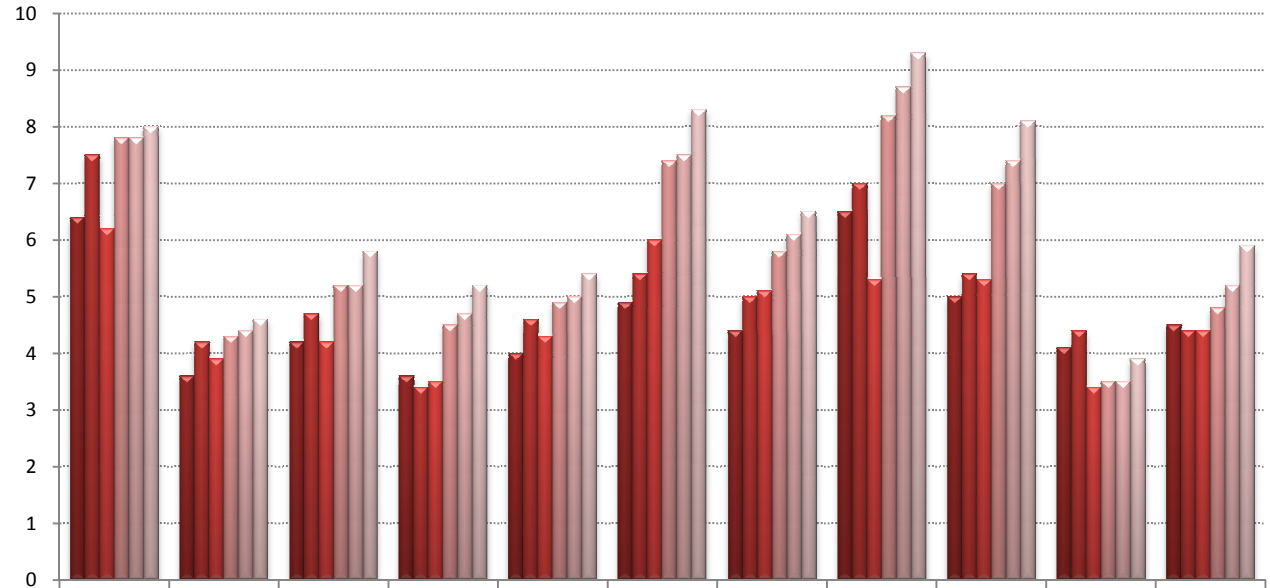
Hospitalization accross marzes

Figure 33 shows hospitalization rate between 2006 and 2014 per marz, per 100 population. The Figure evidences that:

- **Hospitalization rates have sequentially increased in different marzes between 2010 and 2014.**
- **Especially drastic is the increase in Shirak, Lori and Syunik marzes.**
- **The hospitalization rate exceeded in Shirak as opposed to Yerevan,**
- **The number of hospital admissions increased between 2012 and 2014 also in Vayots Dzor where the rate dropped between 2006 and 2011.**

This fact is probably the result of opening marz hospitals which vested confidence in the regional population towards the quality of marz inpatient services.

Figure 33. Hospitalization rate per marzes per 100 population, 2006-2014



	Yerevan	Aragatsotn	Ararat	Armavir	Gegharkunik	Lori	Kotayk	Shirak	Syunik	Vayots Dzor	Tavush
2006	6.4	3.6	4.2	3.6	4.0	4.9	4.4	6.5	5.0	4.1	4.5
2008	7.5	4.2	4.7	3.4	4.6	5.4	5.0	7.0	5.4	4.4	4.4
2010	6.2	3.9	4.2	3.5	4.3	6.0	5.1	5.3	5.3	3.4	4.4
2012	7.8	4.3	5.2	4.5	4.9	7.4	5.8	8.2	7.0	3.5	4.8
2013	7.8	4.4	5.2	4.7	5.0	7.5	6.1	8.7	7.4	3.5	5.2
2014	8.0	4.6	5.8	5.2	5.4	8.3	6.5	9.3	8.1	3.9	5.9

Source: NHIAC, 2015

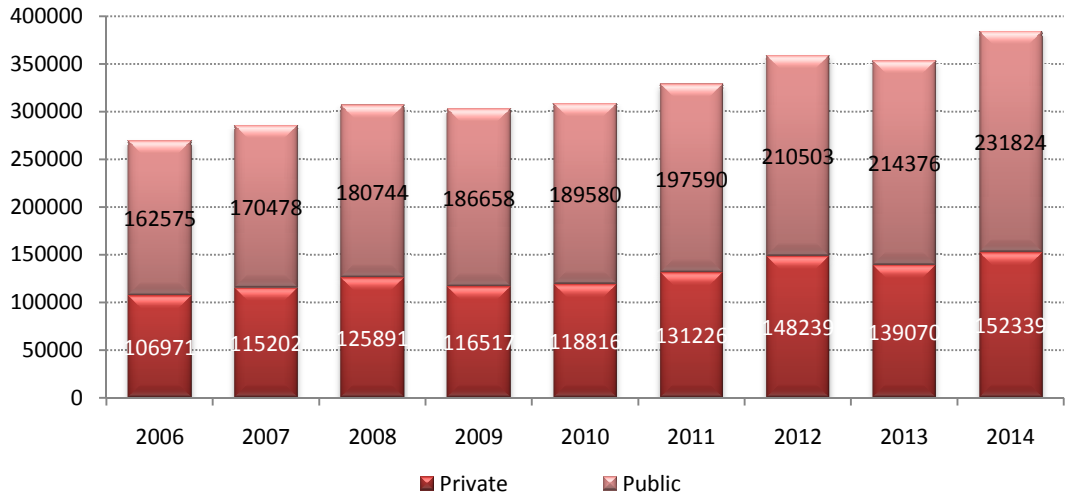
It is noteworthy that

- The number of public hospital admissions has increased between 2012 and 2014 (Figure 34). Figure 35 shows that the number of marz hospital admissions has significantly increased between 2012 and 2014.
- In 2014 utilization of Yerevan inpatient services by regional population has decreased compared with 2012.

These data enable concluding that:

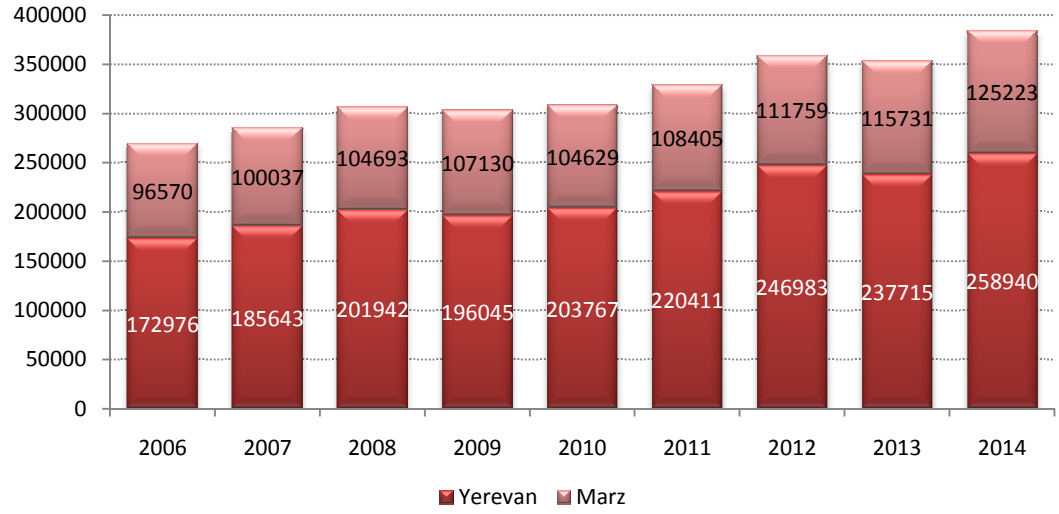
Opening marz hospitals in 2014 proved to be effective and the country managed to successfully 'unload' Yerevan hospitals from marz population visits.

Figure 34. Public and private hospital admissions, 2006-2014



Source: NHIAC, 2015

Figure 35. Number of patient admissions, Yerevan versus marz hospitals, 2006-2014



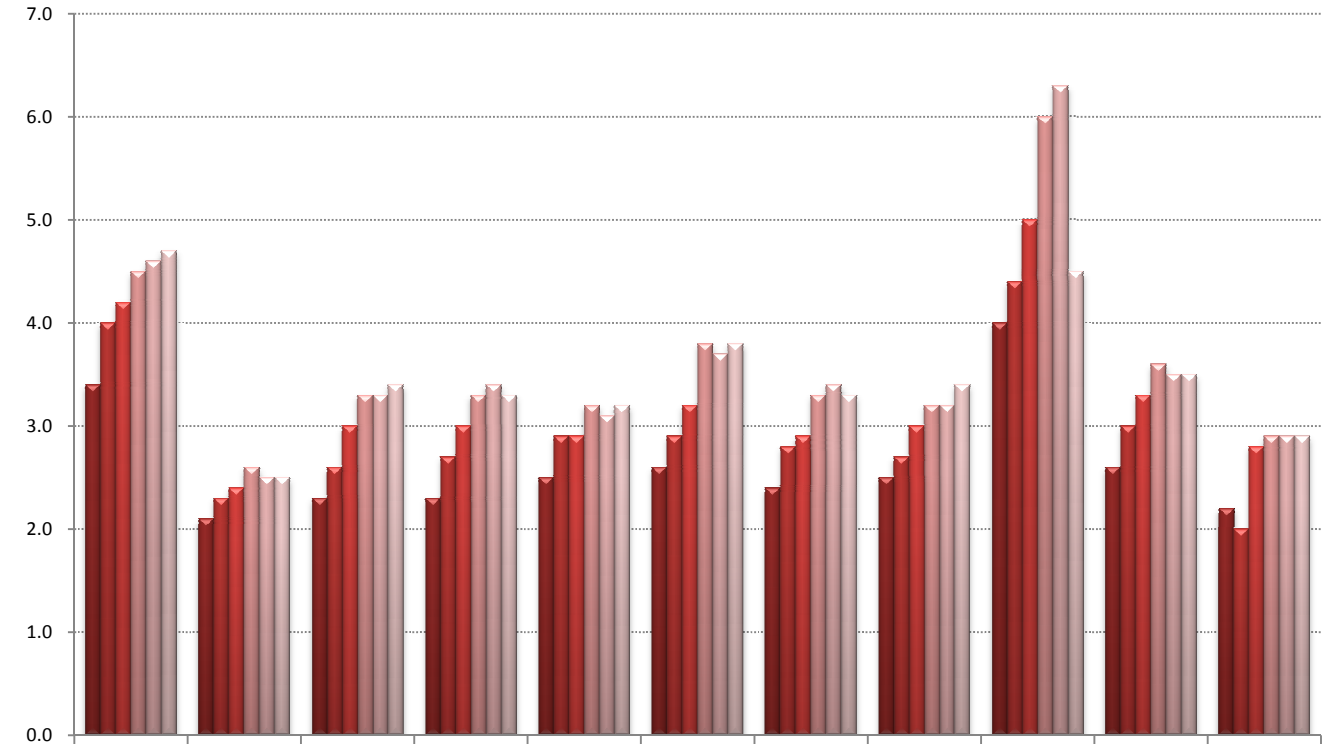
Source: NHIAC, 2015

Ambulatory visits in marzes

Marz breakdown of ambulatory visits speaks of different dynamics. An increase of per capita ambulatory visits is evident in all marzes (excluding Yerevan between 2010 and 2011) which means that

- **Population access to ambulatory care improved between 2006 and 2014.**

Figure 36. Annual ambulatory visits per capita, by marzes, 2006-2014



	Yerevan	Aragatsotn	Ararat	Armavir	Gegharkunik	Lori	Kotayk	Shirak	Syunik	Vayots Dzor	Tavush
2006	3.4	2.1	2.3	2.3	2.5	2.6	2.4	2.5	4.0	2.6	2.2
2008	4.0	2.3	2.6	2.7	2.9	2.9	2.8	2.7	4.4	3.0	2.0
2010	4.2	2.4	3.0	3.0	2.9	3.2	2.9	3.0	5.0	3.3	2.8
2012	4.5	2.6	3.3	3.3	3.2	3.8	3.3	3.2	6.0	3.6	2.9
2013	4.6	2.5	3.3	3.4	3.1	3.7	3.4	3.2	6.3	3.5	2.9
2014	4.7	2.5	3.4	3.3	3.2	3.8	3.3	3.4	4.5	3.5	2.9

Source: NHIAC, 2015

10. QUALITY OF HEALTHCARE SERVICES

Quality and safety of healthcare services

This chapter on the quality and safety of health care services looks at the following indicators:

- Detection rates and treatment effectiveness for malignant neoplasms including
    - Breast cancer and
    - Cervical cancer
- Hospital fatality rates

Early detection of cancers

According to evidence-based medicine 40% of cancers are preventable and treatable. Among them are breast cancer and cervical cancer (BC, CC), which develop in nearly 5-10 years. The probability of cancer treatment increases if detected in early stages. Due to comprehensive BC and CC monitoring programs the number of new cases and the mortality rate due to these two cancers dropped 60-80% in a number of developing countries during the last decade.

Both types of cancer are the lead killers among cancer diseases in women, occupying the first and second places correspondingly. They are most prevalent in women of 35-55 age groups. BC and CC are quite rare in women under 20 and some 20% of cases are detected among 65 and older women. Global rates pinpoint the following BC and CC epidemiology. The annual number of BC incidences is 1 250 000, of which nearly 550 000 with fatal end, and 464 000 incidences of CC with 234 000 fatal ends. Some 8-10% of these diseases are attributed to developed countries (WHO, 2010). According to 2014 data issued by the National Oncology Centre (NOC) and NHIAC, 29,4% of BC cases were detected at stages III and IV (300 cases), and 67,7% of CC was detected at stages III and IV (151 cases). In addition, 1210 new cases of BC and 229 cases of CC in women beyond the age of 25 were detected.

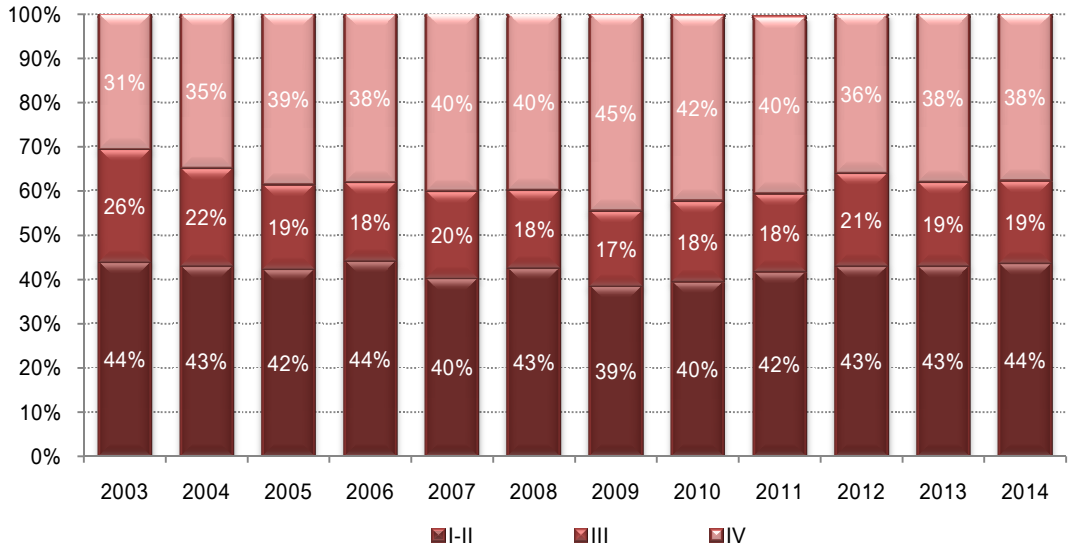
According to HSPA mass survey data, 10,2% of **Armenian women age 30–60 had cervical tests during** 2012, which is well below international cytological screening levels. Successful treatment of cancer strongly depends on the stage at which the disease is detected. Data on detection of cancers per stages of the disease between 2003 and 2014 is presented in Figure 37. As data witness:

- **There is no progress in early detection of cancer.**

Thus, in 2014 the proportion of cancer detected at stages I-II was 44%, which is the double of the 2006 level. The share of cancer detected at stages III and IV is 57%, which exceeds the rate of 2003.

Hence:**Early detection of cancers continues to be a serious challenge for 10 years already and requires fundamental interventions in order to improve the situation.**

Figure 37. Detection of malignant neoplasms according to disease stage, all cancers, 2003-2014



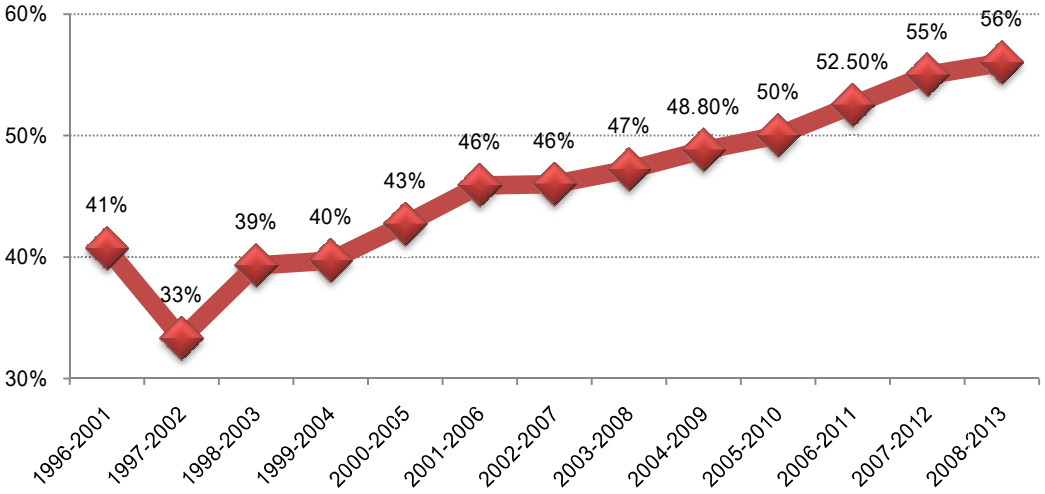
Source: National Oncology Center, 2015

Detection of breast cancer

Breast cancer is one of the types of malignant neoplasm. Statistics of BC is run by the National Oncology Institute. The integral indicator of treatment of malignant neoplasms is **the probability of five-year survival after diagnosis of breast cancer. The indicator applies to females** (Figure 38).

The Figure shows a slow, but steady increase of the rate since 2002. The question whether or not this increase can be considered satisfactory is to be answered by relevant specialists.

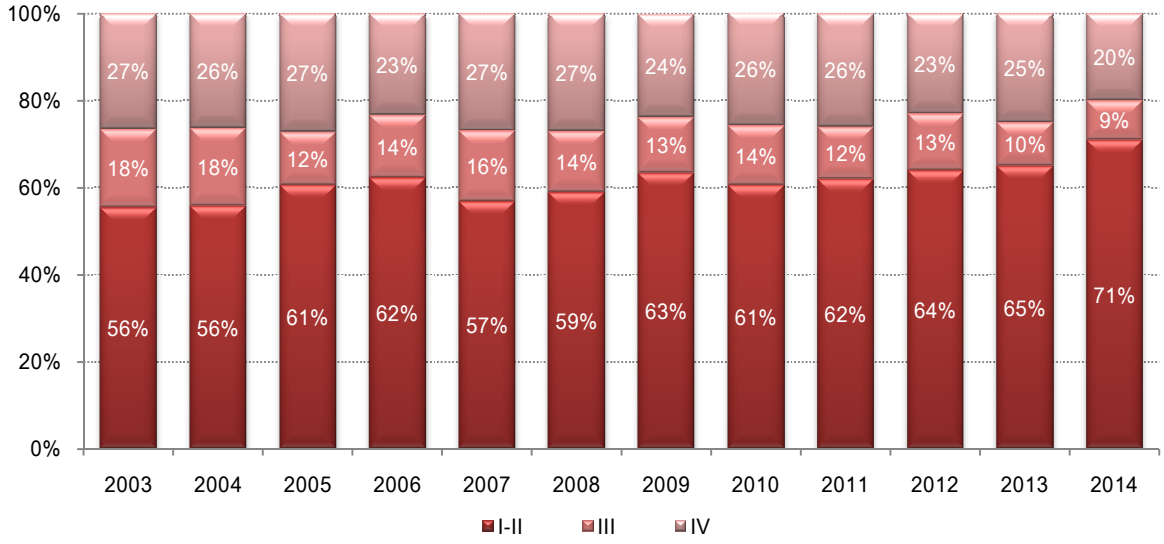
Figure 38. Five-year survival rate following diagnosis of breast cancer, females



Source: National Oncology Center, 2015

A change in survival rates for cancer can result from transition in the stage at which the disease is detected as well as from changes in the quality of treatment. Figure 39 helps to attribute differences in survival rates specifically to one of these factors. The data above show detection rates for various stages of this cancer type between 2003 and 2014.

Figure 39. Detection of breast cancer according to stage of disease, 2003-2014



Source: National Oncology Center, 2015

As shown in Figure 39, the stage I and II detection rates for breast cancer went up between 2010 and 2014, hence it could be assumed that

- **The increase of the probability of five-year survival after diagnosis of breast cancer to some extent depends also on the increase of the probability of early detection.**

On the other hand, data speak of an unexplainable periodicity - cancer detection in stages I-II has 3-4 years increase followed by a decline of early detection. In particular, an increase of the detection rate of BC stages I-II was recorded during 2004 - 2006, 2007 - 2009 and 2010-2014 and a decline during 2006-2007, and 2000-2010.

No explanation is available for this periodicity.

As Figure 39 suggests:

- **There are no grounds to assume a declining probability of late breast cancer detection at stage IV.**

All in all 20,4 % of stage IV breast cancer cases were detected in 2014, versus 45% in 2009, which speaks of an improvement in detection rate. Hence it can be concluded that:

- **The increase of the survival rate in women with diagnosed breast cancer should be attributed merely to improvement of the treatment quality.**

Any progress in combating cancer is highly appreciated. Armenia has remarkable potential for improved treatment of breast cancer in women, particularly early detection of the disease. Any new technology is much more expensive when it is just introduced as opposed to the old technologies. Hence it is believed that improvement in the quality of cancer treatment is coupled with the increase of the costs. This means that, progress in early detection of neoplasms can essentially improve the treatment effectiveness and make it essentially cheaper.

In other words:

Financial resources allocated to early detection of cancer can help reducing per patient treatment costs and spending the amount on treatment of a bigger number of patients. Eventually this approach can end up in better results than implementation of new technologies.

Challenges related to malignancies

According to 1985-2014 statistics the incidence of malignancies in RA population has increased almost 1.8 times (Table 58).

Table 58. RA population incidence of malignancies

Year	Number of patients with primary confirmed diagnosis of malignancy and enrolled with oncology clinic		Number of patients under long-term follow up at oncology clinic at the end of the year	
	a.n.	r.n.	a.n.	r.n.
1985	4710	140.6	17584	522.0
1987	5119	148.8	20045	578.7
1988	5227	151.0	21228	613.4
1989	5270	150.9	22067	632.0
1990	5162	145.1	20929	588.2
1991	4905	135.7	21787	602.6
1992	4462	121.1	21584	585.6
1993	4586	122.9	21670	580.7
1994	4515	120.5	21709	578.4
1995	4705	125.2	21290	565.3
1996	4757	126.1	20721	548.1
1997	4709	124.4	20602	543.4
1998	5145	135.6	21605	568.8
1999	5415	142.5	22589	593.9
2000	5413	142.3	21972	577.8
2001	5666	149.1	23451	617.1
2002	5737	178.6	24384	759.6
2003	5951	185.3	25580	796.3
2004	6174	192.1	26522	824.7
2005	6396	198.8	26512	823.6
2006	7163	222.4	27963	867.6
2007	7294	226.1	28439	880.4
2008	7336	226.8	28692	886.1
2009	7657	236.1	30117	926.8
2010	7593	233.2	31550	967.0
2011	7858	240.4	32580	995.0
2012	7877	260.5	34400	1136.5
2013	7911	261.8	36660	1215.1
2014	8365	277.6	38918	1292.7

r.n. – per 100 000 population

- Incidence of malignancies increases drastically in 35 and older age groups reaching its peak in 65 and older age group (Table 59).

Table 59. RA population incidence of malignancies according to gender and age groups

Age	2013						2014					
	Number of patients with primary confirmed diagnosis of malignancy, enrolled with oncology clinic						Number of patients with primary confirmed diagnosis of malignancy, enrolled with oncology clinic					
	Total		Male		Female		Total		Male		Female	
	a.n.	r.n	a.n.	r.n	a.n.	r.n	a.n.	r.n	a.n.	r.n	a.n.	r.n
0-14	48	8.4	31	10.1	17	6.4	37	6.4	28	9.1	9	3.3
15-17	11	9.2	9	3.2	2	3.5	16	14.4	9	15.3	7	13.3
18-24	58	15.8	29	16.0	29	15.6	56	16.1	33	19.2	23	13.1
25-34	177	34.3	77	30.7	100	37.7	176	33.6	74	29.2	102	37.8
35-44	367	99.2	116	66.5	251	128.4	402	107.5	123	69.7	279	141.1
45-54	1178	277.6	482	245.9	696	304.7	1197	294.0	468	250.4	729	331.1
55-59	1038	538.1	528	601.4	510	485.3	1103	543.6	543	589.6	560	505.4
60-64	1126	807.7	569	926.7	557	714.1	1192	812.5	663	1024.7	529	645.1
65 and older	3908	1220.9	2101	1646.6	1807	938.7	4186	1300.4	2277	1783.1	1909	983.0
Total	**7911**	**261.8**	**3942**	**272.3**	**3969**	**252.1**	**8365**	**277.6**	**4218**	**292.7**	**4147**	**263.7**

r.n- per 100 000 population

- The prevalence of breast, cervical, uterine and ovary cancers is very high in female population (Table 60).
- Males are mostly affected by tracheal, bronchial, pulmonary, bladder, and prostate cancer (Table 60).
- Moreover, during the recent years stomach and colorectal cancer incidence has increased notably in both males and females which could be attributed to sedentary lifestyle and unhealthy eating patterns (Table 60).

Table 60. Malignancy incidence according to gender and age groups, 2014 (absolute numbers)

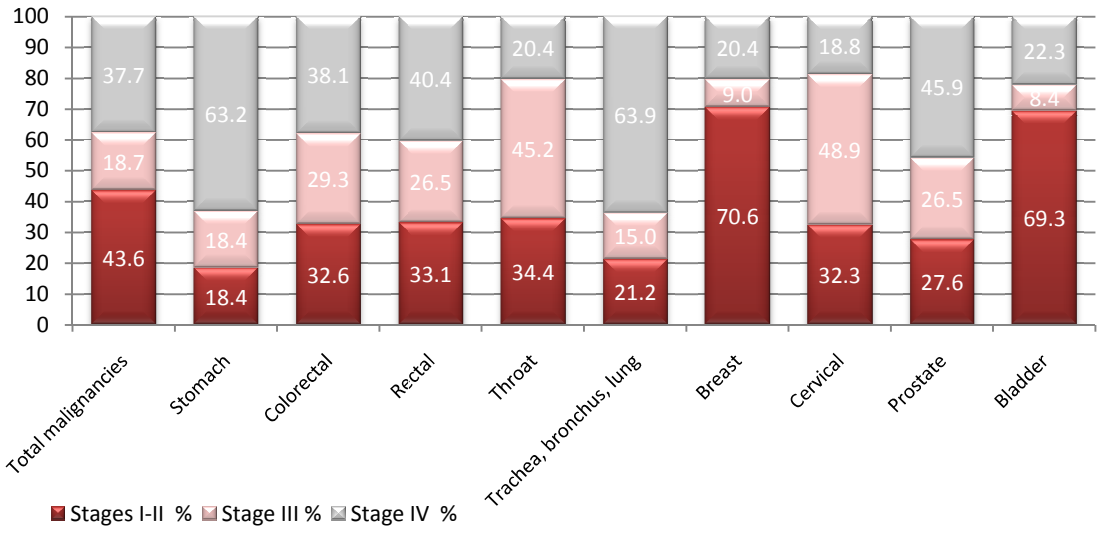
Description	ICD 10	0-14	15-17	18-24	25-34	35-44	45-54	55-59	60-64	65 >	Total
Female											
Breast	C50	-	-	-	30	120	309	200	185	366	1210
Cervical	C53	-	-	-	8	42	86	32	18	43	229
Uterine	C54	-	-	-	3	15	30	46	29	114	237
Ovary	C56	1	-	1	4	10	49	26	30	81	202
Trachea, bronchus, lung	C33-C3 4	-	-	-	-	3	19	20	24	124	190
Stomach	C16	-	-	-	3	6	15	22	28	147	221
Colorectal	C18	-	-	1	3	8	28	35	48	200	323
Male											
Trachea, bronchus, lung	C33-C34	-	-	2	5	13	121	134	199	582	1056
Throat	C32	-	-	-	1	1	26	33	35	74	170
Stomach	C16	-	-	-	2	11	27	48	37	202	327
Colorectal	C18	-	-	2	2	7	17	32	38	146	244
Liver and intrahepatic bile duct	C22	-	-	1	-	1	28	19	21	97	167
Prostate	C61	-	-	-	-	-	7	20	37	271	335
Bladder	C67	-	-	-	3	10	33	54	68	201	369

Table 61. Malignancy prevalence (morbidity), 2014

Female	ICD 10	a.n.
Breast	C50	9648
Cervical	C53	2870
Uterine	C54	1615
Ovary	C56	1105
Trachea, bronchus, lung	C33- C3 4	261
Stomach	C16	544
Colorectal	C18	1263
Malignant lymphoma	C81-90, C96	861
Male		
Trachea, bronchus, lung	C33- C34	1377
Throat	C32	1111
Stomach	C16	977
Colorectal	C18	1080
Liver and intrahepatic bile duct	C22	
Prostate	C61	1088
Bladder	C67	2000
Malignant lymphoma	C81-90, C96	1119

- More than 63% of lung and stomach cancer cases are detected at stage IV, and only 15-18% at stage III. This means that nearly 80% of cases are diagnosed at late stage, which explains the treatment effectiveness and survival rates.
- The 3-year survival rate following diagnosis of lung cancer is 9% (2014).
- The 5-year survival rate following diagnosis of stomach cancer is 16.2% (2014).
- The 5-year survival rate following diagnosis of bladder cancer is 38% (2014).
- The 5-year survival rate following diagnosis of colorectal cancer is 39.3% (2014).
- Despite 70% of bladder detection rate at stages I and II, the 5-year survival rate following diagnosis is as little as 38%.
- Twenty-eight percent of prostate cancer cases are detected at stages I and II, and the 5-year survival rate following diagnosis is 30%.
- Twenty-nine percent of breast cancer cases are detected at stages I and II, and the 5-year survival rate following diagnosis is 56%:
- Sixty-three percent of cervical cancer cases are detected at stages I and II, and the 5-year survival rate following diagnosis is nearly 56%.

Figure 40. Detection of malignances according to nosologies and stages, 2014

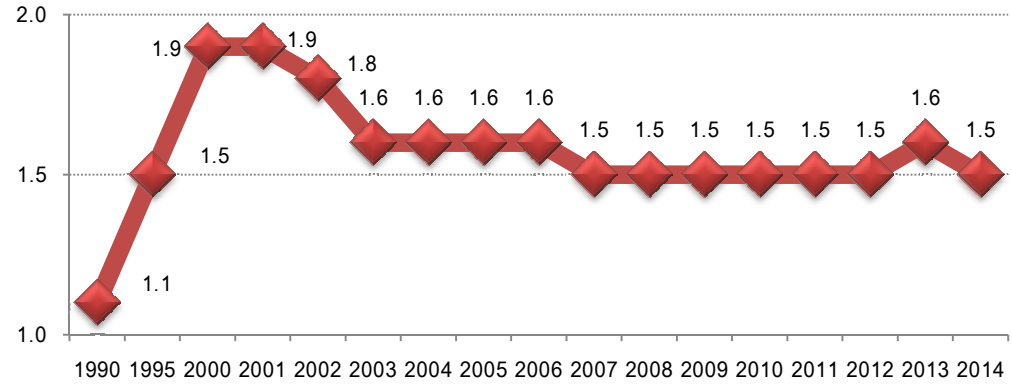


Hospital fatality

Total rate of hospital fatality and rates for each disease describe the quality of hospital care organization and delivery.

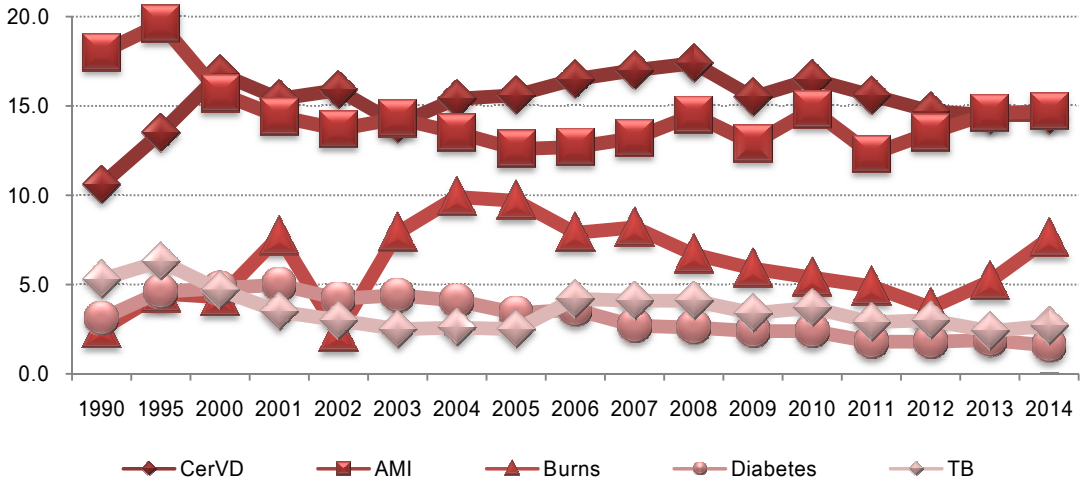
Total rate of in-hospital fatality for the period covering 1990-2014 is presented in Figure 41. The data show a steady decline of hospital fatality between 2001 and 2014, which speaks of improved hospital care organization and quality.

Figure 41. Hospital fatality rate per 100 admissions, all cases, 1990, 1995 and 2000-2014



Source: NHIAC, 2015

Figure 42. Hospital fatality rate per 100 admissions, selected conditions, 1990, 1995 and 2000-2014



CerVD – cerebrovascular diseases, AMI – acute myocardial infarction

Source: NHIAC, 2015

Analysis of hospital fatality per selected diseases (Figure 42) leads to the following conclusions.

- **A decline tendency of hospital fatality due to CerVD is recorded between 2008 and 2014.**
- **An increase tendency of hospital fatality due to burns is recorded between 2012 and 2014.**
- **A decline tendency of hospital fatality due to TB is recorded between 2006 and 2014.**
- **No decline tendency of hospital fatality due to diabetes is recorded.**

Quality of maternity and child healthcare services

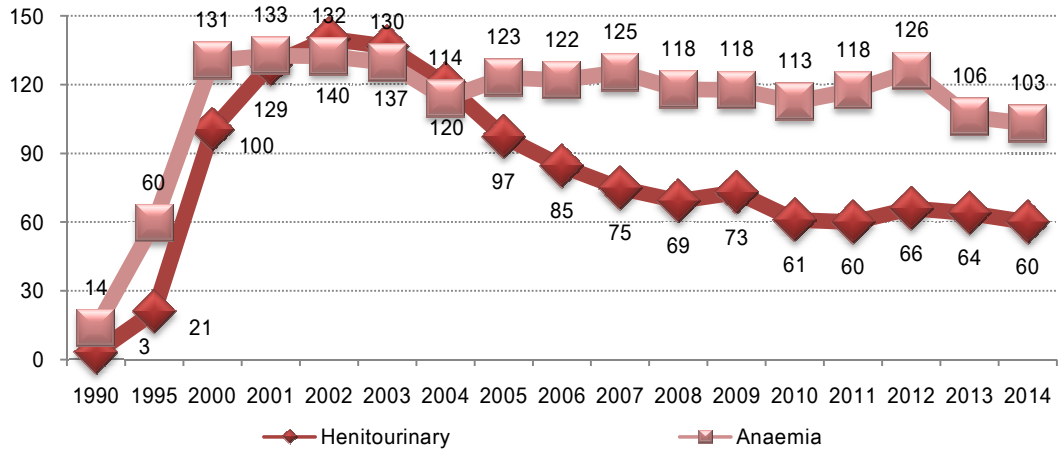
Two groups of indicators are monitored to assess the quality of health care services delivered to women and children. They are as follows:

1. Indicators of natal and postnatal complications, including rates of caesarean sections;
2. Indicators of postnatal care, breastfeeding and immunization.

Natal and post-natal complications

Between 2010 and 2014 the prevalence of essential natal and postnatal complications related to genitourinary system and anaemia are almost steady (Figure 43).

Figure 43. Rates of selected natal and postnatal complications per 1000 deliveries, 1990, 1995 and 2000-2014



Source: NHIAC, 2015

These data pinpoint important specifics. Despite the decline of these rates between 2002 and 2010, they stay very high compared with the level of 1990.

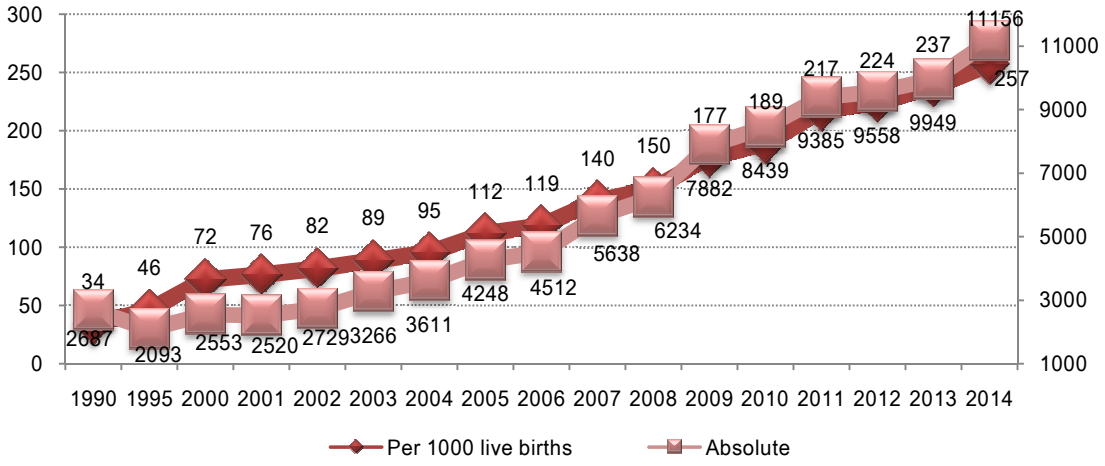
In particular, the rate of anaemia in 1990 covered 14‰ of the number of births, whereas of genitourinary system complications shared as little as 3‰.

The National Maternal and Child Health Care Strategy for 2003–2015 set a target of reducing complications from anaemia by 50% by 2015, but the target is not expressed explicitly and no baseline is designated.

Caesarean sections

The rate of caesarean sections in Armenia increases firmly reaching 257 per 1000 births in 2014. The total number of sections was 11 156 (Figure 44).

Figure 44. Caesarean sections, rate per 1000 live births and absolute number, 1990, 1995 and 2000-2014



Source: NHIAC, 2015

It is well-known that postnatal complications are more common in case of caesarean sections. In addition, after caesarean section women are advised by physicians to plan the next birth in 2 - 3 years. Hence

- **Reduction of the number of caesarian sections in Armenia is a strong leverage contributing to the increase of the number of births.**

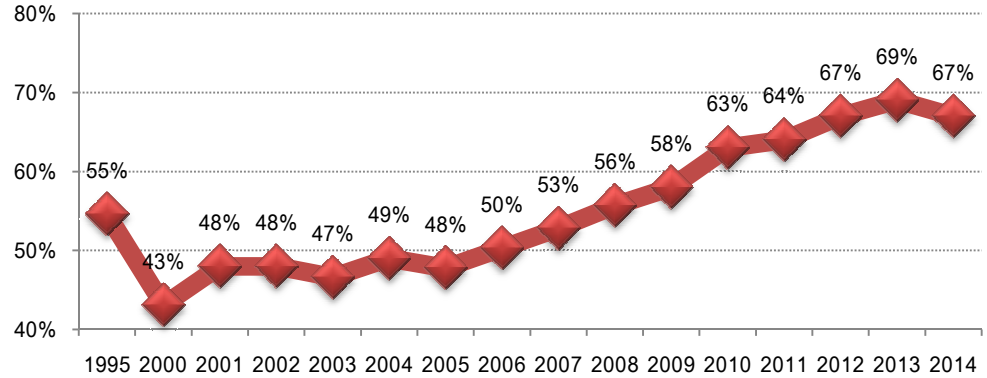
Maternal and child health care

The core indicators for the quality of maternal and child health care services address:

- Early coverage of prenatal care
- Breastfeeding rate
- Child immunization

Early coverage of prenatal care*:* This rate showed steady growth between 2005 and 2013, but is still below the target of 90% defined in the National of Maternal and Child Health Strategy for 2003–2015. The rate of early coverage of prenatal care is lower compared with that recorded back in 1980 - 74.6% (Figure 45).

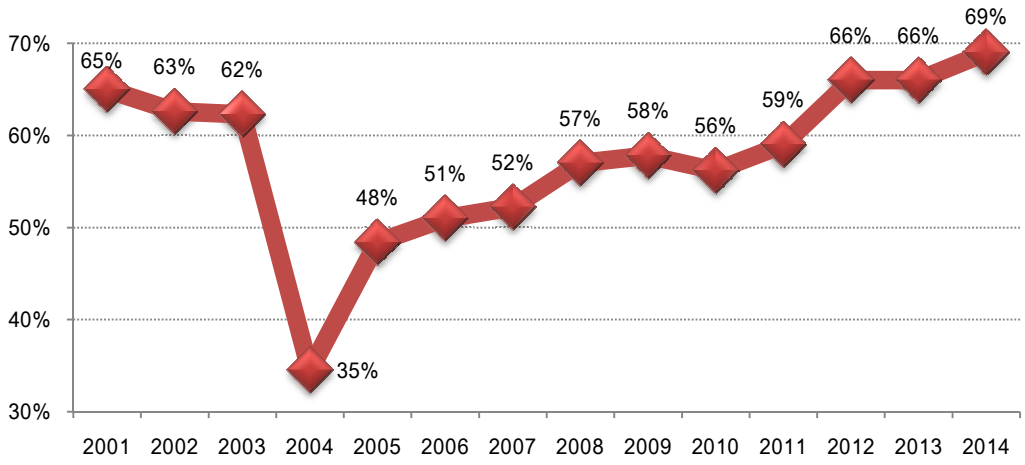
Figure 45. Proportion of expectant mothers receiving early prenatal care (prior to 12 weeks), 1995, and 2000-2014



Source: NHIAC, 2015

Breastfeeding coverage: The National of Maternal and Child Health Strategy for 2003–2015 envisages "ensuring by 2009 that 65% of infants under 4 months and 40% of infants under 6 months are exclusively breastfed and maintain the continuity throughout the second year of the child's life." Between 2011 and 2014 the rate increased significantly - from 59% to 69% (Table 46).

Figure 46. Percent of Armenian infants 0–6 months old who are breastfed, 2001-2014



Source: NHIAC, 2015

11. HEALTH SYSTEM QUALITY AND FINANCIAL ACCESS ACCORDING TO POPULATION ASSESSMENT[8]

Assessment of the general quality of and financial access (affordability) to healthcare services in Armenia as perceived by the population was conducted together with assessment of other social spheres. Below questions were used for that purpose:

According to you how satisfactory in general is the situation with the following in Armenia?

- Quality of healthcare
- Access to healthcare
- Access to drug prices
- Quality of trade service
- Quality of bank services
- Quality of Internet connection
- Quality of education
- Quality of foodstuff
- Level of pensions
- Career opportunities in the country
- Level of prices

Based on findings of HSPAs conducted in previous years an assumption was made that financial access to healthcare in Armenia is greatly influenced by high prices of drugs, which in fact went up tangibly during the past years. To verify this hypothesis, population satisfaction with drug prices was assessed.

The following scale was used to assess the situation in selected sectors:

1. Fully unsatisfactory
2. Rather unsatisfactory
3. Rather satisfactory
4. Fully satisfactory

The findings are presented in Figure 47 The left part of the Figure shows the summary of 'Rather satisfactory' and 'Fully satisfactory' reports and the right part shows the number of people who had difficulties with assessment of the situation.

The following median scale was used for general comments on assessments.

- Satisfaction with the situation in a given sector was assessed as 'very low' if within the 0-20% median
- 'Low' if within 20-40 % median
- 'Moderate' if within 40-60 % median
- 'High' if within 60-80 % median and

[8] Database of Quality of Life Index in Armenia 2014 survey conducted by Institute for Political and Sociological Consulting, following the request of the RA Government, was used in this section of HSPA 2015

- 'Very high' if within 80-100 % median

Figure 47. Assessment of satisfaction with different sectors in Armenia, 2014 (2013 figures are brought additionally for healthcare-related assessments)

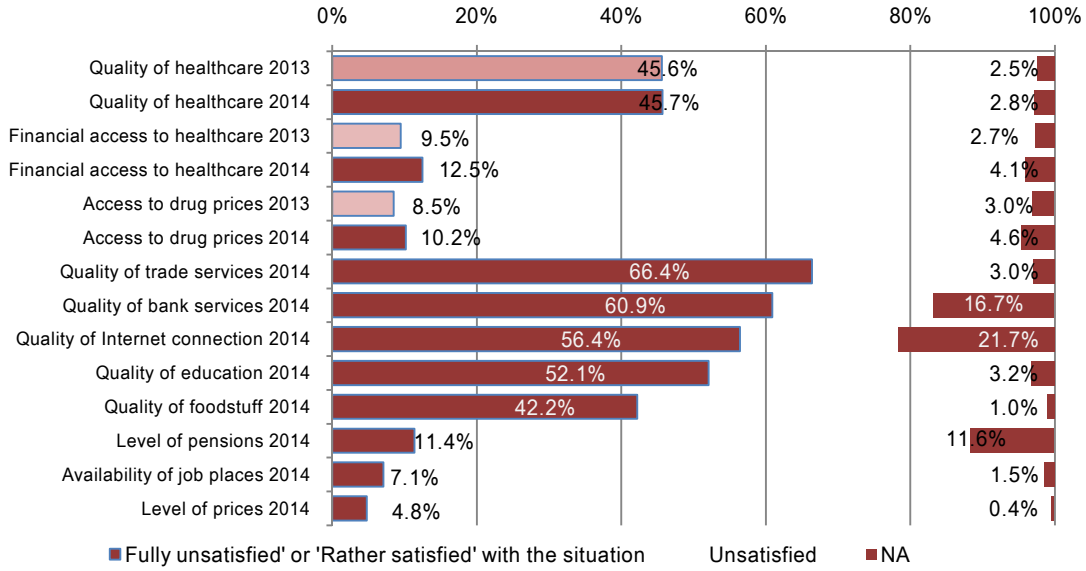
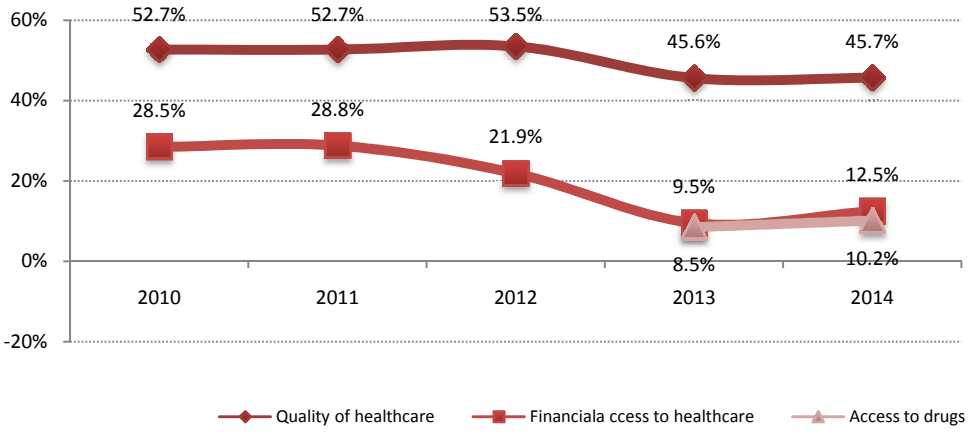


Figure 47 presents healthcare-related indicators for 2013 and 2014. According to the data:

- Satisfaction with the quality of healthcare is within the median range. In fact the assessment has not changed at all, i.e. 45.6% in 2013 and 2014.
- Financial access to healthcare and access to drugs were assessed as the lowest, though some slight improvement is evident between 2013 and 2014 .Financial access to healthcare moved from 9.5% to 12.5%, and access to drugs from 8.5% to 10.2%.
- Along with the above indicators, Armenia faces a serious problem of high prices (only 4.8% of population is satisfied with the prices), no job places (7.1% satisfied), and small pensions (11.4%).

Dynamics of population satisfaction with the quality of and physical access to healthcare services, as well as drug prices for the period covering 2010-2014 is presented in Figure 48.

Figure 48. Dynamics of population satisfaction with social sector components, 2010-2014 (the number of persons satisfied with the situation is presented).



These data lead to the conclusion that if the RA Government continues attaching priority attention to improvement of financial access to healthcare services, the relatively low assessment of the last two years (2010-2012) could be amended.

Conclusions

- **Financial access to healthcare services is among most serious problems faced by population of Armenia.**
- **Improvement access to healthcare services should be a priority of the Government health policy.**

This is particularly critical given that in the context of global worsening of the regional economic situation solvency of RA population may suffer.

Financial access to healthcare facilities

General assessment of financial access to healthcare is contingent on financial access to various types of healthcare facilities (HCF).

On the other hand, assessment of financial access to different types of HCF may differ depending on whether or not the respondent has personally applied to a given facility during the reference year.

If the respondent had personally sought care at that HCF, the assessment of financial access to that very HCF will greatly depend on personal experience gained during the reference year.

If the person did not personally seek care at that HCF during the reference year, the assessment will be influenced on much earlier experience, the perception of financial access developed during that visit as well as general positions held in the society (his/her surroundings).

Table 62 presents the number of respondents who had sought care at different types of HCFs during 2013-2014 survey and those who had not (survey field phase completed in January and December 2014).

Table 62. Proportion of persons who have and have not applied for care to the health facility during the past year (2013 and 2014)

Healthcare facility type	2013	2014
Dental clinic	38.1%	35.6%
Polyclinic	33.2%	36.4%
Health post/ambulatory (only rural residents interviewed)	26.7%	29.2%
Hospital	**19.3%**	**14.6%**
Diagnostic center	9.4%	26.9%
Maternity (only women were inquired)	5.5%	8.2%

The Table shows changes between 2013 and 2014, in particular

- In 2014 the number of persons who had applied to dental clinics has decreased,
- The number of persons who had utilized services of policlinics, health posts and ambulatories has increased.
- The number of person who sought care at hospitals has decreased.
- The number of persons who turned to diagnostic centers has increased essentially.
- Also the number of women who had applied maternities has increased.

These data lead to a conclusion that

- **Financial access to inpatient services has decreased in Armenia.**

This assumption is backed with data of Table 63, which presents the number of persons who reported easy access to various types of HCFs during 2011-2014 (respondents answered the question '***To what extent can you afford treatment at the following healthcare facilities?'*** followed by the list of HCFs).

Table 63. Access to HCF, 2011-2014

HCF	Financially accessible for			
	2011	2012	2013	2014
Health post/ambulatory (only for rural areas)	-	69.3%	58.4%	58.8%
Polyclinic	63.2%	58.3%	57.0%	54.8%
Dental clinic	39.4%	36.4%	**31.3%**	**26.7%**
Private medical center	25.1%	20.0%	15.8%	-
Diagnostic center	27.4%	18.6%	16.1%	16.9%
Hospital	**29.2%**	**24.7%**	**20.2%**	**15.3%**
Maternity (only women were inquired)	64.2%	45.8%	**43.3%**	**37.8%**

The Table suggests that:

- **According to population assessment financial access to below health facilities has decreased in Armenia between 2013 and 2014.**
  - ✓ **Hospitals,**
  - ✓ **Maternities,**
  - ✓ **Dental clinics.**

Table 64 singles out the proportion of respondents who had sought care at different types of HCFs during the preceding 12 months survey and those who had not.

Table 64. Financial access to healthcare facilities according to the type of facility (2012-2014)

Healthcare facility type	Access to HCF was assessed as affordable					
	Applied			Not applied		
	2012	2013	2014	2012	2013	2014
Health post/ambulatory (only rural residents)	65.0%	54.8%	53.3%	81.0%	68.3%	71.5%
Polyclinic	53.9%	50.8%	48.6%	66.8%	69.3%	65.4%
Dental clinic	29.5%	25.7%	20.8%	46.8%	40.4%	37.2%
Diagnostic center	17.4%	14.8%	14.0%	32.0%	29.8%	24.7%
Hospital	**23.3%**	**18.0%**	**13.6%**	**31.2%**	**28.9%**	**25.0%**
Maternity (only women interviewed)	42.9%	42.5%	34.9%	75.8%	64.4%	68.2%

The Figure makes it apparent that:

- **For all types of HCFs assessment of financial access is much higher by persons who during the reference year had applied to that facility.**

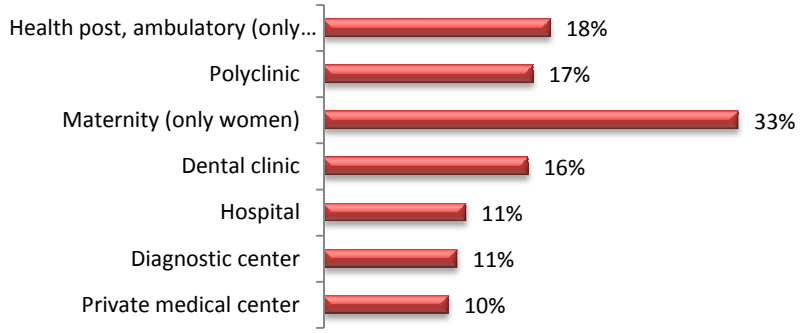
Hence

- **A more adequate assessment of financial access to HCFs should be the assessment by persons who had applied to that type of facility during the reference year.**

It is noteworthy that the biggest difference in assessments provided by persons who had applied to the HCF and those who had not, is seen in the assessment of financial access to maternities. Maternities were assessed as financially accessible by 42% of women who had not used maternity services, and 64% of women who had utilized this service (assessment increment is 22%) (Figure 49).

- **The difference in assessments is quite big also for polyclinics - 19%.**

Figure 49. Improvement of the assessment of financial accessibility to HCF among respondents who applied to the facility, versus those who did not apply, 2014



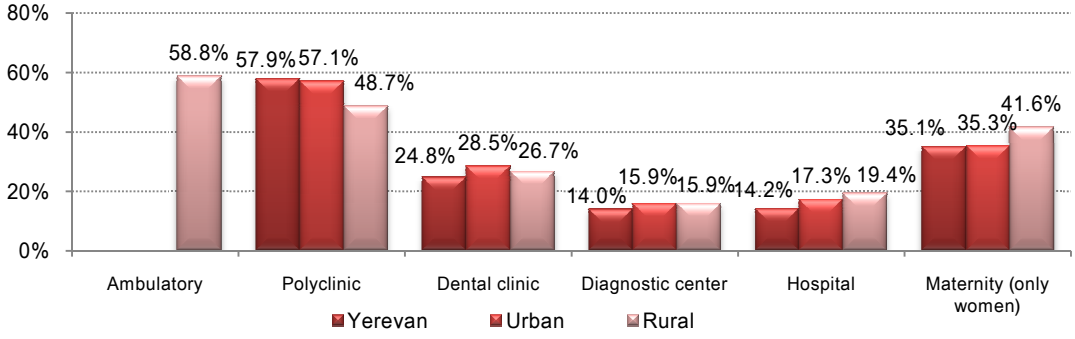
Financial access to various types of HCFs in 2014, according to residence type is provided in **Figure 50.**

Data show that

- Residents of Yerevan and other towns assessed financial access to policlinics relatively higher and to maternities – relatively lower as opposed to residents of villages.
- Access to hospitals and diagnostic centers was assessed relatively low by respondents from Yerevan.
- No significant differences across residences were seen in assessments of financial access to dental clinics.

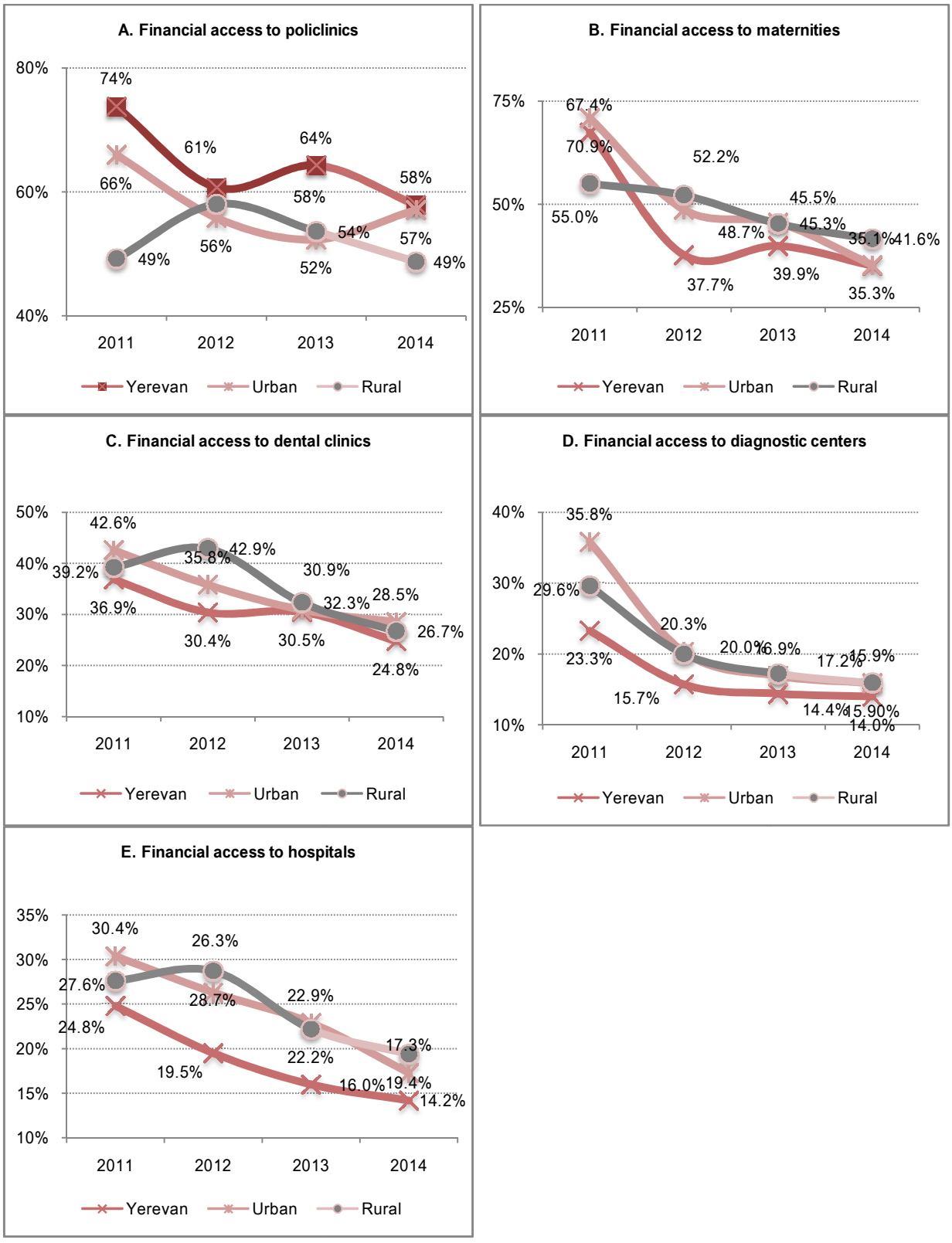
Relatively lower level of financial access to policlinics reported by rural respondents can be explained by the fact that policlinics are located in urban settlements and the villagers have to travel to the closest town for diagnostics needed for their outpatient treatment.

Figure 50. Financial access to different HCFs according to residence type, 2014



The change of financial access to different profile HCFs between 2011 and 2014 according to residence type is presented in Figure 51, A-E.

Figure 51. Dynamics of financial access to HCFs according to residence type, 2011-2014



As the Figure suggests:

- **Financial access to hospitals, private centers, dental clinics and diagnostic centers saw a monotonous decline for all residence types between 2011 and 2014.**

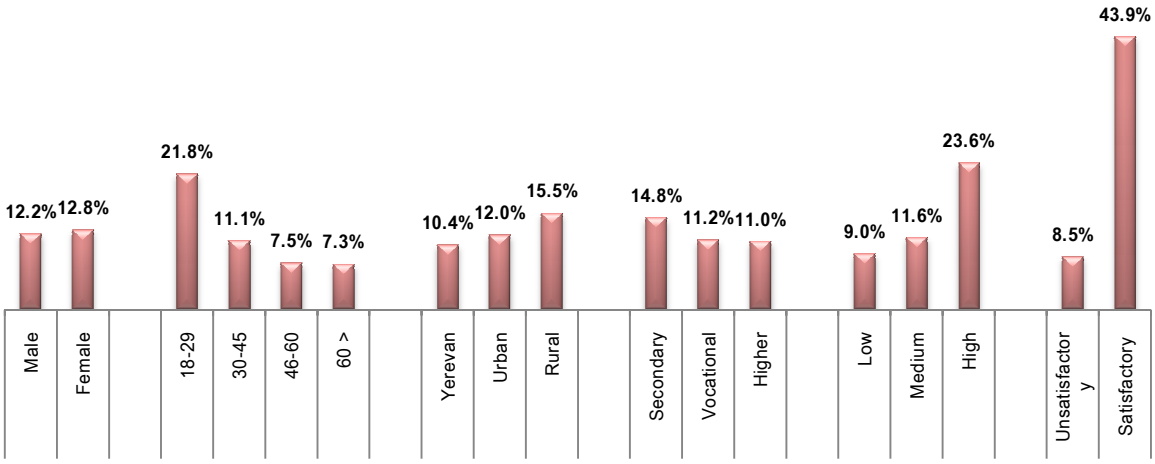
Determinants of financial access to healthcare

The survey considered also the impact of different factors on the assessment of financial access to healthcare.

- **In-depth surveys show that in 2014, as was in 2013, the impact of financial access to drugs on financial access to healthcare essentially exceeded the impact of other factors, in particular that of wealth.**

This is apparently seen in **Figure 52**, which demonstrated assessments of **financial access** to healthcare according to different sociodemographic groups and the situation with access to drugs grouped under 'Satisfactory' and 'Unsatisfactory' categories.

Figure 52. Satisfactory assessment of financial access to healthcare by different population groups, 2014



As the Figure evidences the difference between satisfactory and unsatisfactory assessments of financial access to healthcare by each sociodemographic category does not exceed 10% (in age groups for example satisfactory assessment was reported by 21,8 % of the youngest age group (18-29) and only 7.3% of those above 60, so the difference makes 8,8 %.

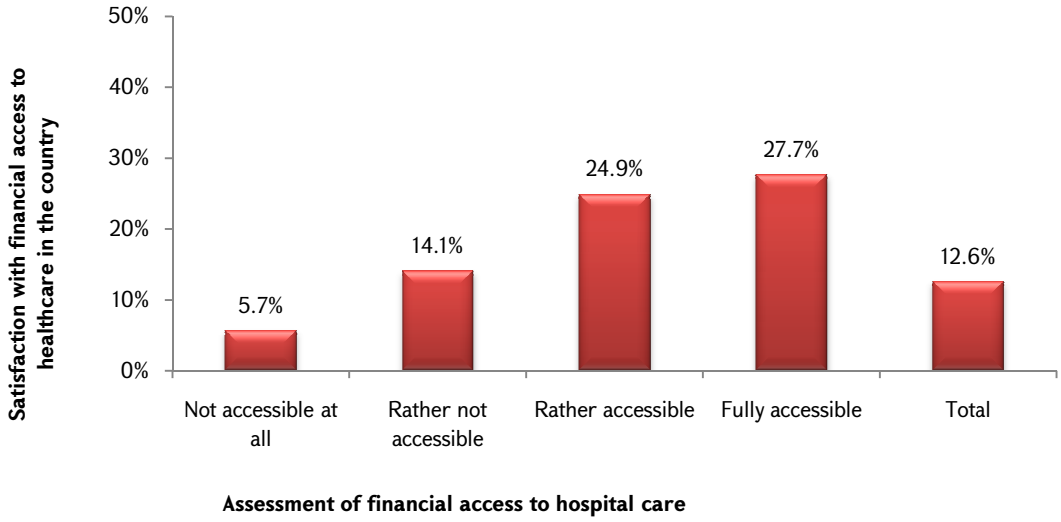
- **Only 8,5% of those who assessed access to drug prices as unsatisfactory were satisfied with financial access to healthcare.**
- **Another 43,9% of respondent who assessed access to drug prices as satisfactory were satisfied with financial access to healthcare.**
- **This means that the assessment of financial access to healthcare has increased by 35,4% in the group satisfied with the level of drug prices.**

The impact of other factors (derived from the survey database) on financial access to healthcare was studies as well. However none of them had as powerful influence as the drug prices.

According to data presented in Figure 52 the youngest group (18-29) consider healthcare more accessible, which is attributed to general optimistic perceptions of the youth. A number of data of the quality of life index suggest that the level of satisfaction of the Armenian youngest population groups with different life events and sectors is always relatively higher as opposed to the older groups. In addition, the prevalence of diseases in the youngest age group is essentially lower.

Since healthcare is free on primary case level (except for drugs and some diagnosis) a hypothesis may be suggested that **high hospital prices (in addition to drug prices) may be viewed as a power factor diminishing financial access to healthcare.** The hypothesis is supported by survey findings. Figure 53 presents the correlation of satisfactory assessments and financial access to hospitals.

Figure 53. Dependence of satisfaction with financial access to healthcare on assessment of financial accessibility of hospital services, 2014



The proportion of survey participants who assessed financial access to healthcare as Satisfactory among respondents who considered inpatient services "Not accessible at all' is as little as 5.7%, but it increases in the group of those who consider hospital services 'Fully accessible' reaching 27.7%.

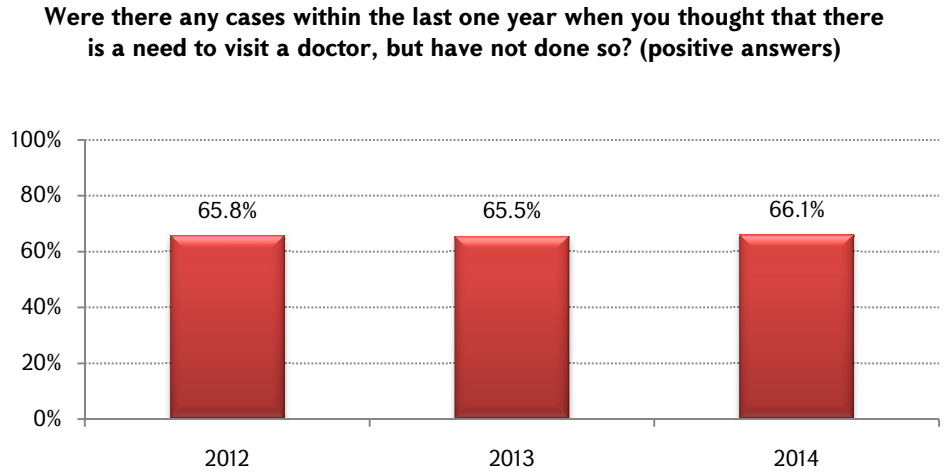
The two most powerful factors affecting financial access to healthcare services in Armenia are the high prices of drugs and hospital services.

Inaccessibility of healthcare

The statistics of not seeking medical care when there was a perceived need and the reasons behind such behavior was also stugied. Data suggest thar:

- **The number of individuals who did not seek medical care when there was a perceived need did not change much between 2012 and 2014 (Figure 54)**

Figure 54. Number of population not seeking medical care when there was a perceived need , 2012-2014



Observation of this indicator according to wealth quintiles and residences revealed the following:

- **The number of respondents who did not see a doctor when there was a perceived need is relatively higher in the high wellbeing level (Figure 55)**
- **Lack of financial access to healthcare in the lowest wellbeing quintile has increased between 2012 and 2014.**

In particular, the proportion of respondents in the high wellbeing quintile who reported not seeking medical care when there was a need increased from 70% in 2012 to 75% in 2014.

On the other hand

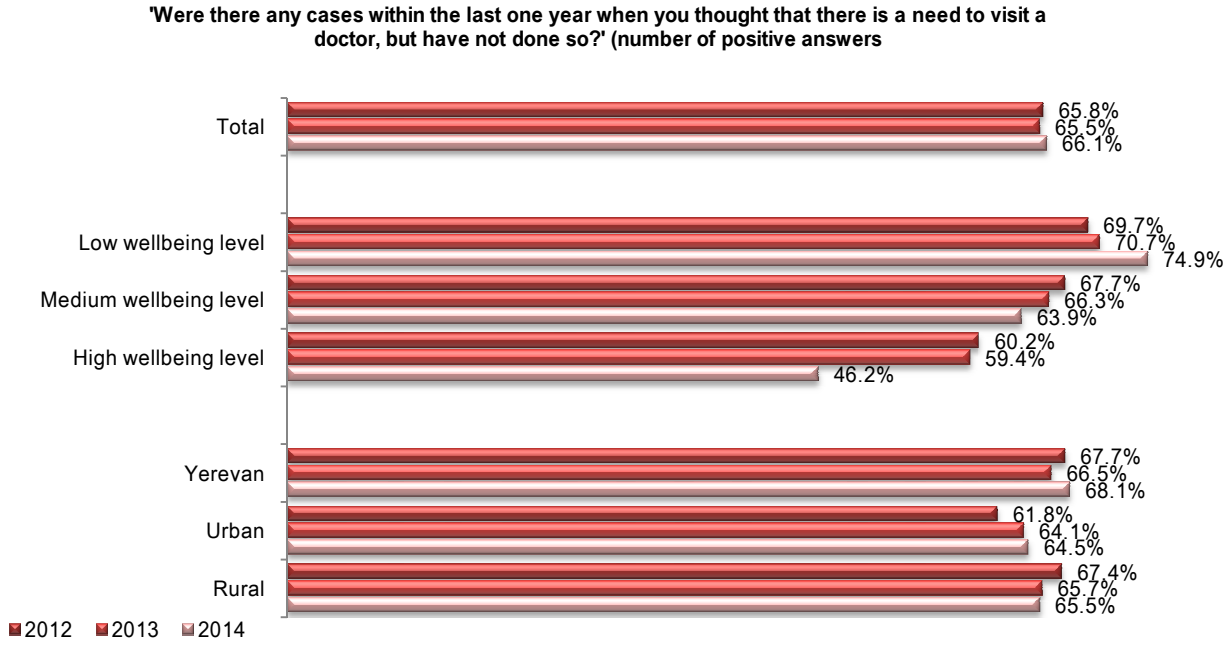
- **Financial access to healthcare has improved in the high wellbeing group.**

In particular, the proportion of respondents who reported not visiting a doctor when there was a need dropped from 60% to 46% between 2012 and 2014.

Comparison of the findings suggests that

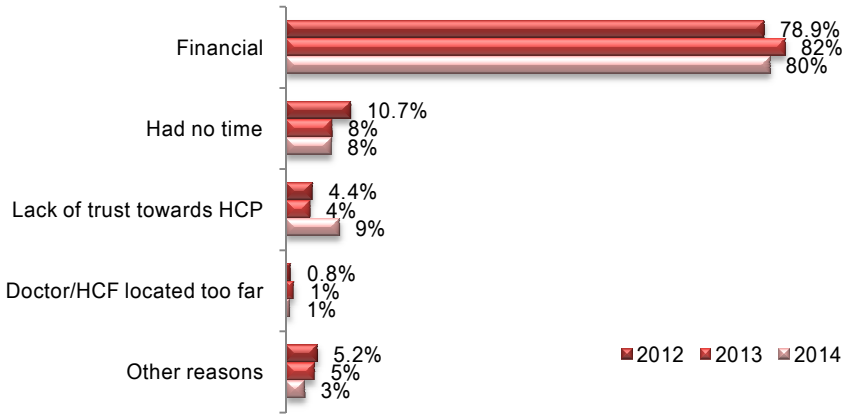
- **Social inequality has increased in Armenia between 2012 and 2014 if viewed from the standpoint of financial access to healthcare.**

Figure 55. Number of population not seeking medical care when there was a perceived need according to sociodemographic characters, 2012-2014



Insolvency of the household or too high prices of medical services remain the most common reason for not seeking medical care.

Figure 56. Reasons for not seeking care, 2012-2014



Actually, in the high wellbeing quintile not seeking care when there was a perceived need was reported by half (50%) of respondents and 88% of low wellbeing quintile.

12. POPULATION HEALTH ASSESSENT

General assessment of physical and mental health

General assessment of physical and mental health of the population of Armenia was based on their satisfaction with various personal and family issues. Assessment was conducted asking the following question (**a total of 17 areas were observed, including the following).**

Are you satisfied with…

- Opportunities to spent time with your family?
- Your general state of mind?
- Your physical health?
- Opportunities to spent time with friends?
- Your current job?
- Opportunities to rest during the year?

The level of satisfaction was assessed using below scale:

1. Not satisfied at all.
2. Rather not satisfied.
3. Rather satisfied.
4. Fully satisfied.

The findings are presented in Figure 57.
As the Figure suggests:

- **General satisfaction of population with their physical and mental health in 2014 ranged within the 'medium' median.**
- **Satisfaction with mental health declines by 4,4 % between 2012 and 2013.**
- **General satisfaction with physical health did not change much between 2012 and 2013.**

Satisfaction with general physical and mental health across sociodemographic groups is presented in Figure 58 A and B correspondingly.

- **General satisfaction with physical and mental health across sociodemographic groups is similar.**
- **Relatively high are assessments among males, those 18-29 years old, people with higher education, and the well-off groups.**
- **Assessment of both physical and mental health across residence types (Yerevan, urban, rural) also suggests similar picture.**

Figure 57. Micro levels of satisfaction with the quality of life, 2012 and 2014

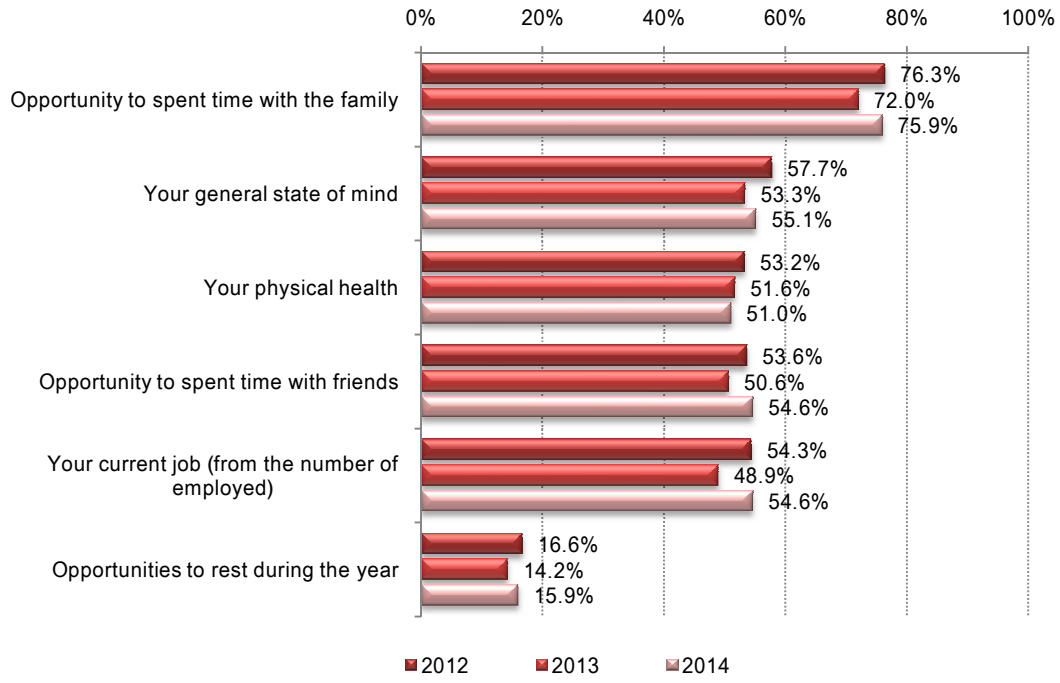
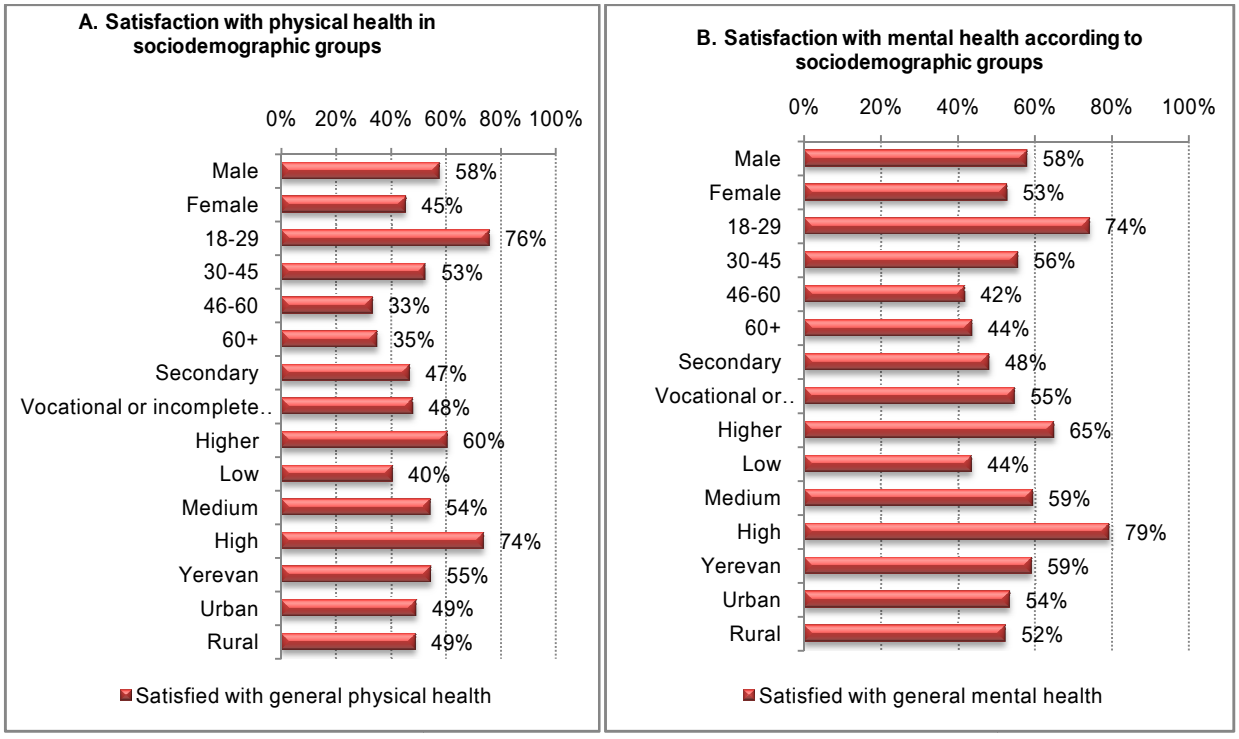


Figure 58. Satisfaction with general physical and mental health across sociodemographic groups, 2014



Prevalence of health conditions and symptoms

The survey of data on prevalence of health conditions and symptoms is a valuable tool for indirect assessment of the general physical health of the population.
The prevalence of health conditions was assessed by asking the following question: *'**Did you have one or more of these symptoms during the past one month?'***

- Pain in the chest when walking or doing other movements
- Joint pain
- Low back pain
- Neck / shoulder ache
- Edema of legs
- Variceal dilatation of veins
- Dermatoses
- Constipation
- Headache
- Toothache
- Sleeplessness

Options for the answers included ''Yes' and 'No'.
This question group was included in the Quality of Life Index from the HSPA mass survey questionnaire.
Prevalence of observed health conditions and symptoms in Armenia between 2011 and 2014 is presented in Figure 59.

As the Figure suggests:

- Headache is the most common health condition in Armenia. It is positioned in 'high prevalence' median. Sixty-seven percent of respondents reported to have headache during the reference period of 2014. However a decline tendency in the number of such respondents was seen during 2011-2014.
- The proportion of respondents reporting low back pain increased between 2011 and 2014 moving from 'medium prevalence' to 'high prevalence' median.
- A general increase tendency is seen also among reporters of joint pain during 2011-2014, which however is in the 'medium prevalence' median.
- During the same period an increase was recorded also in proportion of respondents who complained about pain in chest when walking or doing other movements.

Figure 59. Prevalence of health conditions and symptoms in population, 2011-2014

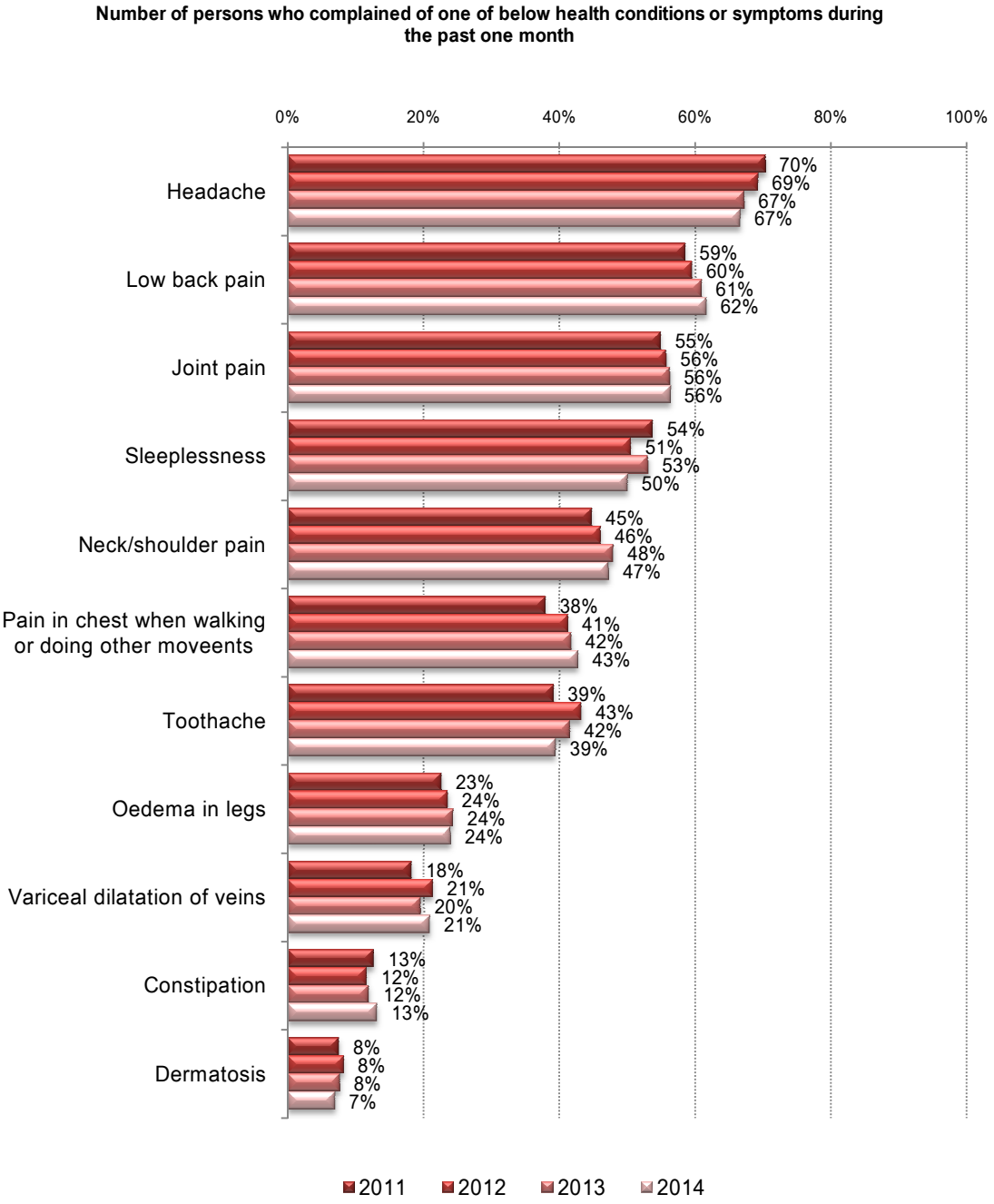
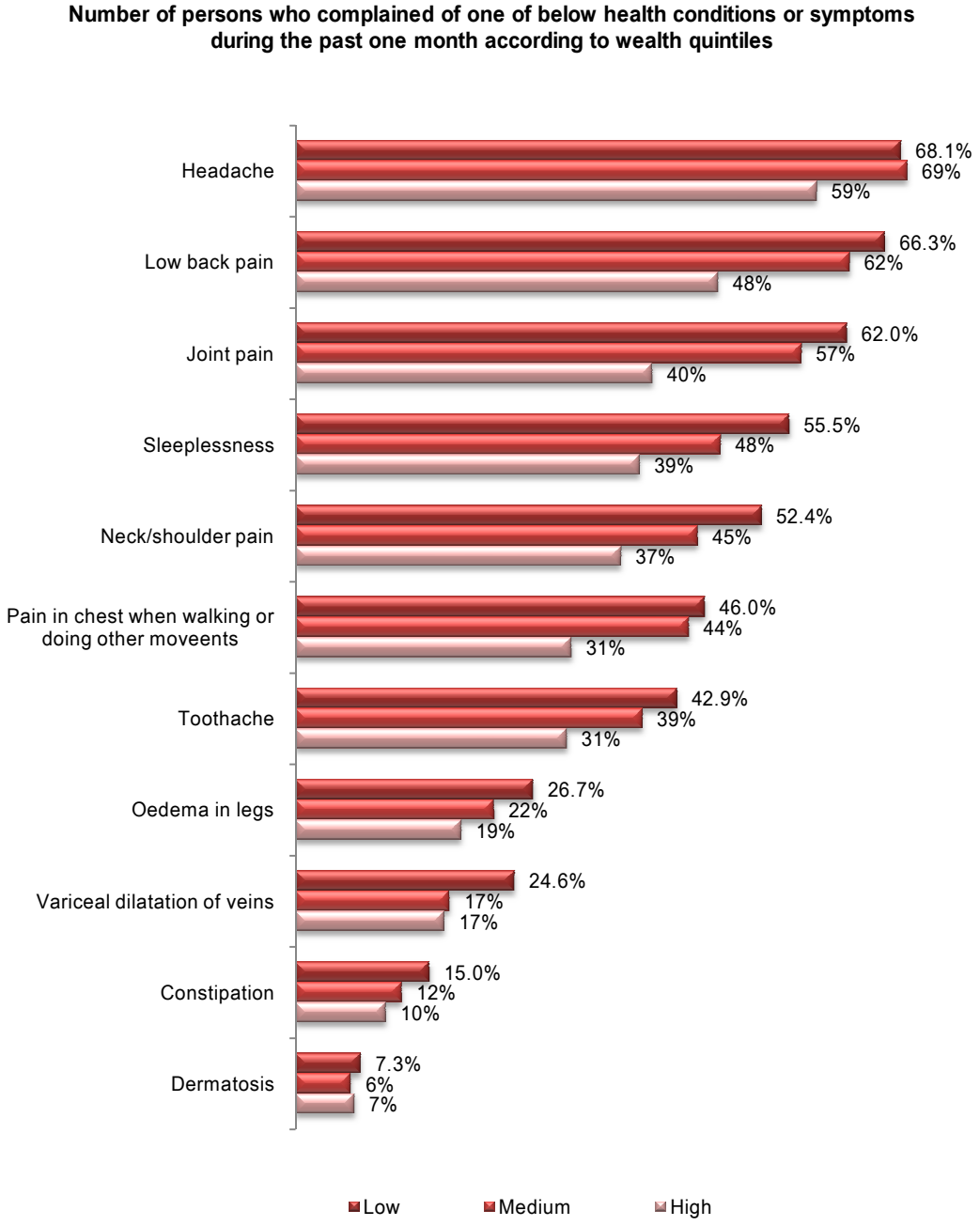


Figure 60 presents prevalence of symptoms according to wealth quintiles, in particular how common the stated conditions and symptoms are across most well-off and needy population groups.

Figure 60. Prevalence of health conditions and symptoms in population according to wealth quintiles, 2014



Population mental health

To describe mental health of Armenia population the following question was asked: 'How often do you feel ?

- **Calm, peaceful,**
- **Happy,**
- **Self-confident,**
- **Depressed,**
- **Anxious, unconfident, downhearted,**
- **Blue or angry**

Options of answers include:

1. **'None of the time'**
2. **'Some of the times'**
3. **'Most of the time'**
4. **'All of the time'.**

The six mental health domains observed during 2014 included three positive and three negative aspects. Only three did not change between 2010 and 2014. Description of population state of mind aspects during 2014 is presented in Figure 61, and the change of the three over the period of 2010-2014 is presented in Figure 62.

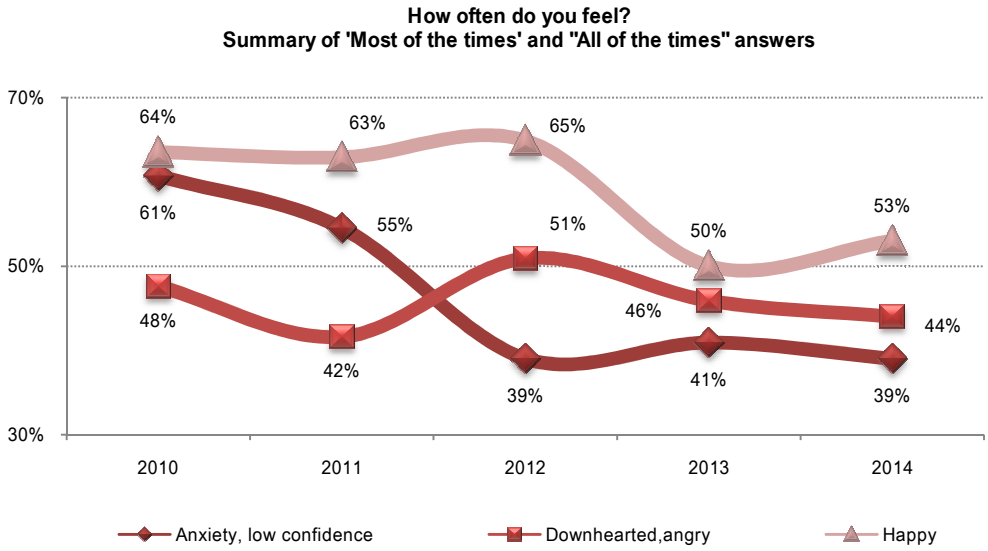
Figure 61 shows:

- **The combination of answers '*most of the time*' and '*all of the time*' for the two out of three positive aspects –'*Happy*' and '*Calm and peaceful*' rests in the "Medium" median.**
- **'Self-confidence' is in "High' median, and**
- **Assessment of three negative aspects (depressed, blue or angry) are in 'Medium" median, and the state of being 'anxious, unconfident, downhearted' is as little as 1% below bottom threshold of the 'Medium' median.**

Figure 61. Population general state of mind aspects, 2014

Figure 62 shows the aspects of positive state of mind. As data suggest there was a significant decline in 2013-2014 as opposed to 2010-2012. One of the feelings describing stressful situations, i.e. 'Downhearted, angry' was reported less often during 2012-2014 as opposed to 2010-2012, whereas the number of respondents who reported feeling 'Anxiety, low confidence and uncertainty' 'Most of the time' or 'All of the time' did not change much throughout 2010-2014.

Figure 62. Dynamics of some aspects of population state of mind, 2010-2014



13. RISK FACTORS

Domestic risk factors

Among domestic risk factors the following were considered: air pollution, water contamination, soil contamination, noise, radiation and actions inducing climate changes. A total of 14 factors were shortlisted, including

Air pollution factors

- Air pollution with dust,
- Motor vehicle emissions,
- Industrial waste,
- Cattle breeding farms located in the vicinity.

Water contamination

- Drinking water contamination
- Irrigation water contamination

Waste

- Dumping of domestic waste
- Construction debris
- Dumping of toxic industrial waste

Noise

- Transport noise (motorvehicels, trains, airplanes)
- Domestic noise generated by nearby restaurants, bars, streets and neighbors
- Industrial noise

Environment

- Radiation

Climate changes

- Tree-cutting

The survey reflected on the level of prevalence of risk factors only and no assumptions were made on their relative danger, such as what is more dangerous – the dust or industrial noise?

In addition, the data present personal perceptions of respondents on risk factors, which might be rather subjective.

Prevalence of risk factors was studied by asking the following question, "***Which of the following environmental problems are present in the vicinity of your house?'*** Respondents were provided with the list of risk factors. Similar approach was applied during 2011 - 2014 to assess the prevalence of risk factors.

Prevalence of domestic risk factors and their change dynamics between 2011 and 2014 is presented in Figure 63. According to the data, domestic risk factors can be grouped into four categories:

The first group of most common risk factors includes

- Dust (reported by 55% of respondents), the prevalence of which essentially exceeds the second most common risk factor indicated below.

- Air pollution with motor vehicle emissions (44%)

The second group includes

- Transport noise (32%)
- Dumping of domestic waste (32%)
- Drinking water contamination (28%)
- Irrigation water contamination (25%):

The third group includes

- Construction debris (16 %)
- Air pollution with industrial emissions (12%)
- Domestic noise: restaurants, bars, neighbors and street (12%)
- Radiation (10 %)

The forth group includes

- Forest and tree-cutting (8%)
- Air pollution by cattle-breeding farms (8%)
- Dumping of industrial waste (6%)
- Industrial noise (2 %)

Changes in the prevalence of risk factors between 2011 and 2014 are presented in Figure 63. According to it during 2012-2014 the following was recorded:

- Increase in
  - ✓ dust,
  - ✓ dumping of domestic waste
- Decrease in:
  - ✓ Drinking water contamination,
  - ✓ Air pollution with industrial emissions.

The prevalence and dynamics of domestic risk factors were estimated for the period covering 2011-2014 according to residence type. The findings are presented in Figure 64 for Yerevan, in Figure 65 for urban areas and in Figure 66 for the rural areas. In addition,

Figure 67 presents prevalence of environmental problems in 2014 per residence type. It helps getting a better insight of risk factor-related problems in Yerevan and urban and rural residences.

Figure 63. Prevalence of domestic risk factors, Armenia, 2011-2014

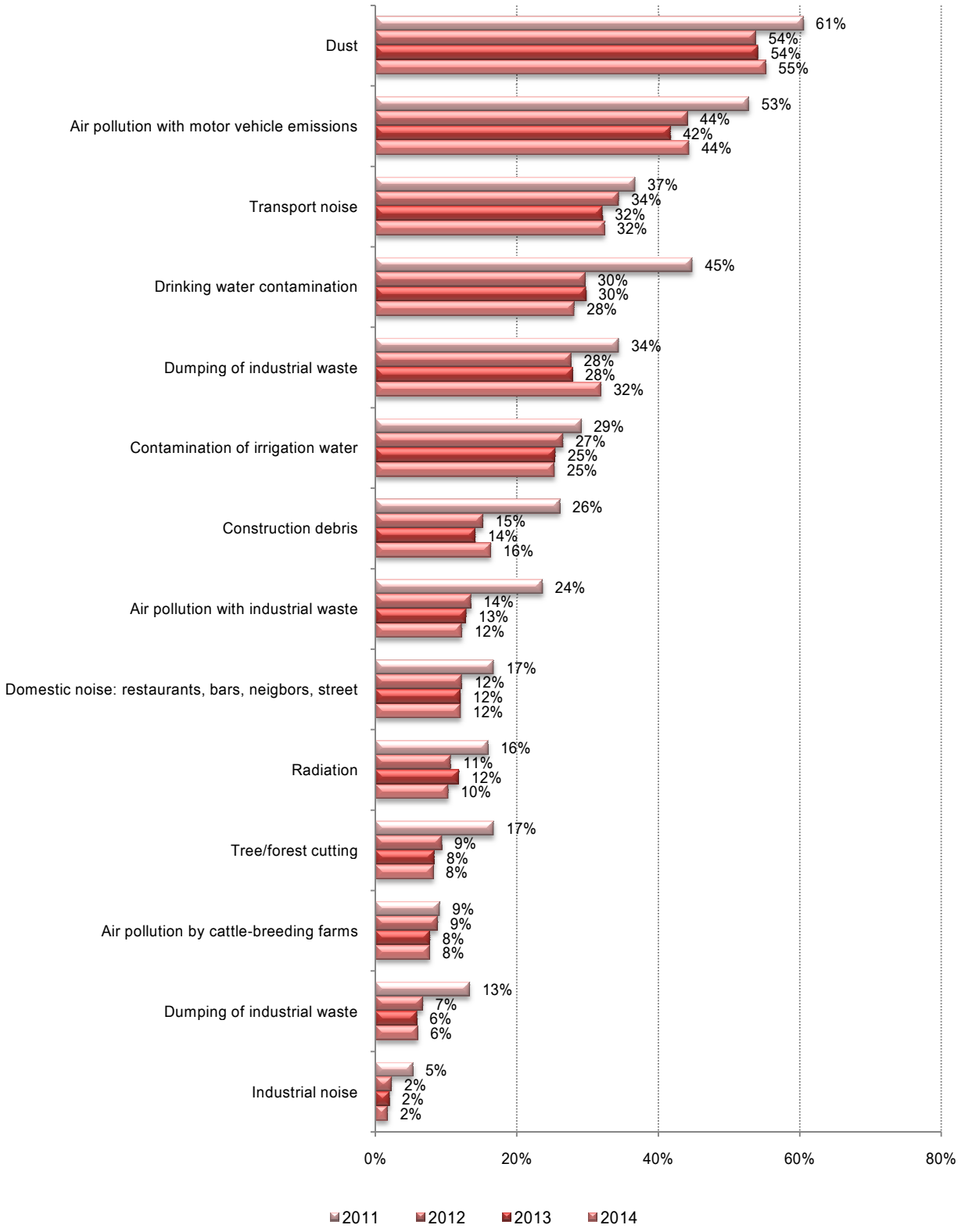


Figure 64. Prevalence of domestic risk factors, Yerevan, 2011-2014

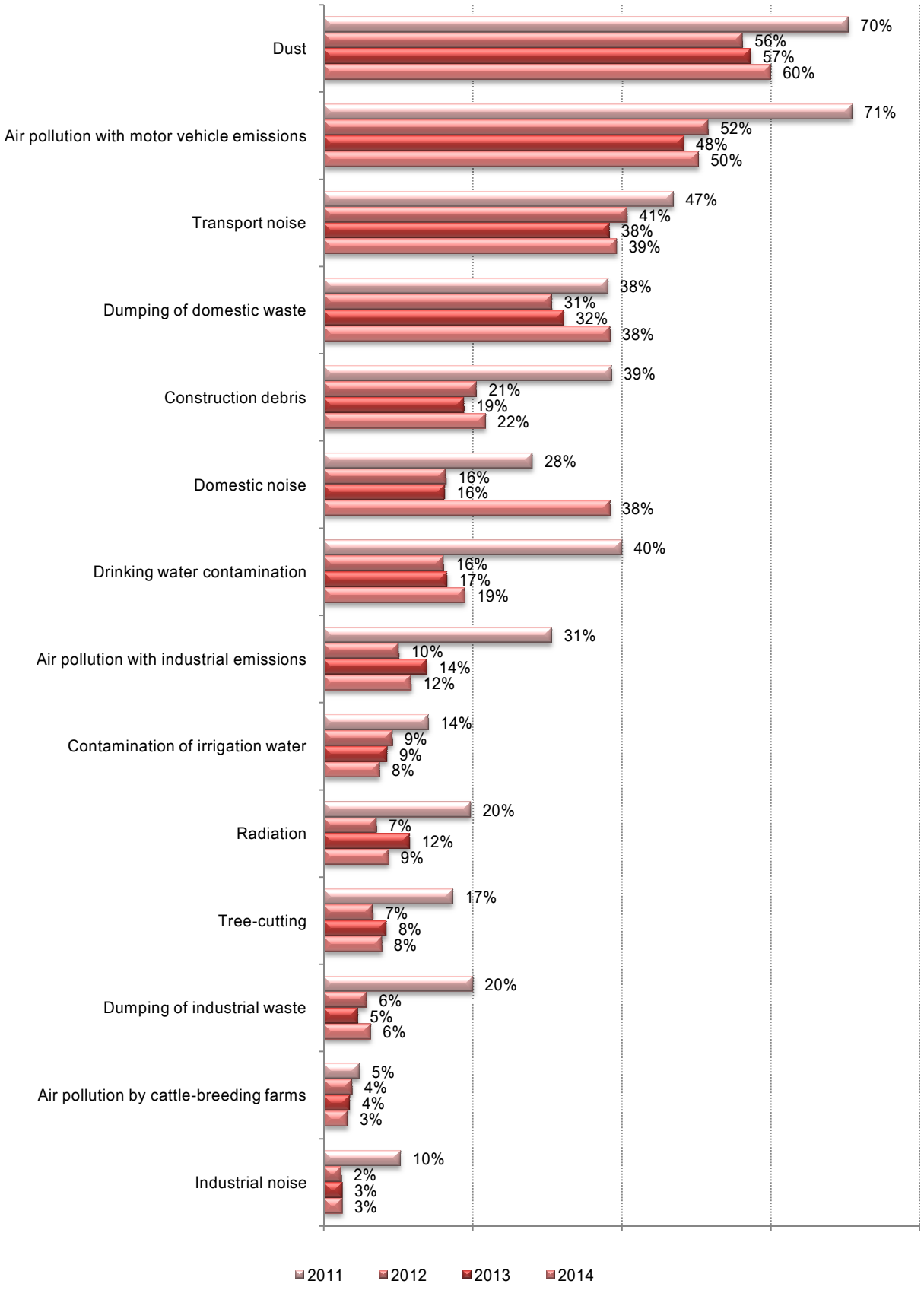


Figure 65. Prevalence of domestic risk factors, marz towns, 2011-2014

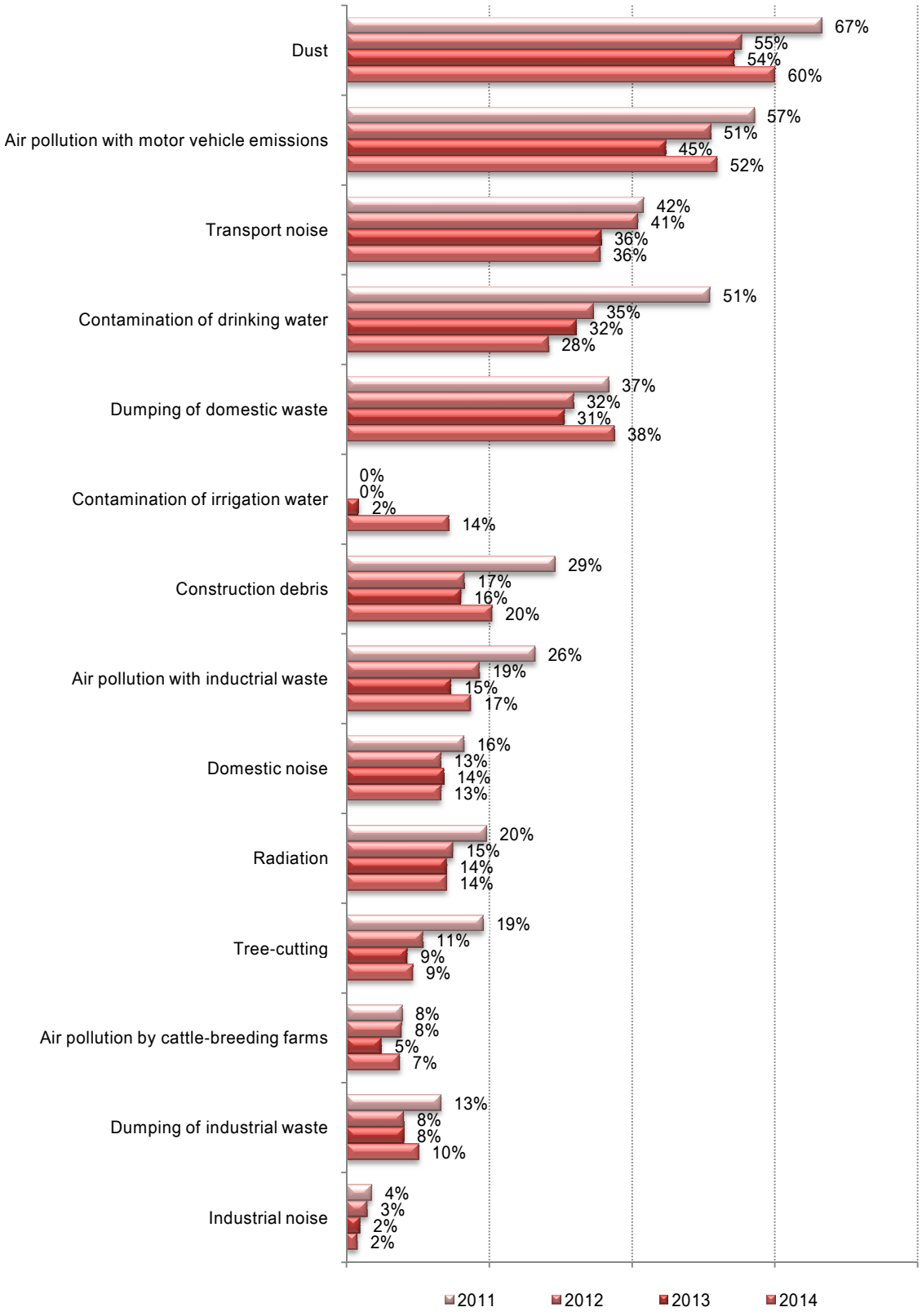


Figure 66. Prevalence of domestic risk factors, villages, 2011-2014

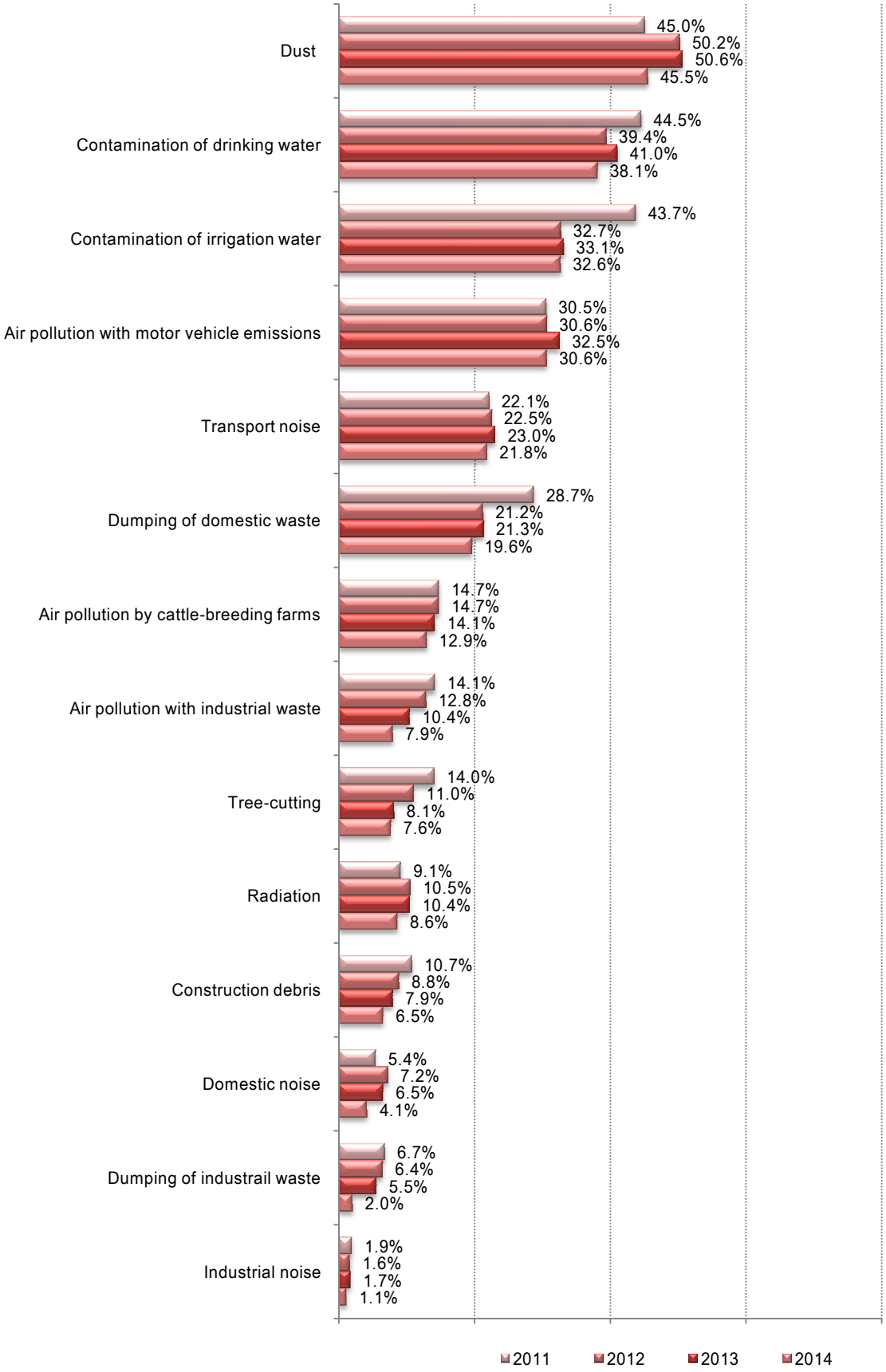
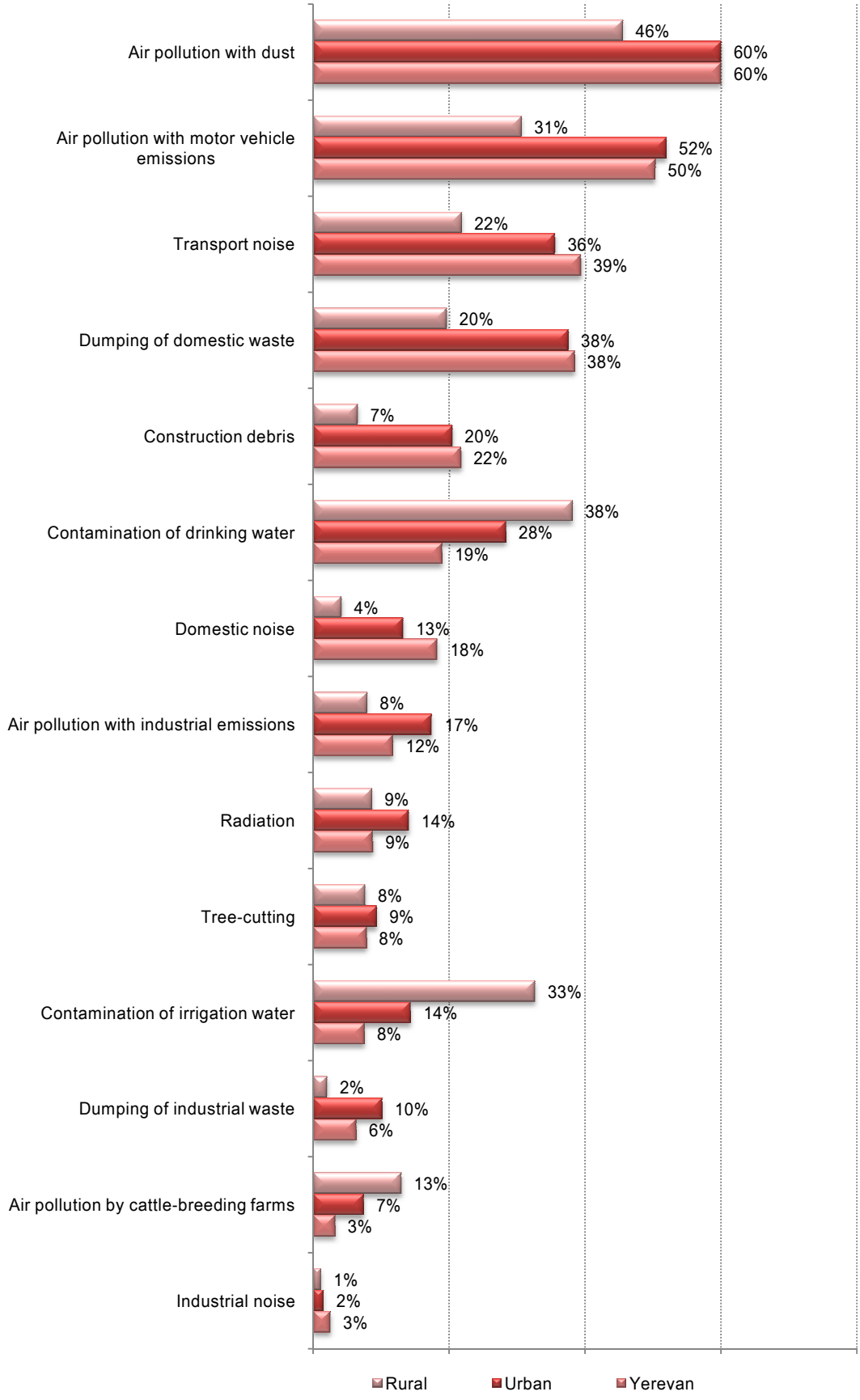


Figure 67. Prevalence of domestic risk factors across residence types, 2014



Below are general conclusions based on the above figures.

- **In general, extension of the prevalence of domestic risk factors has stopped.**

Nonetheless, increase tendency of some risk factors are recorded in some residence types. In particular,

- In 2014 the following tendencies were recorded in **Yerevan** compared with 2012.
  - ✓ Increase of air pollution with dust
  - ✓ Increase of air pollution with domestic waste dumping
  - ✓ Increase of domestic noise
  - ✓ Increased drinking water contamination.
- Below risk factors were prevalent in **urban settlements** in 2011-2014, including increase of
  - ✓ Dust
  - ✓ Motor vehicle emissions,
  - ✓ Irrigation water contamination
  - ✓ Dumping of domestic waste,
  - ✓ Construction debris,
  - ✓ Air pollution with industrial emissions,
  - ✓ Duping of industrial waste.
- The following is evident in **rural areas** between 2012 and 2014. Decrease of
  - ✓ Air pollution with industrial emissions,
  - ✓ Construction debris
  - ✓ Domestic noise,
  - ✓ Industrial emissions,
- Following specifics of domestic risk prevalence according to residence type were detected in 2014. Overall, the following is less prevalent in rural areas.
  - ✓ Air pollution with dust,
  - ✓ Air pollution with motor vehicle emissions,
  - ✓ Transport noise,
  - ✓ Dumping of domestic waste,
  - ✓ Dumping of construction debris,
  - ✓ Domestic noise,

  At the same time, rural areas reported higher prevalence of:

  - ✓ Drinking water contamination,
  - ✓ Irrigation water contamination,
  - ✓ Air pollution by cattle breeding farms.

Vagrant animals

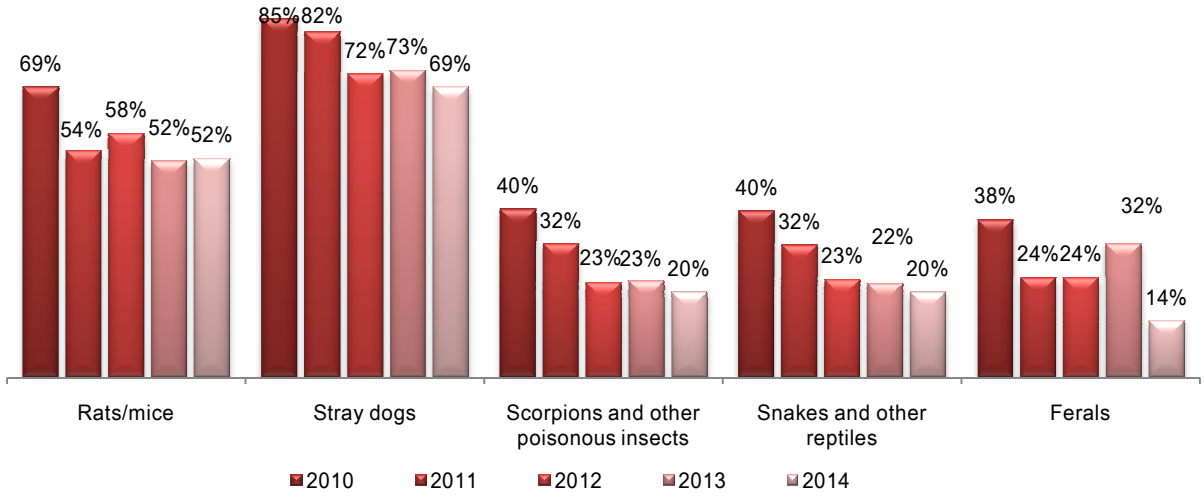
Vagrant animals may also be viewed as domestic risk factors, including rats, mice, stray dogs, scorpions, poisonous insects, snakes and other reptiles, as well as feral animals, since they may cause human suffering and various health problems.

Existence of vagrant animals was assessed asking the following question. '***Which of the following dangerous species of animals are present in your apartment/in the vicinity of your house?***' Respondents were suggested the following list:

- Rats /mice
- Stray dogs
- Scorpions, poisonous insects
- Snakes and other reptiles
- Feral, including wolves, bears and others (this question was asked only in rural areas).

Prevalence of these risk factors in Armenia between 2010 and 2014 is presented in **Figure 68.**

Figure 68. Prevalence of vagrant animals, Armenia, 2010-2014



Data show that if viewed in the context of standards adopted in developed countries:

- **All vagrant animals indicated above present an essential problem in Armenia.**

Especially high is the prevalence of

- **Stray dogs, which was reported by nearly ¾ of all respondents (69%), and**
- **Rats and mice reported by every second respondent (52%).**

As the Figure above witnesses,

- **The decrease tendency of the number of vagrant animals, snakes, insects and rodents detected during 2010-2012, stopped in 2013.**
- **The number of feral animals in the vicinity of rural households has decreased between 2013 and 2014.**

The prevalence of vagrant animals, poisonous snakes and insects, as well as rodents according to the residence type is presented in **Figure 69-71.**

In Yerevan:

- **No significant statistical changes were detected in the number of cases reported from 2012 to 2014.**

In urban settlements:

- **A decrease of the number of reports on snakes and other reptiles, as well as scorpions and poisonous insects was recorded.**

In rural areas:

- **Reports on the number of snakes and reptiles decreased between 2010 and 2014.**
- **Also, reports on the number of scorpions and poisonous insects has decreased.**
- **Slight decrease of the number of reports on rats was detected from 2013 to 2014.**

Figure 69. Perception of stray animals in Yerevan, 2010-2014

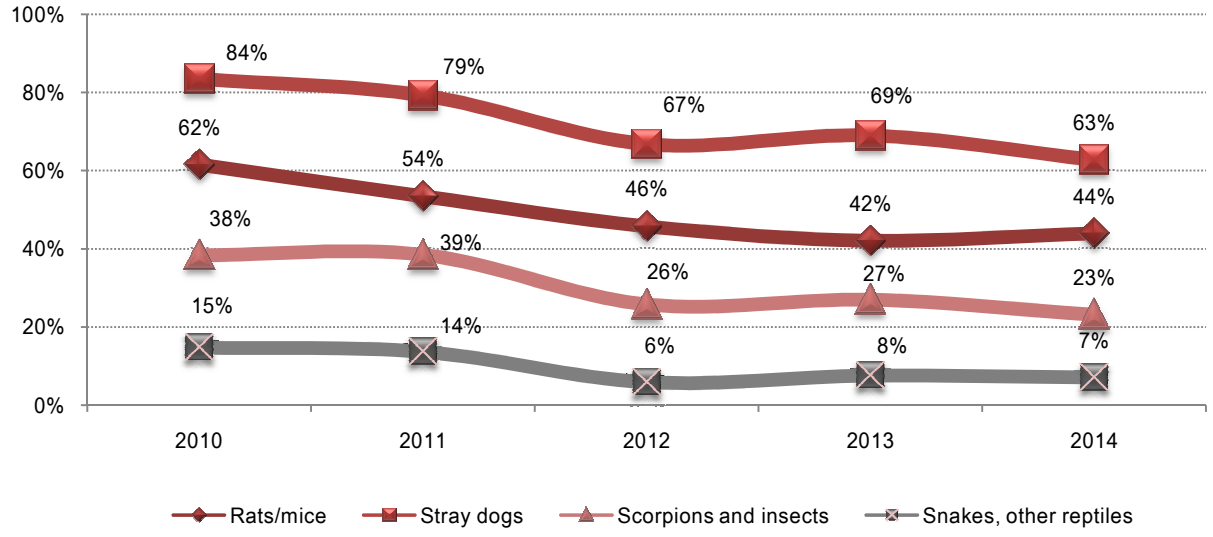


Figure 70. Perception of stray animals in urban areas, 2010-2014

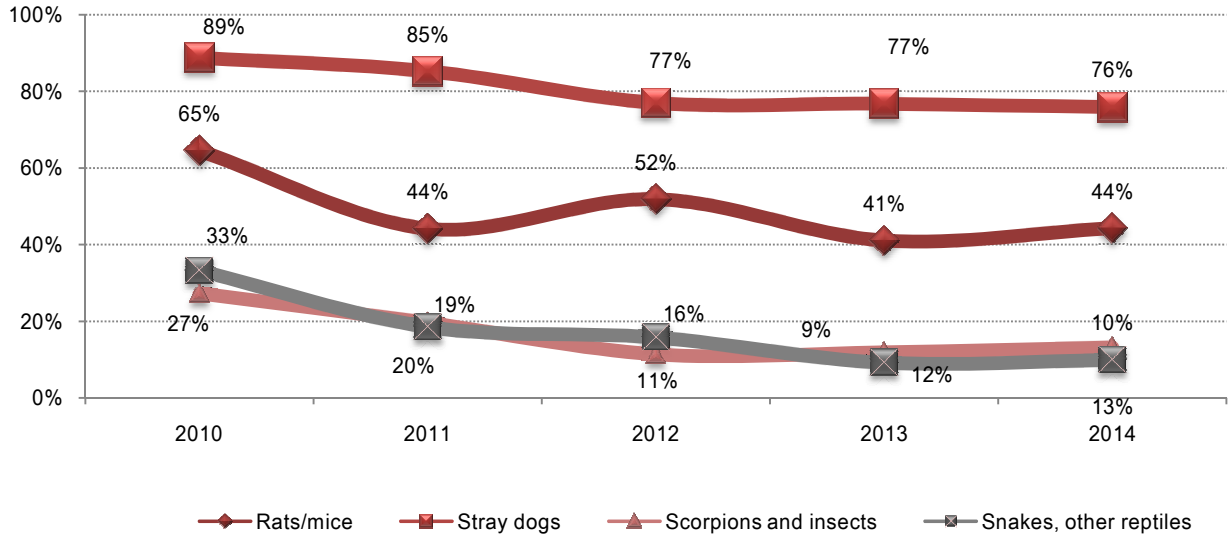
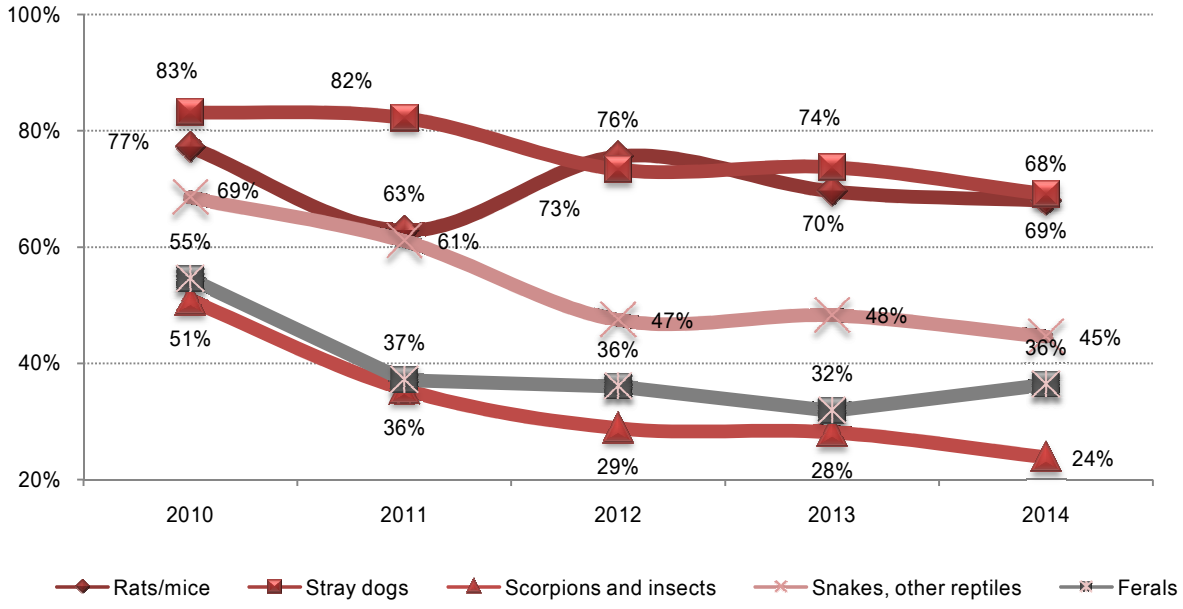


Figure 71. Perception of stray animals in rural areas, 2010-2014



ANNEXES

Annex 1. Monitoring and evaluation indicators in acting and draft state programs and strategies containing health component

MoH Health Programs and Strategies	Period covered	M&E indicators
RA Program of Socioeconomic Activities		
• RA Government Action Plan	2015	Yes
• Strategy Program of Perspective Development Հայաստանի	2014-2025	Yes
• Development Assistance Framework, Armenia-UN	2016-2020	Yes
• RA State Medium Term Expenditure Framework	2016-2018	Yes
• Action Plan and List of Activities of the RA Ministry of Health aimed at Ensuring National Security of the Republic of Armenia	2010-2015	Yes
Health programs		
• Maternal and Child Healthcare Strategy	2003-2015	Yes
• National Reproductive Health Improvement Program	2007-2015	Yes
• Concept Paper on Improvement of Child Nutrition	2015-2020	Yes
• National Child and Adolescent Health and Development Program and Action Plan	2015-2020	Yes
• Strategy of Improvement of Child Hospital Care	2013-2015	Yes
• National Immunization Program	2010-2015	Yes
• Strategy on Healthy Lifestyle Promotion and Action Plan	2015-2020	Yes
• Strategy on Control of Most Prevalent Noncommunicable Diseases	2016-2020	Yes
• National Strategies on Three of the Most Prevalent Diseases with the Highest Mortality Rate – Circulatory System /Cardiovascular diseases/, Malignant Neoplasms and Diabetes	2011-2015	Yes
• RA State Tobacco Control Program	2010–2015	Yes
• National Program on Donating Human Blood and Blood Components and Transfusion Medical Assistance	2012-2017	Yes
• Strategy on Mental Health Protection and Improvement in the Republic of Armenia	2014-2019	Yes
• Concept Paper on Delivery of Alternative Care and Social Services to Persons with Mental Health Disorders	2013-2017	Yes
• Action Plan 2013-2017 for the implementation of the Concept Paper on Delivery of Alternative Care and Social Services to Persons with Mental Health Disorders	2013-2017	Yes
• National Program on Combating Human Trafficking in RA	2013-2015	Yes
• National Infectious Disease Vector Control Program	2014-2018	Yes
• National Tuberculosis Control Program	2007-2015	Yes
• National Program on Response to HIV Epidemic	2013-2016	Yes
• State Program on Prevention of Malaria Importation and Development in Armenia	2011-2015	Yes
• Concept of Financing Medical Assistance and Services Guaranteed by the State Free of Charge or at Preferential Terms		Yes
• Program on State Control of Health Sector and Addressing of Drug Policy Issues	2012-2015	Yes
• PHC Development Concept	2012-2015	Yes
• RA National Action Plan on Environmental Hygiene	2002-2015	Yes
• Health Financing and Primary Health Care Development Program		Yes
• Loan Program on Disease Prevention and Control	2013-2019	Yes

Legal Framework

Annex 2. Health legal regulation encompasses a wide scope of legal acts.

Laws	Adopted on
Constitution of the RA (amendments included)	**05.07.1995 Amended 27. 11. 2005**
• Law on Medical Assistance and Service to the Population	**04.03.1996**
• Law on Population Protection in Emergency Situations	**02.12.1998**
• Law on Ensuring Sanitary-Epidemiological Safety of the Population	**16.11.1992**
• Law on the Child's Right	**29.05.1996**
• Law on Human Reproductive Health and Reproductive Rights	**11.12.2002**
• Law on Prevention of Disease caused by Human Immunodeficiency Virus	**03.02.1997**
• Law on Transplantation of Human Organs and Tissues	**16.04.2002**
• Law on Donating Human Blood and Blood Components and Transfusion Medical Assistance	**15.11.2011**
• Law on Psychiatric Assistances	**25.05.2004**
• Law on Drugs	**27.10.1998**
• Law on Narcotic Drugs and Psychotropic Substances	**26.12.2002**
• Law on Social Assistance	**17.12.2014**
• Law on Social Protection of Persons with Disabilities	**14.04.1993**
• Law on Licensing	**30.05.2001**
• Law on Procurements	**22.12.2010**
• Law on Inspection Authorities	**17.12.2014**
• Law on Advertising	**30.04.1996**
• Law on Making Amendments and Addenda to the RA Law on Advertising	**28.03.1999**
• Law on Food Safety	**27.10.2006**
• Law on Breastfeeding Promotion and Regulation of Baby Food Marketing	**20.11.2014**
• Law on Food	**21.06.2014**
• Law on Ensuring Food Safety	**07.05.2002**
• Water Code	**04.06.2002**

RA MINISTRY OF HEALTH
Government Building N3, Yerevan 010, RA

National Institute of Health after Academician S. Avdalbekyan
49/4 Komitas, Yerevan 051, RA
Phone: (+374 10) 236 911