Review of Experience of Family Medicine in Europe and Central Asia

(In Five Volumes) Volume II: Armenia Case Study

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ARMENIA CASE STUDY

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Weights and Measures
Metric System

Abbreviations and Acronyms

| CEE       | Central and Eastern Europe |
| CHI       | Compulsory Health Insurance |
| CIS       | Commonwealth of Independent States |
| DOS       | Department of Statistics |
| ECA       | Europe and Central Asia |
| EU        | European Union |
| FM        | Family Medicine |
| FP        | Family Physician |
| FSU       | Former Soviet Union |
| GDP       | Gross Domestic Product |
| GOA       | Government of Armenia |
| GP        | General Practitioner |
| HAART     | Highly Active Anti-Retroviral Therapy |
| HIC       | Health Insurance Company |
| HIF       | Health Investment Fund |
| HIV       | Human Immunodeficiency Virus |
| MDGs      | Millenium Development Goals |
| MHI       | Mandatory Health Insurance |
| MOE       | Ministry of Education |
| MOF       | Ministry of Finance |
| MOH       | Ministry of Health |
| MTEF      | Medium Term Expenditure Framework |
| NICE      | National Institute of Clinical Excellence |
| OECD      | Organization for Economic Cooperation and Development |
| PRC       | Primary Health Care |
| SHA       | State Health Agency |
| STI       | Sexually Transmitted Infections |
| TB        | Tuberculosis |
| UK        | United Kingdom |
| UNICEF    | United Nations Children’s Fund |
| WB        | World Bank |
| WHO       | World Health Organization |

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ACKNOWLEDGMENTS

This report reviews the experience of family medicine in Armenia. It is part of a study comprising five volumes that reviews the experience of family medicine in four countries in the Europe and Central Asia (ECA) Region—Armenia, Bosnia and Herzegovina, Kyrgyz Republic, and Moldova. The report reviews the experience, draws lessons, and establishes an evidence base for detailed analysis. The study presents best practices for policy dialogue and future investments by the Bank and other financial institutions. The detailed case studies compare these countries and draw common themes and issues. Comparisons are made with best-developed or existing models in the Organization for Economic Cooperation and Development (OECD) and other ECA countries that have already undertaken family medicine reform.

The study was financed by a Dutch Trust Fund. It was prepared by Rifat Atun (Imperial College London). The research team included Greta Ross, Samwel Hovhannasiyan, and Alisher Ibragimov. The Task Profile Instrument was designed by Wienke Boerma. The study was prepared under the leadership of Betty Hanan. Susanna Hayrapetyan and Toomas Palu provided valuable comments. Annie Milanzi helped to prepare the document for publication.
EXECUTIVE SUMMARY

INTRODUCTION

1. The study objective was to evaluate the family medicine and primary health care reforms in Armenia.

2. The study employed primary and secondary research, using both qualitative and quantitative methods of inquiry with proprietary framework of analysis and instruments to explore key changes in policies, regulations, organizational structures, financing, resource allocation, provider payment systems, service provision, and human resources. The impact of family medicine (FM) reforms was analyzed.

3. The Republic of Armenia inherited a health system based on the Soviet Semashko Model, characterized by centralized and hierarchical organization as well as by a large provider network with a curative focus, dominated by hospitals and featuring a poorly developed primary health care (PHC) level. The system was characterized by parallel sub-systems for line ministries and large organizations; a fragmented delivery model in PHC with a polyclinic system staffed by narrow specialists, which provided services separately for adults and children; and a large number of vertical programs delivered by narrow specialists. There were no trained specialist family physicians.

4. The health system suffered a number of shortcomings such as: excess human resources concentrated in cities; inequitable resource allocation based on historic activities and inputs, which favored large hospitals in urban centers at the expense of rural areas; line-item budgeting of provider units and salary-based payment systems that encouraged inefficiency and discouraged improved performance; care-delivery protocols that encouraged excessive referral to the secondary-care level; and limited user empowerment—the citizens were allocated to doctors and unable to exercise choice of providers.

5. Following independence, economic recession led to a rapid decline in the level of public funding available for the health system, thus creating a substantial funding gap between the level of financing needed by the health system and the resources available. From 1995 onwards, the Government of Armenia sought to introduce multifaceted health reforms centered on developing a strong PHC system to address the following: organizational complexity; excess infrastructure and human resources; allocative inefficiency and inequities in financing; inefficient service provision; limited incentives; and low pay levels for health personnel.

KEY ACHIEVEMENTS: ORGANIZATIONAL AND REGULATORY CHANGES

6. Starting in 1995, in collaboration with international agencies, the Government introduced key pieces of legislation to create an enabling environment and to establish platforms for systemic, comprehensive, and multifaceted health reforms to reduce inefficiencies, enhance equity and access (financial and geographic), and improve quality.

7. Despite a highly resource-constrained environment, Armenia has been able to introduce the FM-centered PHC reforms to parts of the country and to achieve structural changes with separation of purchasing and provider functions.
8. Family medicine is recognized as a specialty in Law. In parts of the country, the tripartite system of pediatric, women’s, and adult clinics have been consolidated into unified PHC centers. Three FM training centers and many PHC centers in the pilot marzes have been refurbished and now provide unified services for men, women, and children.

9. New PHC provider organizations have been created with autonomy to manage budgets and contract with the State Health Agency, which was created in 1997 to assume a strategic purchasing role.

10. The scope and content of family medicine services have been articulated in law and defined in detail in the State Guaranteed Basic Benefits Package.

11. The gate keeping function of PHC has been established with family physicians acting as the first point of contact for patients in reform areas. In areas where the reforms have not been introduced, users are able to access narrow specialists, hence fragmenting the first contact and gate keeping functions of PHC.

FINANCING, RESOURCE ALLOCATION AND PROVIDER PAYMENT SYSTEMS

12. New provider payment methods have been successfully introduced in the pilot regions for PHC based on a weighted per capita mechanism augmented by fee-for-service payments.

13. Primary health care providers also receive payments from non-vulnerable populations in the form of user fees for services outside the Basic Benefits Package (BBP) and fees for home visits and payments for diagnostic tests. In addition, there are “unofficial fees” and in-kind payments, but the extent of these payments is not quantified. In the areas where the World Bank-financed PHC Development Project was implemented and where the PHC services were provided by family physicians, the extent of informal payments has been shown to be less as compared with control regions. Project studies showed that the informal payments for medical examinations were less in project sites as compared with control areas. Following the introduction of the BBP, the affordability of PHC services increased.

SERVICE PROVISION

14. A State Guaranteed BBP has been introduced for the entire population and provides free PHC services for all citizens, regardless of their status. An expanded BBP exists for the vulnerable population.

15. Users now have the freedom to choose their family physicians.

16. There is excellent coverage of immunization. Basic PHC services are provided throughout most of the country, although access in rural areas remains a problem.

17. The task profile analysis shows clearly that in the regions and PHC centers that have introduced the FM model, the scope and content of services have significantly expanded. There are increased health education, disease prevention, and promotion services; enhanced gate keeping; more frequent application of medical techniques and procedures; and expanded management of key first contact and chronic conditions as compared with low reform areas where the FM model has not been introduced. Analysis of the referral data shows a decline in the number of hospital referrals for key acute and chronic conditions typically managed in the PHC setting. These findings demonstrate that FM reforms are having the desired benefits of enhanced care management in the PHC setting with reduced referrals to a hospital—with consequent improvement in efficiency and effectiveness.
18. Evidence-based guidelines for family physicians have been introduced for 127 common conditions encountered in PHC settings as well as 56 guidelines for FM nurses. This enhances the quality of PHC services delivered, reduce unnecessary interventions, and diminish referrals to hospitals.

**RESOURCE GENERATION**

19. There are now two routes to train as a family physician: (i) an 11-month retraining program for doctors trained in the Soviet system and currently working in PHC delivered by the SMU and supported by the Bank-financed Health Project. This was accredited by WONCA to be in accordance with internationally acceptable standards; and (ii) a two-year FM residency program for medical graduates who qualified recently. In addition, the Ministry plans to introduce a system of continuous training for FM physicians.

20. It is estimated that around 350 family physicians have already graduated from SMU and NIH. At present, a further 120 physicians are in training at both institutions. The objective of the Government is to retrain around 160 family physicians each year to reach the target of around 1,200 family physicians in the next five years. In addition, 150 general nurses have been retrained as family nurses. The number of family physicians and nurses meets 23 percent of the numbers needed in Armenia.

**KEY CHALLENGES AND RECOMMENDATIONS**

21. To date, introduction of Family Medicine and PHC reforms in the target regions has been successful. Platforms are in place to accelerate the pace of reforms in the second phase of development, particularly to: further broaden the role of family physicians and the scope of services they deliver; introduce more flexible contracts with incentives to improve performance, quality, and provide additional health promotion, prevention and extended PHC services by family physicians; increase remuneration for family physicians and nurses; refine resource allocation mechanisms to reflect need and enhance equity; place more emphasis on evidence-based medicine; change reporting mechanisms in PHC that reinforce the old tripartite model and hinder unified service provision.

22. Good progress has been made towards establishing minimum quality standards, and equitable levels of service have been established for Armenian citizens; but urban and rural differences persist, with poorer access and accessibility in rural areas.

23. The presence at PHC centers of narrow specialists, who can be accessed directly by patients, is a source of inefficiency, hindering the first contact, gate keeping, and continuity functions of the PHC level. This is a key barrier to developing PHC. Ideally, all the PHC centers should be converted to FM centers staffed predominantly by family physicians, and the narrow specialists who work in these PHC centers should either be gradually transferred to hospitals or retrained as family physicians. However, politically this may not be possible to achieve. Hence, pragmatic and feasible options should be explored.

24. Despite the State Guaranteed Basic Benefits Package, which has achieved improved coverage, major inequities in access to services and funding exist. The next phase of reforms should strengthen the focus on equity by changing resource allocation mechanisms to take into account poverty and health needs and substantially modify the current patterns, which favor urban areas with hospitals.

25. Limited incentives and the poor salary levels of family physicians and nurses working at PHC levels are key problems that need addressing in the immediate term. PHC contracts, which have been successfully introduced in the reform regions, should be used as a tool to encourage innovation and...
further improve equity, service quality, efficiency, and effectiveness. However, to achieve these objectives there needs to be a move from weighted per capita contracts to more sophisticated contracts, with explicit quality and performance criteria and commensurate incentives to reward family physicians who achieve these. However, such a shift will require significant analytical and execution capacity at SHA as well as more stability in health care financing.

26. There is a clear need for an M&E system that regularly collects output and outcome data from the PHC level. In addition, analytic capacity at MOH and SHA needs enhancing to regularly analyze data to generate timely information to inform decisions.

27. The achievements in Armenia are commendable. Although many problems remain, much has been achieved in a resource-constrained environment and platforms have been put in place to further develop PHC. However, much needs to be done to consolidate achievements and expand the reforms. Strong political support and technical assistance for the next phase of reforms is critical to sustain what has been achieved.
1. **OBJECTIVES OF THE STUDY AND METHODOLOGY**

1. The objectives of the study are to review the experience of family medicine\(^1\) in Europe and Central Asia (ECA), present best practices, and make recommendations for policy dialogue and future investments.

1.1. **THE EVALUATION FRAMEWORK**

2. Kutzin suggests a three-step approach to evaluating health reforms, describing clearly: (i) key contextual factors driving reform, (ii) the reform itself and its objectives, and (iii) the process by which the reform was (is being) implemented.\(^1\) To this approach three further elements can be added: (i) describing clearly the changes introduced by the reforms, (ii) analyzing the impact of these changes on health system objectives and goals, and (iii) establishing whether the reforms have achieved the policy objectives set by the Government—or by the agency leading the reforms.

3. The evaluation used a framework to analyze key changes in health system elements and intermediate goals in relation to primary health care (PHC). This is shown in figure 1.\(^2\) (See annex 1)

### Figure 1. A framework for analyzing health systems

![Diagram of a framework for analyzing health systems](image)

4. This framework builds on that developed by Hsiao\(^3\) and identifies four levers, available to the policy makers and managers in health systems. Management and modification of these levers enables policy makers to achieve different intermediate objectives and goals. The “organisational arrangements” lever refers to the policy environment, stewardship function, and structural arrangements in relation to funding agencies, purchasers, providers, and market regulators. Financing and resource allocation levers

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\(^1\) The term “family medicine” is used here, but other terms such as “primary health care (PHC)” or “general practice” are used frequently and interchangeably.
refer to resource collection, pooling, allocation, and the mechanisms and methods used for paying health service providers. The “provision” lever refers to the “content”—the services provided by the health sector rather than the structures within which this ‘content’ is delivered. The intermediate goals identified in the framework—equity, technical and allocative efficiency, effectiveness, and choice—are frequently cited by others as end-goals in themselves. However, in this framework efficiency, equity, effectiveness, and choice are taken as means to contributing to attainment of the health sector’s ultimate goals of health, financial risk protection, and user satisfaction.

5. This framework was used to analyze key changes in health system elements and intermediate goals. An important finding of the literature search and country visits was the lack of systematically collected data at the PHC level. Therefore, primary research was undertaken to generate original data to complement secondary research findings.

1.2. PRIMARY RESEARCH

6. Primary research comprised two elements: Qualitative research and the Physician Task Profile Survey.

1.2.1. Qualitative research

7. Qualitative research involved 27 key informant interviews: 16 policy makers and 11 persons involved in implementation, including the Head of Health Care Provision at the Ministry of Health; State Health Agency; National Institute of Health; Armenian Association of Family Physicians; Head of FM Department from the State Medical University; Head of Social Assistance at the Ministry of Health; Head of State Hygienic and Epidemiological Inspection at the Ministry of Health; Head of Yerevan Polyclinic No. 17 FM Training Practice; Head of Health Department in Shirak marz; Director of Gyumri FM Centre in Shirak marz; family doctor of Agarak village FM Centre in Aragatsotan marz; GP Trainer at P/C 17 and project management specialist with USAID Democracy and Social Reform Project; Director of School of Health Care Management and Administration; American University of Armenia; Vice President of Children’s Health Care Association; Primary Health Care Programme Development Manager at MOH/WB Project; Senior Health Policy Advisor at USAID Social Transition Program; Team Leader for PADCO/USAID FM programme; PADCO/USAID FM training Program Director, and heads and practicing PHC physicians from marzes where surveys took place.

8. The interviews explored the perceptions of key informants regarding the goals and objectives of the reforms, changes in structures and processes, critical success factors, barriers, and enablers that influenced the introduction and diffusion of FM-centered PHC reforms, major achievements, and lessons learned.

9. A semi-structured questionnaire developed for the study for face-to-face in-depth interviews of key informants. The questionnaire was piloted then iteratively refined in the four countries studied.

10. Purposive sampling was used over two stages. An initial set of key informants was interviewed for the first stage of the study using a semi-structured questionnaire. The data emerging from the initial set of interviews were analyzed to identify key emerging themes, which were explored further using a refined and shortened topic guide to allow in-depth exploration of some of the key themes emerging from the initial set of interviews. The second stage also employed “purposive sampling” with “snowballing” to capture a multi-level, multi-stakeholder sample of key informants, representing the key stakeholders involved in PHC reforms—in both policy development and implementation—from urban and rural areas.
11. To strengthen the validity in the qualitative methods implemented, data were triangulated by comparing the results of interviews from different groups of stakeholders with the outcome of the analysis of official documents.

12. The analysis informed the detailed case study by capturing information on key structural and process changes, issues related to design and implementation of PHC reforms, the drivers and barriers to reform, the factors influencing the establishment of an enabling environment for change, and the lessons learned.

1.2.2. Physician Task Profile Survey

13. We undertook a cross-sectional survey of family physicians to explore their “Task Profiles” using a validated instrument developed by the NIVEL Group in the Netherlands. The instrument, previously tested and validated in 32 European countries, is available in several languages, including Russian and other Slavic languages. It enables collection of detailed data on the preventative, promotive, and curative services provided by family physicians, their skills, knowledge base, attitudes, and workload—the last item is captured by use of a seven-day workload diary. The instrument was obtained from the author Dr WGW Boerma and with his kind permission used in the study. A summary of the instrument is shown in Annex 2.

14. The survey of the Task Profiles of Family Physicians aimed to identify the scope and availability of services and skills of doctors working at the PHC level and to identify similarities and differences between FM specialists and non-specialist GPs.

15. The instrument was tested in the four study countries, and minor modifications were made to ensure contextual sensitivity. The instrument was coded and a data collection and entry program developed in Microsoft Access. Data were transferred to SPSS ® for statistical analysis.

16. We used purposive sampling to provide a diverse sample. The PHC centers were selected based on geography and the relative stage of development of PHC care reforms. The survey took place in Yerevan and six marzes, including Shirak, Aragatsotan, Syunik, Armavir, Ararat, and Tavush. A total of 100 facilities and 212 physicians were surveyed: equally divided between facilities involved in FM reforms with FM specialist and those with no involvement. There were 103 family physicians and 109 PHC doctors (non-family physicians) surveyed in 48 FM facilities and 52 non FM facilities. There were 24 FM doctors who worked in advanced reform areas, 78 in intermediate reform areas, and one in low reform areas. Of the 109 PHC physicians who were not trained in FM, 108 worked in low reform areas and one in intermediate reform areas. One hundred of the doctors surveyed worked in urban and 112 in rural areas (tables 1 and 2).
Table 1: Sample characteristic by marz and FM training status

<table>
<thead>
<tr>
<th>Marz</th>
<th>Family Physicians</th>
<th>Non Family Physicians</th>
<th>FM facility</th>
<th>Non FM facility</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shirak</td>
<td>14</td>
<td>19</td>
<td>2</td>
<td>9</td>
<td>Urban</td>
<td>Rural</td>
</tr>
<tr>
<td>Aragatsotn</td>
<td>8</td>
<td>6</td>
<td>8</td>
<td>2</td>
<td>Urban</td>
<td>Rural</td>
</tr>
<tr>
<td>Syunik</td>
<td>10</td>
<td>10</td>
<td>8</td>
<td>8</td>
<td>Urban</td>
<td>Rural</td>
</tr>
<tr>
<td>Arnavir</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>Rural</td>
<td></td>
</tr>
<tr>
<td>Ararat</td>
<td>13</td>
<td>14</td>
<td>6</td>
<td>11</td>
<td>Urban</td>
<td>Rural</td>
</tr>
<tr>
<td>Tavush</td>
<td>10</td>
<td>10</td>
<td>5</td>
<td>1</td>
<td>Urban</td>
<td>Rural</td>
</tr>
<tr>
<td>Yerevan</td>
<td>30</td>
<td>30</td>
<td>1</td>
<td>1</td>
<td>Urban</td>
<td></td>
</tr>
<tr>
<td>Kotayk</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>Rural</td>
<td></td>
</tr>
<tr>
<td>Lori</td>
<td>4</td>
<td>6</td>
<td>4</td>
<td>6</td>
<td>Rural</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>103</td>
<td>109</td>
<td>48</td>
<td>52</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2: Distribution by geography and reform status

<table>
<thead>
<tr>
<th></th>
<th>Family Physicians</th>
<th>Non Family Physicians</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>45</td>
<td>55</td>
</tr>
<tr>
<td>Rural</td>
<td>58</td>
<td>54</td>
</tr>
<tr>
<td>Advanced</td>
<td>24</td>
<td>0</td>
</tr>
<tr>
<td>Intermediate</td>
<td>78</td>
<td>1</td>
</tr>
<tr>
<td>Low</td>
<td>1</td>
<td>108</td>
</tr>
</tbody>
</table>

1.3. SECONDARY RESEARCH

17. Secondary research consisted of a review of international and in-country published literature to ascertain key legislative changes related to the reforms and to identify changes in financing, resource allocation, provider payment systems, organizational changes and regulation, and service provision. There were no available data to undertake analysis of cross-sectional and longitudinal data on referrals and admissions for conditions commonly managed in a PHC setting.

1.3.1. Literature review

18. The literature review consisted of desk research of published articles in peer-reviewed journals, supplemented by documentary analysis of published reports, key legal instruments and policy documents from the four countries, World Bank Publications (including aide memoirs), Country HIT published by the European Observatory on Health Systems Research, and other relevant studies.
2. THE CHALLENGES FACED BY THE HEALTH SYSTEM IN ARMENIA

2.1. BACKGROUND

19. Armenia declared its independence from the Soviet Union in September 1991. This was accompanied by economic slowdown and emigration that resulted in a rapid fall in the natural growth rate of the population, from 17.3 per 1000 in 1990 to 3.3 in 1999. According to the census of 2004, the population of the Republic of Armenia is 3.2 million, 1.1 million of whom live in Yerevan and 2.1 million of whom live in marzes.

20. Economic stagnation led to significant decline in the GDP and a consequent reduction in health financing. In response, the Armenian Government sought to introduce health reforms to improve efficiency, contain costs, and generate additional revenue for the health system. Changes included separation of purchaser and provider functions, creation of semi-autonomous "State Health Enterprises" responsible for their own finances, and the introduction of out-of-pocket payments.

21. As with the other post-Soviet Republics, Armenia inherited a health system based on the Soviet Semashko Model, characterized by centralized planning and hierarchical administrative organization. A large provider network prevailed: dominated by hospitals and a poorly developed PHC level. In addition, parallel health systems for line ministries existed. The system was oriented to providing curative care with limited health promotion and disease prevention.

22. PHC level was fragmented by a tripartite system of polyclinics for adults, women, and children, as well as a large number of vertical programs delivered by narrow specialists in the urban areas. The PHC level, without family physicians, failed to exercise any meaningful gate keeping function.

23. The human resources in the health sector were concentrated in cities. An inequitable resource allocation system based on historic activities and inputs favored large hospitals in urban centers at the expense of rural areas. Line-item budgeting and salary-based provider payment systems encouraged inefficiency and discouraged improved performance. Care delivery protocols at the PHC level encouraged excessive referral to the secondary-care level.

2.2. ECONOMIC CHANGES AND INCREASING POVERTY

24. The socio-economic crisis that followed the decoupling from the Soviet system led to much poverty (table 3).

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Percentage of population that is poor (%)</td>
<td>54.7</td>
<td>55.1</td>
<td>50.9</td>
<td>32</td>
</tr>
<tr>
<td>Urban population that is poor (%)</td>
<td>58.8</td>
<td>58.3</td>
<td>51.9</td>
<td>30.7</td>
</tr>
<tr>
<td>Rural population that is poor (%)</td>
<td>4%</td>
<td>50.8</td>
<td>48.7</td>
<td>33.9</td>
</tr>
</tbody>
</table>

2.3. DECLINING HEALTH EXPENDITURES

25. In terms of financing, the Armenian health system faced a dual problem: (i) a declining health sector expenditure from the public sector, and (ii) poor budget execution (figure 2).

Figure 2. Planned vs. Actual Health Expenditure from State Budget

26. The declining funding for the health sector and chronic under-execution of the state budget during the years 1997–2001 led to an accumulation of AMD 12 billion of arrears for work performed under SHA contracts, mainly in terms of salaries and social taxes. Part of these arrears was paid in 2001 and 2002. The situation significantly improved in 2002. The public health budget increased by 60 percent between 2002 and 2004, in line with the MTEF projections. The health sector budgets for 2002 and 2003 were executed as planned: for instance, in 2002, the state budget disbursed 16 billion AMD to the health sector compared to a planned 16.3 billion AMD—more than at any time during the seven preceding years—achieving health budget execution of 98 percent.\(^8\)

27. Declining health system funding has led to underfunding of providers, low salaries for health professionals, an inability to purchase adequate supplies (drugs, medical supplies, and diagnostic materials) or up-to-date equipment, and an inability to maintain the existing infrastructure.

2.4. WORSENING HEALTH INDICATORS

28. Worsening economic status and declining health expenditures have adversely affected the health of the population. Although recent and reliable statistics are unavailable, published official statistics show that population health indicators such as infant mortality and maternal mortality have not significantly improved (figure 3).
29. Although the official statistics show that the average life expectancy has seemingly improved from 71.5 to 74.5 years (figure 4), the mortality and morbidity rates from key conditions, which account for much of the disease burden, have, at best, remained the same or worsened (table 2).
Table 4:  Comparison of Morbidity and Mortality Rates for Socially Significant Diseases

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Tuberculosis</td>
<td>3,250</td>
<td>5,458</td>
<td></td>
<td>63</td>
<td>157</td>
<td></td>
</tr>
<tr>
<td>Malignant neoplasm</td>
<td>21</td>
<td>21</td>
<td></td>
<td>3,013</td>
<td>3,958</td>
<td></td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>29</td>
<td>38</td>
<td>575</td>
<td>685</td>
<td>405</td>
<td>1,266</td>
</tr>
<tr>
<td>Hypertension</td>
<td>42</td>
<td>32</td>
<td>062</td>
<td>831</td>
<td>1,869</td>
<td>2,437</td>
</tr>
<tr>
<td>Ischaemic heart disease</td>
<td>76</td>
<td>48</td>
<td>607</td>
<td>925</td>
<td>6,405</td>
<td>8,745</td>
</tr>
<tr>
<td>Population (in thousands)</td>
<td>3,457</td>
<td>2,997</td>
<td></td>
<td>3,457</td>
<td>2,996</td>
<td></td>
</tr>
</tbody>
</table>


2.5. EXCESS INFRASTRUCTURE AND HUMAN RESOURCES

30. As with other post-Soviet Republics, Armenia inherited an excess health infrastructure and human resources. The number of hospital beds in 1990 was nine per 1,000: a level far above the European average. Since then, this level has declined to 5.8, while the number of admissions (13.95 in 1999) declined in 2002 to 5.8 per 100 population (figure 5). It is envisaged that this excess capacity will be rationalized through mergers with support from the World Bank-financed Health II Project (Armenia Health Systems Optimization Project).

Figure 5. The number of hospital beds and admission levels

2.6. INEFFICIENT SERVICE PROVISION

31. While there is an excess capacity, it is not adequately utilized. For instance, in the period 1990 to 1999, although the average length of stay in hospitals per inpatient admission declined from 15.6 to 12.8
days (far above European averages of around 6–8 days), the occupancy rates have fallen from 65 to 33 percent (figure 6).

**Figure 6. Occupancy Rate and Average Length of Stay**

2.7. **LOW LEVELS OF PAY FOR HEALTH PERSONNEL**

The salaries of the health professionals in both the hospital and PHC sectors have remained very low, thus encouraging rent-seeking behavior and discouraging provision of high-quality, user-centered care.

2.8. **ACCESS BARRIERS AND DECLINING UTILIZATION OF HEALTH SERVICES**

In the period 1990 to 2001, outpatient visits declined by a factor of five, while the number of hospital admissions diminished by almost 50 percent. While this decline has helped address over-utilization of health services, it has particularly adversely affected rural areas as compared with urban areas. In particular, the number of visits to ambulatory care, at 2.3 per person per year, is far below the European levels, which range between six to eight visits per person per annum.
3. HEALTH REFORMS AND KEY LEGISLATIVE CHANGES

3.1. HEALTH SECTOR STRATEGY AND KEY CHANGES IN LAWS RELATED TO THE HEALTH SECTOR

34. In 1995, the “Program for Development and Reform of the Armenian Health System during the period 1996–2000” was adopted. The key objectives of this program, amongst others, were identified as: enhancing management capacity; decentralization; health system financing; strengthening PHC; and optimizing hospital care.

35. In 1996, the GOA approved the “Program for development and reform of the healthcare system in the Republic of Armenia,” with a special focus on financial reforms. In the same year, the Medical Care Act (Law “On Medical aid and Medical services for the Population”) was adopted by the National Assembly. This Law stipulated that the Public Budget was no longer the unique authorized financing source, and it legalized alternative financing mechanisms to augment those obtained from public sources. Consequently, health providers were allowed to mobilize funds from various sources, including local budgets, external aid, health insurance payments, and direct, private, out-of-pocket payments. Out-of-pocket payments were introduced in 1997 for the majority of health care services beyond the basic package applicable to all non-vulnerable and non-targeted groups of the population.

36. In 1997, all the State health care establishments were granted the status of “state enterprises” and transformed into “state owned closed joined stock companies” in 2000. In the same period, polyclinics were given an autonomous status, were no longer subordinated to hospitals, and were defined as the primary care level of the health system.

37. In 1998, the PHC Working Group drafted the provisions on “Family doctors” and “Family nurses.” The “Family Doctors Provision Guidelines” were approved in 1999 and provisions adopted in 2000.

38. In 2000, the “Concept on the Strategy of Privatization of Health Care Facilities” was approved by the government, paving the way for privatization of health care facilities. The “Strategy of health care system development in Armenia: 2000–2003,” accepted by the government in 2000, identified the strategic goals and directions for health care development. This was followed in 2001 by the “Concept Paper of Optimization in the Health System of the Republic of Armenia,” which envisaged an orderly restructuring of the health system and downsizing of the hospital sector.

39. In 2003, the government adopted a decree outlining a new PHC Strategy by the Republic of Armenia, outlining the government’s vision for developing PHC between 2003 and 2008. In its PHC Strategy Document for 2003 to 2008, the RoA Ministry of Health “considers the development of the PHC sector as a basis for the reforms in the health care system” and recognizes that the quality and effective functioning of the primary health care system ensures accessibility, comprehensive coverage, sustainable continuity, equity, and coordination. The Strategy specifically aims to: consolidate the tripartite structure (for adults, children, and women into unified PHC centers; accelerate the introduction of family medicine; create the necessary legal and regulatory frameworks regarding status and activities of PHC specialists; improve provider payment systems; clearly define boundaries of primary, secondary, and tertiary levels through licensing; define medical specialties; improve information systems; enhance the ability of PHC to implement prevention programs for chronic illnesses; optimize infrastructures within PHC; differentiate between the polyclinic and hospital-based specialized services; include urban polyclinics in the privatization process; delegate management of medium and small polyclinics to local communities;
increase financing of PHC to at least 40 percent of health sector funding; introduce community nursing as a specialty.

40. Despite a lack of financial resources, the government appears to be committed to supporting the development of the health care system. In the Armenian PRSP, the GOA has committed to substantially increase the accessibility and quality of health care services guaranteed by the state and to increase public funding from 1.4 percent of the GDP in 2003 to 2.5 in 2015, with an increased share of the budget devoted to PHC (table 5).

| Table 5: Public Expenditure Indicators in the Health Sector 2003-2015 |
|-------------------------|-----------------------|------------------|-------------------|-------------------|---------------------|
| Total, billions AMD    | 21        | 24.9     | 35.5    | 52.7      | 73.3   | 101.1   |
| % of GDP               | 1.4%      | 1.5%     | 1.9%    | 2.1%      | 2.3%   | 2.5%    |
| % of total public exp. | 6.5%      | 7.6%     | 9.2%    | 10.2%     | 10.9%  | 11.9%   |
| Share devoted to PHC   |           |          |          | 40%       | 45%    | 50%     |

3.2. ORGANIZATIONAL CHANGES

41. Under the Soviet system there were 37 administrative districts, each with its own elected council, hospital, and polyclinic. Following independence, these districts were amalgamated into 11 regions (10 marz and Yerevan), each with a director appointed by the President and a regional "government" that funded core health services for the local population. The MOH has retained responsibility for development of health policy, budget setting for the publicly funded health system, health needs assessment, licensing and regulation of physicians and hospitals, licensing of pharmaceuticals, and human resource planning. The purchasing function, however, has been devolved to the State Health Agency (SHA) created in 1997 (see section on resource allocation and provider payment systems).

42. The provider network, which was accountable to the Ministry of Health (MOH), has been largely retained, but the hospitals have been given autonomous status and are increasingly responsible for their own budgets and management. Local government monitors health service provision, while the MOH retains regulatory functions and the network of san-epid stations, which were renamed in 1997 as "Centres of hygienic and anti-epidemic surveillance." The Ministry of Health policy is to reduce reliance on secondary care with frequent and lengthy inpatient hospitalizations and to develop stronger PHC, which emphasises disease prevention and health promotion.

43. Hospitals and polyclinic directors can now independently manage their own financial resources, set prices for services that attract out-of-pocket payments, decide on the level and mix of staff with the ability to set terms and conditions of service, and retain the surplus generated and invest this income as they see fit. They contract with the SHA to provide services included in the basic package, but are unable to decide on the volume or the price of these services. They can also negotiate and sign contracts with enterprises to provide health services.
3.3. **HEALTH SYSTEM FINANCING**

44. Health system financing is mixed, but public sector expenditure is low by European and regional standards. The estimates of total health expenditure and private and public sector contributions vary. According to data from the WHO Health for All Database, between 1997 and 2001 health expenditure from private sources accounted for 60 to 65 percent of the total, and that from the public sector ranged from 30 to 40 percent (figure 7).

**Figure 7. Sources as a Percentage of Total Expenditure on Health**

45. The World Bank estimates the total health expenditures in the same period to have been between 1.43 and 1.34 percent of GDP, while the health public expenditures relative to the State budget expenditures were, on average, 5.6 percent. The target for 2015 set in the PRSP for health expenditure is 2.5 percent of GDP from public sources and 4.6–5.3 percent from private sources.

46. Health Research for Action (HRFA), a consultancy firm from Belgium, estimates that 32 percent of the health care expenditures are from the public budget; humanitarian aid and donors account for a further 21 percent; and the remaining 47 percent is from out of pocket payments (both official co-payments and under-the-table payments).\(^\text{14}\)

47. During the years 1997–2001, there was chronic under-execution of the state budget. This led to a dramatic accumulation of expenditure arrears (AMD 17.3 billion in January 2001), mainly for salaries and social taxes. Part of these arrears was paid in 2001 and 2002, and other parts have been written-off.\(^\text{15}\)

48. Since 2001, the situation regarding health system financing and execution of the State Budget has significantly improved. In the period 2002 to 2004, the public expenditure on health increased by 60 percent, in line with MTEF projections. Further, the budgets for 2002 and (to a certain extent) 2003 have been executed 100 percent.\(^\text{16}\)

3.4. **STATE GUARANTEED BASIC BENEFITS PACKAGE**

49. A Basic Benefits Package (BBP) was introduced in 1997 with the purpose of providing "free" medical care to the population and defining public sector responsibility for health services. The BBP was
modified in 1999, taking into account budgetary constraints; and user fees for ambulatory care and emergency services were increased.

50. In 2001, the BBP Working Group defined the BBP as "the minimal package of the state-guaranteed free medical care and services provided to the individuals, which should cover the health care of the social vulnerable groups, as well as include highly cost-efficient services for the whole population (for example, medical care of children) and some expensive health care priority programs (for example, intensive care, psychiatry)."17 (See section on changes in PHC).

3.5. RESOURCE ALLOCATION AND PROVIDER PAYMENT SYSTEMS

51. Traditionally, the amount of funds allocated to PHC have been low (below 20 percent of the total). However, in recent years, the Government has increased funding of the PHC level from the public budget at the expense of hospitals. In the period 2002 to 2004, public sector expenditure for PHC and polyclinic base ambulatory services increased from 27 to 28 percent of the total, while that for hospitals declined from 57 to 48 percent (figures 8 and 9).

Figure 8. Public Sector Expenditure by Category

![Figure 8. Public Sector Expenditure by Category](image-url)
52. However, for 2003, the figures for increases for PHC and relative decline of hospital services are misleading as the PHC budget line includes a new budget item, “State Order for centralised procurement of drugs” in the amount of AMD 3 billion. If the AMD 3 billion is excluded from the PHC budget, the allocation to hospitals account for 62 percent of the total, while the PHC allocation actually declines from 29 percent of the total in 2002 to 27.4 percent in 2003. In 2003, the resource envelope for publicly funded health services was USD 9.0 per capita for the total BBP, of which USD 6.2 per capita was for hospital care and USD 2.8 per capita for primary care (both for polyclinic and ambulatory care).

53. The State Health Agency (SHA) was established in 1997 with the intention of developing a social insurance system and separating financing and provision. The SHA receives funds for the health sector from the Ministry of Finance. In turn, it contracts with health care providers, which in 1993 became semi-autonomous “State Health Enterprises” with the right to generate their own revenues in addition to those received from the SHA. The local governments (marzes) have the responsibility for primary and secondary care services for their local population. The rural ambulatories are part of the marz primary health care network and subordinate to the marz polyclinics.

54. In effect, the integrated public health system based on the Semashko Model has been replaced by a public-contract model, with the SHA acting as the purchaser from a network of semi-autonomous provider units providing a publicly funded “basic package” of services and additional services not covered by this package, which must be paid for out-of-pocket from private means.

55. The SHA has a Central Office in Yerevan with a branch in each of the 10 Marzes, plus one in Yerevan. The SHA retained independent status until July 2002, when it was incorporated into the Ministry of Health structure “as a State Health Agency within the structure of the MOH with a status of a separate department.”

56. The creation of the State Health Agency has led to the separation of public purchasing and provider functions, previously undertaken by both under the MOH. The SHA contracts both public and private providers to deliver the BBP services within the annual budget limitations set by the Ministry of Finance. The SHA guarantees that all the services in the BBP for the vulnerable population are provided...
free of charge, as well as the services included in the more limited package of BBP services provided to the general population without official co-payment. Since 2004, a co-payment rate of DRAM 10,000 per admission for emergency hospitalizations has been charged in 21 hospitals in Yerevan.

57. With the creation of SHA and autonomous providers and the introduction of contracts, the provider payment systems have changed from line-item budgeting to payment for volume of services for hospitals and per capita plus fee-for-service for the PHC level.

58. The budget allocated to each hospital is determined according to the number of hospitalization cases, including the number of cases that fall under the "vulnerable population" category, and a projected increase in the number of patients for the current year. The overall budget for hospitals is first divided between the City of Yerevan and the rest of the country according to allocations in the previous year. The element for Yerevan is then divided between different hospitals according to allocations of the previous year weighted by a coefficient that reflects changes in the volumes of services provided. The remaining budget element for the marzes is divided by the total number of "vulnerable people" (VP) to obtain a per capita rate per VP and a budget allocated according to the number of VPs served by the hospital in the marz concerned adjusted by the budget for the previous year. Vertical programs, such as that for tuberculosis (TB), enteric and infectious diseases, sexually transmitted diseases (STD), mental health and narcotics services attract ring-fenced budgets paid to TB dispensaries, narcology centers, dermatovenereology dispensaries, and neuropsychiatry units based on the number of beds and the actual average occupancy rate (AOR) of the preceding year.

59. PHC providers are paid according to a mixed payment system based on a weighted per capita formula and fee-for-service. Enrollment of individuals or households with family physicians is not yet standard and widespread; hence payment is not based on enrollment but rather on estimates of the population covered. However, as the population figures are not reliable, the estimates may vary considerably from the actual numbers of people covered. The per capita pay rates used for remunerating PHC providers are complex and weighted according to a number of different parameters. There are up to 11 different capitation rates, which vary according to the age of the population and the type of services provided. Per capita rates are different for adults and for children below the age of 15. Additional per capita rates are used to remunerate for antenatal and postnatal care and for dispensary care. Services provided by family physicians and nurses in PHC attract a different level of per capita as compared with "Specialist Health Services" (SHC) provided by the narrow specialists in PHC. The PHC providers are paid a capitation fee on a monthly basis as a lump sum, and fee-for-service payment is paid monthly in arrears according to the volume of "specialist health services" provided by the narrow specialists and the laboratory and X-Ray services, which are reported to SHA. In addition, the PHC providers receive payments from nonvulnerable populations in the form of user fees outside the BBP, fees for home visits, and payments for diagnostic tests. There are also "unofficial fees" and in-kind payments, but the extent of these payments is not quantified.

60. The average capitation fee for PHC has increased substantially from 1,400 AMD in 2003 to 2,400 AMD in 2004.

61. Both hospitals and PHC units use the revenues generated from various sources to remunerate staff; meet operational costs; and for investment in equipment, supplies, and infrastructure development and maintenance.

62. An analysis of income and expenditures for PHC units undertaken by Health Research for Action has shown that for Polyclinic Number 17 the income generated by the State Orders represented 73 percent of the total official income, or 85 percent of the direct operational income (excluding other income and
humanitarian aid). The official cost of the personnel (salaries + social taxes) represented almost 70 percent of the total reported expenditures.23

3.6. **RATIONALIZATION OF THE HOSPITAL AND PHC SECTOR**

63. The hospital sector has been gradually downsized, with the number of beds per 1,000 population declining from 8.4 in 1992 to 4.25 in 2001 (figure 10).

![Figure 10. Number of hospital beds per 1,000 population](image)

64. In 1999, the GOA adopted the Strategy of Hospital System Optimization in the Republic of Armenia to downsize redundant capacity in the health system. In 2001, GOA Decree number 80 approved the Concept Paper of Health System Optimization in the Republic of Armenia. In the first stage of optimization in 2001, over 60,000 sq. meters of space were released for other uses, 104 organizations were liquidated or reorganized, about 4,100 hospital beds were closed, and over 2,000 staff positions in the country (excluding the City of Yerevan) were rationalized.24

65. In 2003, a Presidential Decree approved by the government approved merger of a number of medical Closed Joint Stock Companies as part of the program of health care optimization in Yerevan City. Around 13 polyclinics in Yerevan are merging with hospitals.
4. KEY DEVELOPMENTS IN PRIMARY HEALTH CARE

4.1. DEVELOPMENT OF FAMILY MEDICINE AND PHC

66. Family medicine existed in Armenia prior to the 1915 October Revolution known as “zemsky vrach.” Following entry of Armenia into the Soviet Union, this was abolished and replaced by “district doctors” and PHC based on polyclinic services. Hence, many health professionals do not consider family medicine as a “new” medical speciality. This may help explain some of the negative perceptions surrounding PHC reforms, which are considered by some as “going backward” rather than “going forward.”

4.2. DEVELOPMENT OF HUMAN RESOURCES IN PRIMARY HEALTH CARE

4.2.1. Training of family physicians and nurses

67. The Ministries of Health and Education are jointly responsible for undergraduate medical and nursing education. Postgraduate training is regulated by the MOH.

68. There are three public teaching institutions with family medicine departments: (i) Yerevan State Medical University (SMU)—the Faculty of FM was founded in 1997 and the Chair of FM has been established with two full-time and 11 part-time teaching staff with responsibility for both UG and PG teaching in family medicine; (ii) The National Institute of Health (NIH), established in 1992 through a merger of several research and continuing medical education institutes is responsible for postgraduate training of doctors and nurses. The Chair of FM was created at the NIH in 1997; and (iii) Yerevan Basic Medical College (BMC) is a nursing college dedicated to training of family nurses.

69. In addition, there are five private medical institutes. Of these, three are licensed. Students who graduate from unlicensed institutes are not entitled to take State Examinations to register as doctors, and they are not allowed by law to work as doctors. However, students still apply to these institutes because of low fees and a hope that the law may change in the future to allow them to practice as doctors.

70. The public and private medical institutes collectively produce a large number of medical graduates -- far surpassing the number needed in Armenia -- and an oversupply of narrow specialists.

71. In 1994, the Government of Armenia specified a new system of postgraduate medical education, defining length of training for each medical specialty, ranging from one to four years.

72. In 1996, the Ministry of Health approved nursing and midwifery education programs consisting of three-year basic training, coupled with additional training for post-diploma education.

73. Training in family medicine began in 1993, when 12 physicians were trained as family doctors—although the laws at that time did not permit them to practice as family physicians. This was followed by the training of 180 nurses and physicians in preventive care, child development, and clinical care in programs supported by UNICEF. Development of PHC and family medicine accelerated in 1998 with the World Bank Health 1 Project, which supported reconstruction/ refurbishment of PHC facilities; training for family physicians and nurses; and improvement in PHC services through development of clinical guidelines (see section on WB support to PHC).
74. A cohort of 25 physicians, including three family physicians, was trained as trainers in FM with support from USAID. In turn, these trainers have been involved in the retraining of 15 physicians (5 from Lori marz and 10 from Yerevan) in FM.

75. Members of the FM Departments from SMU and NIH have been trained in Estonia and St. Petersburg as trainers in FM. A further group of eight physicians selected as clinical trainers at NIH has been trained as family physicians, followed by further training in Norway.

4.2.2. Curriculum for Family Medicine Training

76. In 1995, the Paediatric Faculty at Yerevan State Medical University was closed as part of the educational reforms, which aimed to create a general medical education program. The role of FM is defined in Law, which recognizes FM as a medical speciality.

77. A Unified Curriculum for Family Medicine—comprising 33 modules and developed in 2002 by the Armenian Association of Family Physicians with support from the USAID-funded Armenia Social Transition Project (implemented by Abt Associates)—was adopted in July 2003 by the Ministry of Health. The Unified FM Curriculum has been fully adopted by the NIH, but is also utilized by the SMU. The curriculum is regularly reviewed by the Armenian Association of Family Physicians. In addition to the Unified FM Curriculum and respective curricula at SMU and NIH, there is a clearly articulated “Procedure for training and assessment of FM” adopted by the Boards of Education Methodology in the SMU and NIH (Annexes 3 and 4).

78. There are now two routes for training as a family physician: (i) an 11-month retraining program (delivered by the SMU and supported by the Bank-financed Health Project) for doctors trained in the Soviet system and currently working in PHC. This was accredited by WONCA as being up to internationally acceptable standards; and (ii) a two-year FM residency program for medical graduates who qualified recently.

79. To date, around 350 family physicians have graduated from SMU and NIH. At present, a further 120 physicians are in training at both institutions. The objective of the government is to retrain around 160 family physicians each year to reach the target of around 1,200 family physicians in the next five years. In addition, 150 general nurses have been retrained as family nurses. The number of family physicians and nurses meets 23 percent of the numbers needed in Armenia (the country needs a total of about 1,500 FM physicians).

4.2.3. Residency Program in Family Medicine

80. Each year around 15 FM residents attached to SMU and NIH are trained at Polyclinic 17. These residents are divided among the four FM Trainers based at Polyclinic No 17. The FM residents attend Polyclinic 17 ten days each month and spend the rest of their time at their respective institutes for class-based training, clinical skills laboratory, and training in practical procedures. Each of the four FM Trainers at Polyclinic 17 have around 1,000 patients on their personal lists—not enough for the training of residents—hence, residents are also seconded for one-month duration for teaching to FM centers in rural practices staffed by family physicians trained by SMU and NIH. Currently, these rural family physicians are not remunerated for training residents, but it is hoped that under the WB Health 2 Project, there will be payments to compensate for time spent.
81. The two-year training program, which comprises 30 percent theoretical and 70 percent practical training, is currently being reviewed by the SMU and NIH with a view to extending the duration of the training to three years.

4.2.4. Family Medicine Training Centers

82. Polyclinic Number 17 in Yerevan is the National FM Training Centre, which was refurbished with support from the World Bank Health I Project. It opened in October 2003, and is used for in-service training of medical students and FM residents.

83. By the joint decree of the City Mayor and the Minister of Health, Polyclinic Number 17 became the clinical basis of the Yerevan State Medical University and National Institute of Health Family Medicine Chairs.

84. In addition to Polyclinic Number 17, both NIH and SMU utilize six other training centers (for example, those in Vanadzor and Gyumri) as training bases for family medicine.

4.2.5. Continuing Medical Education

85. There is a system to retain “professional competence” based on the Soviet system, which required doctors to attend refresher courses once every five years to “raise qualifications” (“povishenya kvalifikatsyi”) to achieve a higher “category” in their respective fields. This system has been changed to a credit system, whereby every physician has to accumulate 175 credits points over five years. Of these 175 credits, 125 must be obtained from courses delivered by the NIH.

86. Continuing Medical Education (CME) is necessary for graduates who have at least three years of postgraduate work experience. A CME program specific for FDs is being developed. Modules within the Unified FM Curriculum can be used for CME purposes. The NIH offers modules for CME suitable for family physicians. These CME programs, which must be paid for by the doctors, are unaffordable for most of them.

4.2.6. Evaluation of the FM Training Programs

87. An analysis of the Family Medicine Training Programs implemented in Armenia between 1997 and 2003 was undertaken in 2003. The retraining programs—currently delivered at the State Medical University and at NIH based on the Unified Family Medicine Curriculum, the two-year residency program, and the proposed three-year residency program in family medicine—were evaluated favorably in 2003 and found to be up-to-date according to international standards. This evaluation identified the key strengths of these programs to be: a well-defined concept of family medicine; a highly motivated team; a pool of health professionals who could be retrained in family medicine and who could work in PHC; well-established FM training centers in Yerevan and Gumri; appropriately designed curricula and programs to retrain PHC doctors as family physicians; FM units within polyclinics in urban areas and as self-standing units in rural areas with ambulances; a number of care guidelines evaluated by the family physicians and implemented to improve practice, and apparent plans for optimization of training and development of a sustainable PHC system. However, a number of weaknesses and challenges were identified, including: a hospital and polyclinic-centric system that made introduction of FM difficult; a large number of unemployed professionals; a poorly paid workforce with a lack of incentives; and uncertainty regarding the future of PHC.
88. The same evaluation identified that the concepts of FM were based on the Alma Ata Declaration and that the curricula were in line with the recommendations of the 48th World Health Assembly on the reorientation of medical education and medical practice to achieve health for all. The evaluation recommended that in the transition period of 2003–2008 the duration of the training program for family physician retraining should be kept at eleven months; the residency training should be delivered at the State Medical University, last a minimum of three years, and, after 2008, be the only route to FM specialization; and the Unified Family Medicine Curriculum should be modified to include increased practical elements and should be delivered in FM training centers.28

4.3. ORGANIZATION OF PRIMARY HEALTH CARE

4.3.1. Types of Primary Health Care Providers

89. Primary care in Armenia is fragmented and provided by a number of different health professionals, who can be accessed directly and include: a) family physicians, district therapists, and pediatricians providing PHC services in rural ambulatories or polyclinics in towns and cities; b) gynecologists and nurses who provide antenatal and postnatal care; c) a large number of narrow specialists who provide “specialist services” for chronic conditions; and d) dispensaries (specialised outpatient facilities) for tuberculosis, oncology, mental health, dermatovenereology, endocrinology, and narcology services.

90. Primary health care is typically delivered through regional polyclinics or rural health posts/feldsher stations with one physician per 1,200–2000 population and one paediatrician to 700–800 children. There are 37 regional general polyclinics, most of which employ a PHC team that includes a general physician, an obstetrician/gynecologist, and a pediatrician, as well as nurses and midwives. These polyclinics typically offer: general ambulatory care for the adult and elderly populations; antenatal, obstetric, and perinatal services; pediatrics; basic investigations; minor surgery; rehabilitation; 24-hour emergency cover; home visits, and health education. In addition, larger urban areas, in particular Yerevan, have specialist polyclinics for children and women. In 1998, the polyclinics, which were previously attached to regional hospitals, were granted autonomous status.

91. Around 500 medical posts, or feldsher stations (each village typically has one), offer a nurse-led service that includes basic care of children and adults, antenatal care, developmental checks for infants, prescribing, first aid, 24-hour emergency cover, home visits, immunization, and health education. Clusters of villages share PHC centers staffed by a general practitioner or a family physician; these centers offer a broader range of PHC services as compared with rural posts. The government’s intention is to gradually change the staffing mix in the polyclinics and the health posts by staffing these with family physicians and nurses.

92. The Family Physician Statement, published in 1999, established the speciality of Family Medicine. The diplomas of retrained and trained family physicians and family nurses were recognized. The speciality was also recognized by the State Health Agency.

93. Unlike polyclinics and hospitals, FM practices in cities and towns are not autonomous, but are instead managed by polyclinic or hospital directors. In contrast, the rural family medicine practices established under the World Bank-supported health reform project and a few other hamaynk-owned ambulatories are independent from urban polyclinics.
4.3.2. Professional Associations

94. The Armenian Association of Family Physicians was founded in 1999 and has been very actively involved in the development of FM and PHC, in particular playing an important advocacy role—establishing standards and working with the government to develop guidelines.

4.3.3. Licensing of Doctors

95. There is currently no licensing of individual physicians. Licensing Laws existed until 2001, when they were repealed under a General Law about licensing. Although the reintroduction of physician licensing is currently under discussion, these discussions have yet to produce results.

4.3.4. Licensing of PHC Training Facilities

96. Establishments that are involved in FM training are granted a “once for all time” license. The licensing is based on meeting minimal criteria, such as demonstrating that all the staff have had FM-related training. At present, there are no plans to introduce re-licensing of FM training centers.

4.4. Financing of PHC and Provider Payment Systems

97. The State Health Agency contracts polyclinics to deliver PHC services. The contracts for freestanding rural ambulatories are agreed upon with the marz urban polyclinic. The polyclinics are paid according to a weighted per capita formula, which is calculated according to the following: the number of citizens who live in the catchment area covered by the polyclinic, age of the registered population, salaries of staff (which increase if the PHC physician has been retrained as a family physician), cost of drugs for vulnerable groups, location of the facility (with rural facilities and those in mountainous areas attracting higher rates), and the case mix of the population managed (where treating endocrinological, cardiological, or neurological cases attracts an additional fee). The weighted element of the per capita fee accounts for around 30 percent of the total—not large enough to attract family physicians to rural or mountainous areas.

98. In addition to the per capita fees, the PHC facility can generate further revenues from out-of-pocket payments for services such as laboratory tests, ECGs, services that are not in the basic package, or services in the basic package that attract a co-payment.

99. Antenatal care and the services of narrow specialists in polyclinics are not included as part of the weighted capitation payment and attract additional fees.

100. There is a gradual shift of certain services from narrow specialists to family physicians with commensurate fees for service. The narrow specialists are no longer paid for these services. This financial lever creates incentives for narrow specialists to retrain as family physicians and has been an effective tool in increasing the number of pediatricians applying to FM retraining courses.

101. In 2003, the budget for PHC (for family medicine and narrow specialists in PHC) was 4 billion drams, equivalent to US$7 million and $2.2 per citizen per year, with a planned increase in 2004 to 7 billion drams (part of which was earmarked for screening of future military conscripts). The pay level of family doctors increased from around 20,000 Drams in 2002 to 60,000 Drams in 2004.
4.5. SERVICE PROVISION

4.5.1. Basic Benefits Package

102. Government Decree Number 246, issued in 2003, has defined entitlements to “State Guaranteed Free Medical Care and Services” for various population groups: (i) For the whole population, PHC services are provided by district internists, district pediatricians, and family physicians as well as by narrow specialists working in ambulatory care and polyclinics for conditions of social importance (mental health, narcology, infectious diseases, oncology, tuberculosis, and sexually transmitted illnesses); (ii) Socially vulnerable groups that are entitled to a more comprehensive set of services and full volume of medical care provided by district internists, district pediatricians, family physicians, and narrow specialists; and (iii) Each resident is entitled to free choice of PHC physician (district internist, district pediatrician, family physician) for themselves or for their children.30

103. The BBPs for “vulnerable” and “non-vulnerable” populations differ. The BBP for the non-vulnerable or general population covers all family medicine services (PHC), including part of the cost of the home visits; antenatal and postnatal care (provided by the gynecologist or nurses); a large part of the dispensary outpatient care (tuberculosis, part of other infectious diseases, part of the oncology services, psychiatric care); and a selection of hospital services. Services outside the BBP attract out-of-pocket payments by patients. For the vulnerable population, the BBP includes all services at all levels, with the exclusion of some specific very costly or less essential services such as transplants, expensive dental services, and cosmetic surgery. It includes all services provided by family physicians, pediatricians, and district therapists at the PHC level and by dispensaries, narrow specialists (secondary and tertiary care), hospitals (secondary and tertiary care), and ambulance services.31

104. According to Article 19 of the Government Decree on “Health care and services for population,” PHC facilities are obliged to provide emergency medical care and services by their own resources to each person, regardless of basis of payment for the services provided or residency status of the user. The same decree defined several types of medical care services that are free at the point of delivery for special populations groups: (i) Primary health care for socially vulnerable groups; (ii) PHC services for children; (iii) PHC services for adults, including obstetric/gynecology services; (iv) Narrow specialist services; (v) Dental services; (vi) Laboratory and diagnostic examinations; (vii) Pharmaceuticals by PHC facility.32

4.5.2. Enhanced Gatekeeping Function

105. With the reforms, the first contact function of the PHC has been enhanced with the requirement that patients wishing to see a narrow specialist have a referral from a PHC physician. However, despite this change, the old practice of self-referral to narrow specialists, especially to those in hospital, prevails.

106. Norms have been developed by the MOH, specifying the minimum, optimum, and maximum numbers of population that can register per family physician.

4.5.3. Refurbishment of PHC Centers

107. As part of the WB Project, around 76 PHC centers—most of which are in rural areas—have been renovated to a high standard and appropriately equipped.
4.5.4. Guidelines

Clinical Guidelines in Family Medicine and Nursing have been developed and distributed through the Armenian Association of Family Physicians. These comprise 13 volumes with 127 guidelines for family physicians and 5 volumes with 56 guidelines for family nurses. These guidelines were peer-reviewed by Tromso University in Norway prior to final approval.

4.6. WORLD BANK SUPPORT TO DEVELOP FAMILY MEDICINE AND PHC

In 1998, the World Bank provided International Development Association (IDA) financing of around US$ 9.5 million over five years to support health reforms aimed at developing PHC, improving health system financing, and introducing new provider payment systems.

Between 1998 and 2003, the World Bank-supported Health I Project (World Bank Health Financing and PHC Development Project (HPHCDP)) was instrumental in establishing critical platforms to develop FM-centered PHC systems. Key achievements of the Project include: establishment of FM cathedra in three universities; development of curricula for short-course retraining and residency programs to train family physicians and nurses; provision of support to training of family physicians and family nurses, whose training is recognized in Law; renovation and equipping of 76 FM facilities, predominantly in rural areas but also including polyclinic number 17 in Yerevan; development and implementation of 127 evidence-based care guidelines for family physicians and 56 guidelines for nurses. Collectively, these interventions have helped to improve the quality of services provided by doctors and nurses retrained as family physicians and nurses.

By the end of phase one of the WB-supported Armenia Health Project in September 2003, there were 81 “micro-units” of Family Medicine established all over Armenia. Furthermore, a Family Medicine Practice Training Centre (Polyclinic N 17) was reconstructed and refurbished in Yerevan in addition to the peripheral training sites established in the marzes; the first of these is at the Family Medicine Health Centre at Gumri, and there are six more “micro-units” already in use.

Two retraining courses for therapeutists (adult physicians) and pediatricians have been established at State Medical University (SMU) and the National Institute of Health (NIH). Both of these programs are 11 months in length (see section on training and annex 3). The curricula of the training programs delivered by the SMU and NIH have minor differences in content. In addition, a Unified FM Curriculum (UFMC) has been approved by the MOH for a three-year residency program.

In addition to the retraining programs, a high-quality training program for training of trainers in family medicine was established in collaboration with the University of Tartu, Estonia, and Tromso Medical University, Norway.

To date, 350 physicians and 130 general nurses were retrained as family physicians and family nurses in programs delivered by the SMU and NIH. A further 60 physicians were involved in a retraining program, which began in April 2003, delivered at the new FM Practice Training Centre No. 17.

The World Bank Health Financing and PHC Development Project was evaluated in 2003, using a multimethods approach, which involved focus group discussions, in-depth interviews, household surveys, physician surveys, and review of patient notes from ambulatory care facilities. The evaluation found that the Project had achieved its objectives and was well received by all the key stakeholders. In particular, the establishment of the SHA, the introduction of new provider payment mechanisms, and the creation of family medicine-centered PHC were singled out as key achievements.
The Health II Project supported by the World Bank ("Armenia Health Systems Optimisation Project") will build on these achievements by further scaling up the FM-centered PHC model so it reaches beyond the 15 percent of the population currently covered. This enlargement will occur through further development of the infrastructure for training and service provision in PHC, expanding training and retraining of family physicians and nurses, and strengthening FM faculty and training practices. In addition, the Project will restructure the hospital sector and help improve the prevention and the management of public health threats. In particular, the Project will target rationalization of the Yerevan hospital sector by merging health facilities.

In addition to the World Bank, USAID, through the Armenia Social Transition Project, is providing support to the development of PHC and Family Medicine.
5. SERVICE DELIVERY: TASK PROFILE SURVEY

118. Facility survey explored the range of services provided and availability of equipment.

119. The analysis initially compared the task profiles of doctors working in urban and rural PHC centers. The analysis was then repeated comparing doctors working in PHC centers in marzes involved in the reforms and those that were not districts.

5.1. NUMBER OF PATIENTS ENROLLED WITH THE DOCTORS

120. On average, there were 900–1000 patients registered per doctor surveyed, although some doctors had as many as 9,000 patients. Statistically, there was no difference between urban and rural doctors and those in advanced and low reform areas.

5.2. CONTACTS WITH PATIENTS

121. On average, doctors saw nine to ten patients per day in PHC centers and undertook eight home visits per week. There was statistically no difference between the doctors working in rural and urban areas and those working in advanced and low reform areas.

122. The majority of doctors working in urban areas (94 percent) had access to a telephone, as compared with a rate of only 1 percent for rural doctors. However, this difference was not observed when comparing doctors working in PHC centers in areas at different reform stages.

5.3. APPOINTMENT SYSTEM FOR CONSULTATIONS

123. In the majority of the PHC centers in the urban and rural areas as well as the advanced and low reform areas, there was no appointment system for consultations.

5.4. EQUIPMENT USED BY PHC DOCTORS AND FAMILY PHYSICIANS

124. For many of the commonly used pieces of diagnostic equipment, there was a statistically significant difference in the use by family doctors working in PHC centers situated in advanced/intermediate reform regions as compared with low reform regions (0).
Table 6: Equipment use in PHC centers in regions at different stage of reforms

<table>
<thead>
<tr>
<th></th>
<th>Percent of doctors using equipment</th>
<th></th>
<th></th>
<th></th>
<th>significance (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>advanced</td>
<td>intermediate</td>
<td>low</td>
<td></td>
<td></td>
</tr>
<tr>
<td>blood glucose test set</td>
<td>96</td>
<td>65</td>
<td>35</td>
<td></td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>ophthalmoscope</td>
<td>87</td>
<td>92</td>
<td>30</td>
<td></td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>otoscope</td>
<td>91</td>
<td>90</td>
<td>38</td>
<td></td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>peak flow meter</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td></td>
<td>not-significant</td>
</tr>
<tr>
<td>ECG</td>
<td>83</td>
<td>55</td>
<td>43</td>
<td></td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>urine catheter</td>
<td>91</td>
<td>51</td>
<td>28</td>
<td></td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>suture set</td>
<td>39</td>
<td>23</td>
<td>10</td>
<td></td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>set for minor surgery</td>
<td>87</td>
<td>68</td>
<td>73</td>
<td></td>
<td>not-significant</td>
</tr>
<tr>
<td>defibrillator</td>
<td>74</td>
<td>53</td>
<td>36</td>
<td></td>
<td>&lt;0.05</td>
</tr>
</tbody>
</table>

125. These differences were less marked for urban and rural PHC centers, but, interestingly, doctors in rural PHC centers were more likely to use these pieces of equipment, presumably a reflection of the substitution of family physicians by narrow specialists in urban centers (table 7).

Table 7: Equipment used in PHC centers in regions at different stages of reform

|                                | Percent of doctors using equipment |        |        |        | significance (p) |
|                                | urban | Rural |        |        |                |
| blood glucose test set         | 43    | 64    |        |        | <0.01          |
| ophthalmoscope                 | 67    | 54    |        |        | not-significant|
| otoscope                       | 65    | 63    |        |        | not-significant|
| peak flow meter                | 5     | 1     |        |        | not-significant|
| ECG                            | 45    | 59    |        |        | <0.05          |
| urine catheter                 | 33    | 56    |        |        | <0.01          |
| suture set                     | 3     | 33    |        |        | <0.01          |
| set for minor surgery          | 62    | 82    |        |        | <0.01          |
| defibrillator                  | 32    | 62    |        |        | <0.01          |

5.5. DIRECT ACCESS TO LABORATORY TESTS AND X-RAY

126. Doctors working in urban areas were significantly more likely to have direct access to laboratory and x-ray services (table 8).
Table 8: Proportion of PHC doctors with direct access to laboratory and x-ray services in urban and rural areas

<table>
<thead>
<tr>
<th>Percent of doctors with direct access</th>
<th>urban</th>
<th>rural</th>
<th>significance (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>laboratory test</td>
<td>96</td>
<td>54</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>x-ray</td>
<td>93</td>
<td>24</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

127. However, for PHC doctors in advanced/intermediate reform regions compared with low reform regions there was no statistically significant difference.

5.6. APPLICATION OF MEDICAL TECHNIQUES

128. The doctors interviewed were presented with a list of 14 medical techniques and procedures commonly applied in PHC and that the family physicians would be expected to perform.

5.6.1. Comparison by urban-rural status

129. Most of the medical techniques used in the surveyed were only “occasionally” or “seldom/never” applied by the doctors surveyed. Rural physicians were more likely to apply medical techniques and procedures, as compared with PHC physicians from urban areas: presumably reflecting the skills substitution by narrow specialists. There was statistically significant difference for the following procedures: resection of ingrown toenail; removal of a sebaceous cyst; wound suturing; excision of warts; removal of rusty spot from cornea; fundoscopy; applying a plaster cast; strapping an ankle; setting up an intravenous infusion (p<0.01) (figure 11).

Figure 11. Frequency of applying medical technique (1=never and 4=always)
There was no difference between doctors working in urban or rural areas in the application of the following procedures: joint injection; insertion of intra uterine device (IUD); cryotherapy; maxillary puncture; and myringotomy of eardrum.

5.6.2. Comparison by reform status

Many of the medical techniques used in the survey were “occasionally” or “seldom/never” applied a majority of the time. Doctors from advanced and intermediate reform areas with family physicians were more likely to apply these medical techniques as compared with doctors from low reform areas. The differences in application were statistically significant (p<0.01) for the following techniques: resection of ingrowing toenail; removal of a sebaceous cyst; wound suturing; excision of warts; removal of rusty spot from cornea; fundoscopy; joint injection; applying a plaster cast; strapping an ankle and setting up an intravenous infusion (figures 12 and 13).

**Figure 12. Frequency of applying medical techniques (1=never and 4=always)**
The differences were not statistically significant for the following procedures: insertion of IUD, maxillary puncture, and myringotomy of eardrum.

5.7. FIRST CONTACT MANAGEMENT OF COMMONLY ENCOUNTERED CONDITIONS

The doctors interviewed were presented with a list of 27 health problems commonly encountered in PHC and on which the family physicians would be expected to serve as the first contact point and to manage.

5.7.1. Pediatric conditions: comparison by urban-rural status

Common pediatric conditions were “usually” managed by doctors in PHC centers from rural areas, as compared with doctors from urban areas who only “occasionally” managed children: presumably because of the presence of pediatricians in urban polyclinics. The difference was statistically significant. (p<0.01) (Figure 14).
5.7.2. Pediatric conditions: comparison by reform status

Doctors working in PHC centers in advanced and intermediate reform regions “almost always” managed common conditions encountered in children as compared with doctors from PHC settings in low reform regions who “usually” or “occasionally” managed these conditions (figure 15). These differences were statistically significant (p<0.01).

Figure 15. Frequency of managing common pediatric conditions in areas at different stages of reform (1=never and 4=always)
5.7.3. Common gynecological conditions: comparison by urban-rural status

136. Common gynecological conditions were “usually” managed by doctors in PHC centers from rural areas, more frequently than by doctors from urban areas. This presumably is the case because of the presence of gynecologists in urban polyclinics. The difference was statistically significant (p<0.01) (figure 16).

**Figure 16. Frequency of managing common gynecological conditions (1=never and 4=always)**

5.7.4. Common gynecological conditions: comparison by reform status

137. Doctors working in PHC centers in advanced and intermediate reform regions “usually” managed common gynecological conditions as compared with doctors from PHC in low reform regions who “occasionally” or “seldomly” managed these conditions (figure 17). These differences were statistically significant (p<0.01).
5.7.5. Common adult conditions: comparison by urban-rural status

Common adult conditions were “usually” managed by doctors in PHC centers from rural areas, more frequently than by doctors from urban areas, presumably because of the presence of narrow specialists in urban polyclinics. The difference was statistically significant ($p<0.01$) (figures 18 and 19).

Figure 18. Frequency of managing common adult conditions (1=never and 4=always)
5.7.6. Common adult conditions: comparison by reform status

Most of the common adult problems were more likely to be managed by family physicians in PHC centers from advanced and intermediate reform stages as compared with doctors from low reform regions (figures 20 and 21). This difference was statistically significant ($p<0.01$).

Figure 19. Frequency of managing common adult conditions (1=never and 4=always)
5.8. HEALTH PROMOTION AND DISEASE PREVENTION

140. The respondents were asked about their involvement in health education, promotion, and disease prevention activities.

5.8.1. Blood Pressure

141. None of the family physicians or doctors working in PHC routinely checked the blood pressure of their patients; such checks were done upon request, if the condition warranted, or if the patient was invited for this purpose. Around 90 percent of the urban doctors checked the blood pressure of their patient on request, if the condition warranted, or when invited, as compared with 60 percent of rural doctors. This difference was statistically significant (p<0.01).

142. Around 90 percent of the doctors in regions of different reform stages checked the blood pressure of their patients on request, if the condition warranted, or if the patient was invited for this purpose.

5.8.2. Cholesterol check

143. Blood cholesterol level was not measured routinely, but only if indicated by clinical condition or if requested. It was more likely to be measured by doctors from urban PHC centers (88 percent) as compared with doctors from rural centers (33 percent). This difference was statistically significant (p<0.01).

144. However, around 55–60 percent of the doctors in regions of different reform stages checked the cholesterol levels of their patients on request, if the condition warranted, or if the patient was invited for this purpose.
5.8.3. Cervical Smear Testing

145. Cervical smear testing was not routinely done. Around 46 percent of doctors from urban PHC centers did cervical smear tests on invitation as compared with 29 percent of doctors from rural areas. This difference was statistically significant (p<0.01).

146. There was no statistically significant difference in the proportion of doctors (around 30 percent) in regions of different reform stages who did cervical smear tests on invitation.

5.8.4. Health Education

147. A large majority of doctors interviewed were involved in health education activities relating to smoking, drinking alcohol, and health/diet. Doctors from rural regions were more likely to provide health education sessions as compared with doctors from urban regions. Similarly, doctors from advanced and intermediate reform regions were more likely to provide health education sessions as compared with doctors from low reform regions. This difference was statistically significant (table 9).

<table>
<thead>
<tr>
<th>Table 9: Health Education Activities</th>
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<tr>
<td><strong>Education activity</strong></td>
</tr>
<tr>
<td>Smoking Routine</td>
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<td>Diet Routine</td>
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<td>Alcohol Routine</td>
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<td>Alcohol Session</td>
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5.8.5. Immunization and Antenatal Care

148. All the doctors surveyed were involved in providing immunization and surveillance of children under the age of four.

149. Doctors from rural PHC centers were more likely to provide immunization, family planning, antenatal and postnatal care as compared with those from urban areas (table 10). This difference was statistically significant (p<0.05).

150. Doctors working in PHC centers in the advanced and intermediate reform regions were significantly more likely to provide services for immunization, family planning, antenatal, and postnatal care as compared with those from low reform regions (table 10).
Table 10: Immunization, surveillance, antenatal, and postnatal care

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
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<tr>
<td></td>
<td>Urban</td>
<td>Rural</td>
<td></td>
<td></td>
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<tr>
<td>Antenatal care</td>
<td>32</td>
<td>67</td>
<td>p&lt;0.05</td>
<td>83</td>
</tr>
<tr>
<td>Family Planning</td>
<td>49</td>
<td>53</td>
<td>p&lt;0.05</td>
<td>78</td>
</tr>
<tr>
<td>Immunization</td>
<td>62</td>
<td>81</td>
<td>p&lt;0.05</td>
<td>96</td>
</tr>
<tr>
<td>Surveillance of children under age 4</td>
<td>65</td>
<td>80</td>
<td>p&lt;0.05</td>
<td>96</td>
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5.9. CHRONIC DISEASE MANAGEMENT

This element of the task profile survey aimed to identify the extent to which family physicians and PHC doctors were involved in management of common chronic conditions expected to be managed within a PHC setting. The doctors were presented with a list of 17 chronic conditions and were asked to identify the extent to which they were involved in the management of these—that is, almost always, usually, occasionally, and seldom/never.

5.9.1. Comparison by urban-rural status

Six of the chronic conditions were “occasionally” or “seldom/never” managed by physicians in rural and urban PHC centers. These included: hyperthyroidism, herniated disc lesion, salpingitis, peritonsillar abscess, head concussion, and depression. Two conditions (ulcerative colitis and peptic ulcer) were “occasionally” managed by physicians. Statistically, there was no difference between urban and rural areas.

Nine of the conditions were “usually” or “almost always” managed by physicians in urban and rural areas. These included: hordeolum, Parkinson's disease, myocardial infarction, acute cerebrovascular accident, chronic bronchitis, chronic heart failure, pneumonia, uncomplicated type II diabetes mellitus, and rheumatoid arthritis. Rural physicians were more likely to manage these conditions as compared with those from urban PHC centers (figure 22). This difference was statistically significant (p<0.05).
Comparison by reform status

154. Many of the chronic conditions were "occasionally or always" managed by doctors from advanced and intermediate reform regions, as compared with doctors from low reform regions who "occasionally" managed these conditions. There was a statistically significant difference (p<0.01) in the extent of involvement in 14 of the 17 conditions (hordeolum, Parkinson's disease, myocardial infarction, acute cerebrovascular accident, chronic bronchitis, chronic heart failure, uncomplicated type II diabetes mellitus and rheumatoid arthritis, hyperthyroidism, herniated disc lesion, salpingitis, peritonsillar abscess, head concussion, and depression) with doctors from advanced or intermediate reform areas more frequently involved in looking after these cases (figures 23 and 24).

Figure 23. Management of common chronic conditions: comparison by reform status (1=never and 4=always)
155. For three conditions (peptic ulcer, ulcerative colitis, and pneumonia) there was no difference in management of these conditions by doctors working in PHC centers from advanced, intermediate, and early reform regions.

5.10. JOB SATISFACTION

5.10.1. Comparison by urban-rural status

156. Around 51 percent of the doctors interviewed from urban regions—but only 32 percent of the doctors from rural regions—"strongly" or "more-or-less" agreed that they were interested in their work. This difference was statistically significant (p<0.01).

157. However, only around 20 percent of the doctors from advanced or intermediate reform regions "strongly" or "more-or-less" agreed that they were interested in their work. This figure for doctors from low reform regions was higher (58 percent). The difference was statistically significant.

158. Around 50 percent of the doctors from urban and rural as well as advanced and low reform regions reported that they found real enjoyment in their work.

159. Around 30 percent of the doctors felt that much of their efforts were wasted.

160. Approximately 48 percent of the doctors from the advanced reform regions felt that they were overloaded with administration as compared with 33 percent from intermediate reform and 40 percent from low reform regions. This difference was statistically significant (p<0.01). Around 55 percent of the doctors in urban areas felt that they were overloaded with administration as compared with 29 percent of doctors from rural areas. This difference was statistically significant (p<0.01).

161. Around 30 percent of the doctors surveyed agreed that they would take a nonmedical job if the chance arose. This figure was similar in urban and rural regions as well those at different stages of reform.
6. FINDINGS OF THE QUALITATIVE RESEARCH

6.1. PHC REFORMS AND PERCEIVED BENEFITS

162. Most of the key informants commented that the reforms were "inevitable" given the economic difficulties and greatly diminished funding for the health sector. The reforms had progressed more rapidly in rural areas as rural doctors were already practicing virtually as "family doctors"; hence, retraining and expanding the profile of services provided was easier in rural areas than in the urban areas with polyclinics staffed with narrow specialists.

6.2. CRITICAL SUCCESS FACTORS

163. Several critical success factors were identified. "Input from external NGOs, donors and other funding agencies" was seen to be "crucial to the success of reforms."

164. Changes in laws and regulations early in the reforms had established an enabling environment for change and appropriate platforms for the reforms to build on. In particular, the legislation on family medicine was seen to be critical in "institutionalization of FM as a profession."

165. Support from external agencies and donors with high quality technical assistance had been instrumental in establishing training bases for retraining of doctors and developing the unified FM curriculum. The technical assistance that supported the retraining of health professionals and the support for FM from the State Medical University, the NIH, and the BMC early in the reforms with establishment of FM departments had enabled building "real capacity for training and in family medicine."

166. External funding, which was used to refurbish and equip PHC infrastructure for family medicine, had enabled the retrained doctors and nurses to return to suitable environments to apply their knowledge and skills.

167. The definition of the basic benefits package and subsequent funding through the SHA combined with the refurbishment of the FM centers in rural marzes "had enabled improved access and accessibility to PHC services, especially for the rural citizens and the poor" and was an important equity-enhancing facet of the reforms.

168. An important ingredient in the reforms was "the enthusiasm of Armenian Diaspora who returned to give something back to their country—especially seen among young professionals engaged as project workers within NGO projects and in business ventures." This catalyzed the changes and accelerated the pace of reform.

6.3. CONCERNS EXPRESSED BY THE KEY INFORMANTS

169. A major barrier to reforms identified by the key informants was the perceived "lack of clarity on long term health strategy and health policies at the top level." Some of the key informants commented that the new regulations were in conflict with existing regulations. This created uncertainty and confusion.

170. General preparedness to reform was noted to be low, both amongst the population and the health system. There was inadequate communication of the reform objectives, what the changes entailed, and how these impacted on the population, provider organizations, and the health professionals. In particular,
limited information about the boundaries of the BBP, entitlements, costs, and co-payments led to confusion amongst the population and the health professionals. Among the health professionals, understanding of the family medicine concept and “modern primary health care” was highly variable and often limited. This led to resistance to change. Pediatricians were identified as the most powerful resistance to FM reforms: especially as they had strong lobbying powers at the government level. The receptivity of the context for reforms varied significantly between Yerevan and rural marzes. Many of the key informants commented that introducing FM reforms to the capital was particularly challenging as Yerevan City was “not interested” in FM reforms, in contrast with rural areas, which welcomed the changes and also co-financed the refurbishment of the PHC centers.

171. Limited financial and accounting skills resulted in budgeting difficulties for the provider organizations that had gained “autonomous” status, as the transition to autonomous status was recent and the regulations had not yet been fully implemented. This resulted in a lack of transparency about financial dealings and led to the suspicion that “managers and certain health professionals [were] putting self interest before that of the public.” Many of the key informants felt that "corruption was still present" and adversely influenced technical decisions, and that the health system funds were "leaking away into black holes."

172. Many of the key informants felt that the public could "not afford to pay for health care" and that cost-sharing had adversely affected access for those who could not afford to pay for health care.

173. The paucity and low quality of data were identified as major problems that made monitoring and evaluation of the reforms and the health system rather difficult. There were suspicions that much of the reported data were "guesstimates" and did not reflect the reality.

174. Coordination and information-sharing between NGOs and external funding agencies was perceived to be "insufficient" with "duplication of effort."

175. Access to published literature was cited to be a problem, as most of the recent graduates spoke only Armenian with very limited Russian or English.

176. "Brain drain"—emigration of talented young graduates to other countries because of an excess number of doctors and poor pay levels was cited to be a significant and growing problem.
7. KEY ACHIEVEMENTS OF PHC REFORMS

177. Armenia has achieved significant milestones with PHC reforms despite a resource-constrained environment. The comprehensive nature of the reforms—with changes in the legal basis of the health system, organizational arrangements, financing, provider payment systems, and service provision—has meant that strong platforms have been established to expand and sustain the changes achieved. The multifaceted nature of the reforms is particularly welcomed by the key stakeholders.

178. In the target hamaynks, where the reform program has been implemented, there are clear and beneficial changes. Increased access and accessibility to PHC has meant that attendance at the PHC level has increased. There is a significant improvement in the quality of health care services with expanded care and reduced referral to narrow specialists and an increase in satisfaction levels of both the users and the retrained professionals who work in PHC.

7.1. ORGANIZATIONAL AND REGULATORY CHANGES

179. Several laws have been enacted and regulations passed to create an enabling environment for FM and PHC reforms: family medicine is recognized in Law as a specialty. A new PHC structure has been established in parts of the country based on the FM model, and the tripartite model of polyclinics for adult, women and children has been consolidated in some centers into unified PHC units.

180. The scope and content of State Guaranteed Basic Benefits Package has been defined in law.

181. A large number of PHC centers have been refurbished in the pilot sites of both entities to create “patient friendly” and functional PHC units. Users have been given the freedom to choose their family physicians and change their family physician after three months.

182. Limited accreditation has been introduced and a number of PHC and hospital facilities have been accredited.

7.1.1. Business Planning at the PHC Level

183. Doctors in the family physician retraining program who received training in business planning had, prior to commencing work in their ambulatories or polyclinics, prepared and submitted “business plans” to the Health Policy Implementation Unit (HPIU).

184. These plans—which outlined goals and objectives; analysis of the PHC sector and resources; critical success factors and strategies; and performance indicators—were used during the evaluation of the WB HFPHCD Project for monitoring and evaluating achievements against objectives. The evaluation showed that most of the objectives were successfully achieved. These objectives included: improving infrastructure and working conditions; retraining of staff; increasing attendance rate; expanding the volume of services provided to the population; reducing the number of referrals to narrow specialists; achieving maximum immunization coverage; enhancing coverage of antenatal care; expanding population coverage for health education, promotion, and disease prevention; improving monitoring of key chronic conditions; screening of children to identify and treat anemia.36
7.2. **FINANCING, RESOURCE ALLOCATION, AND PROVIDER PAYMENT SYSTEMS**

185. The health expenditure remains low by OECD and ECA Region standards, and out-of-pocket payments account for over half of the total expenditure. However, between 2002 and 2004, Armenia increased the proportion of health system funding allocated to the PHC level. Furthermore, the Medium-term Expenditure Framework and the PRSP identify increased health expenditure as a key priority.

186. An important achievement of the reforms is the introduction of a single purchaser in the form of SHA and the introduction of contracts with health care providers, which were established as autonomous institutions with their own budgetary controls.

187. New mixed provider payment methods, based on a weighted per capita mechanism and fee-for-service for specialist services, have been introduced and offer an excellent platform to further develop payment systems to introduce incentives to enhance quality and efficiency.

7.2.1. **Reduced informal payments**

188. In the areas where the World Bank-financed Project was implemented and where the PHC services were provided by family physicians, the extent of informal payments has been shown to be less as compared with control regions. The same study showed that the co-payments for investigations were less in Project sites as compared with control areas.

7.2.2. **Improved affordability and access**

189. Following the introduction of the basic package of services, the affordability of PHC services increased. The proportion of respondents with health problems who did not seek medical consultation was found to be higher in control hamaynks as compared to respondents from areas where the FM model was implemented. The same study found that 76 percent of patients in areas with FM and 56 percent of patients in control areas used PHC as their first point of contact for medical problems.

7.3. **SERVICE PROVISION**

7.3.1. **Expanded service delivery**

190. The task profile survey shows statistically significant differences in the application of medical techniques, the use of equipment, and the management of first contact and chronic conditions by family physicians working in PHC centers situated in advanced reform, as opposed to low reform, regions.

191. The task profile survey demonstrates that family physicians in advanced reform regions provide more systematic health education and promotion activities and that they more frequently manage common psychosocial problems as compared with family physicians from intermediate or early reform regions.

7.3.2. **Reduced self-referral to narrow specialists**

192. The proportion of self-referrals to specialist care decreased from 26 percent before FM reforms were implemented to 20 percent in areas where FM was introduced. In contrast, in areas where FM reforms were not introduced, the rate of self-referrals increased from 22 percent to 38 percent.
7.3.3. Reduced referrals by family physicians to narrow specialists and hospitals

193. The rate of referrals to narrow specialists by family physicians in regions where reforms were introduced was found to be significantly less (almost one half less) as compared with doctors in areas where FM was not introduced.  

194. Evaluation of the WB HFPHCD Project—which analyzed referral patterns from areas where the FM model was implemented as compared with PHC centers with no family physicians—showed the number of referrals from PHC centers with family physicians to be significantly less. In facilities with family physicians, 12 percent of new cases and 3.9 percent of the cases with ongoing care were referred to the narrow specialists of the polyclinic as compared with significantly higher rates in control facilities (with no family physicians), where the referral rates were 29 percent for new cases and 20.8 percent for cases with ongoing care (p<0.05). Similarly, referrals to hospitals by family physicians were five percent for new cases and 2.4 percent for cases under continuing care, as compared with 12.4 percent of new cases and 10 percent of cases with ongoing care who were referred from control sites with no family physicians (p<0.01).

7.3.4. Enhanced Quality of Care

195. Evaluation of the WB HFPHCD Project analyzed the perceptions of the quality of health services provided employing a number of structural and process indicators using a population survey from hamaynks that implemented FM-centered reforms and from those that did not. The results show that the perceived quality of health services provided by PHC centers with family physicians is higher than those PHC centers that do not have family physicians. These differences were statistically significant.

7.3.5. Guidelines

196. With support from the WB HFPHVD Project, around 127 guidelines have been developed for use by family physicians and a further 56 for use by family nurses. A survey of family physicians and PHC doctors from reform and nonreform areas undertaken as part of the evaluation of the WB Project showed no difference in the levels of uptake as stated by the physician. However, when asked about recommendations stipulated in several guidelines, family physicians were statistically more likely to identify recommended interventions as compared with PHC doctors in nonreform regions. Audit of clinical care provided by family physicians for several key conditions as compared with PHC physicians showed the quality levels for family physicians to be significantly higher and more in line with recommendations in the guidelines as compared with PHC physicians in nonreform areas. Further, the referrals to narrow specialists and hospitals for these conditions were significantly lower for patients cared for by family physicians. These differences were statistically significant.

7.3.6. Improved user satisfaction

197. Both the qualitative and quantitative research undertaken as part of the evaluation of the WB HFPHC Project demonstrate improved user satisfaction with the services provided by PHC units with family physicians as compared with the baseline levels at the start of reforms. Further, significantly higher user satisfaction levels are observed with the services provided by the PHC units with family physicians in reform regions as compared with control regions with no family physicians. The differences noted before and after reforms and between reform and nonreform areas were statistically significant. The higher satisfaction was attributable to improved conditions, greater availability of medical equipment, and provision of more qualified services by trained staff.
7.3.7. **Satisfaction with work environment**

198. Almost 90 percent of the family physicians working in PHC centers refurbished by the WB HFPHCD Project who were surveyed were satisfied with their work environment, as compared with PHC doctors working in regions not involved in the reforms.44

7.3.8. **Community Involvement**

199. A requirement when selecting target communities in the WB Project was their willingness to invest two percent of the total program costs. All 76 communities involved in the WB Project formed community boards, signed community contracts with Health PIU, and have fulfilled their investment obligations. In contrast, communities in the control areas were not willing to make investments to address the health problems of their community.45

200. Further, there was a greater willingness of citizens to participate in community health issues after the program implementation as compared with levels observed before the program’s start.

7.4. **RESOURCE GENERATION**

201. A critical mass of FM specialists and nurses has been trained in the 11-month retraining program.

202. Evaluation of the knowledge and skills of the physicians trained in the FM retraining program at the start and end of the program showed that the mean score for knowledge increased from 47 percent to 78 percent and that the mean score for skill increased from 19 to 47 percent. The family physicians felt confident that they could apply the knowledge and skills gained. However, interviews with trained family physicians showed that the presence of narrow specialists in PHC prevented family physicians from fully applying the knowledge and skills gained during retraining.46
8. CHALLENGES THAT REMAIN TO BE ADDRESSED

203. In its PHC Strategy for 2003-2008, the Armenian Government has identified the key weaknesses of the existing PHC system to be: the inadequate knowledge base and skills of doctors working in ambulatories; poor infrastructure and equipment; poor integration of general medical, pediatric, and obstetric services; inadequate provision of preventive measures, especially for noncommunicable conditions; approach to care that fails to focus on the family as the unit of intervention; poor coordination of key functions; inefficient use of limited financial resources; and lack of financial incentives to further develop services. The findings of this evaluation confirm these concerns, which are further explored below.

8.1. ORGANIZATION AND REGULATIONS

8.1.1. Separation of purchasing and provision with contracting

204. Contracts have been successfully introduced between the SHA and providers. Contracting can be used as an effective tool to improve equity, service quality, efficiency, and effectiveness. However, to achieve these objectives, the contracts based on per capita payment mechanisms need to be augmented to develop mechanisms and contracts with explicit quality and performance criteria and with commensurate incentives to reward FM teams and PHC centers. Such a shift will require: (i) significant analytical and execution capacity at the SHA to develop, implement, manage, and monitor more sophisticated contracts; (ii) robust information systems in PHC to capture relevant and timely data on activities and outcomes; and (iii) appropriate incentive systems.

8.1.2. Organizational Structure

205. The tripartite provider system at the PHC level has not yet been consolidated to give way to new PHC units that provide unified services by family physicians for all citizens. PHC units are still staffed by pediatricians and general therapists, as well as by narrow specialists in polyclinics.

8.1.3. Uncertain regulatory environment and support

206. The evaluation of the WB Project highlighted the difficulties faced by PHC providers due to deficiencies in the regulatory environment, especially as regards the tax code and social insurance contributions for employees, which led to excessive taxation of the providers and requests for social insurance contributions for employees for amounts that were higher than the employees' salaries. On average, around 80 percent of income from SHA for the State Guaranteed Programs was spent on salaries, taxes, and social insurance contributions for the employees.48

207. Key stakeholders interviewed during the evaluation of the HFPHCD Project noted that family physicians do not enjoy adequate support from the health financing system (in particular the MOH and the HPIU)—the trained family physicians, who are able to deliver a broad range of services as compared with traditional providers in PHC, do not have the necessary incentives to expand their services. The BBP financing is perceived to be very insufficient, and the opportunity for family physicians to provide services that attract official out-of-pocket fees (for instance, those provided by narrow specialists) is very limited.
8.1.4. Limited autonomy

208. At present, family doctors do not have a legal standing with a dedicated budget line that recognizes FM as a distinct specialty. Instead, FDs reclaim reimbursement for services under the category "other physician."

8.1.5. Poor infrastructure

209. The capital stock in PHC is run down. The majority of polyclinics and rural ambulatories in marzes need to be equipped, renovated partially, or repaired significantly. In one marz (Siunik marz) all polyclinics, rural ambulatories, and family physician offices have been renovated and equipped, but in the remaining nine marzes a further 29 polyclinics, 120 rural ambulatories, and 8 health centers need to be renovated and equipped.59

8.1.6. Human Resources in PHC

210. Although a large number of physicians and nurses have been trained in family medicine, this only represents 15 percent of what is needed in Armenia. In addition to the retraining of physicians and nurses who work in PHC as family physicians, the knowledge and practice of the majority of nonfamily physicians and nurses working in the PHC system still need to be upgraded.

211. A further concern relates to the aging workforce in PHC: 30 percent of rural physicians and nurses and 20 percent of physicians and nurses in Yerevan are above 50 years of age.50

8.1.7. Excess paperwork

212. As in other post-Soviet countries, PHC level is overburdened by paperwork. There are approximately 400 forms in PHC that need to be completed to report activity levels as well as public health parameters. These are aggregated to develop 33 separate reports, which are annually sent to the marz Health Departments and, from there, to the Ministry of Health.

213. Typically a PHC physician who sees 25 patients a day spends approximately 2 hours a day to fill out forms.51

8.1.8. Monitoring and evaluation

214. As with the other countries included in this study, a fundamental problem with the PHC reforms is the lack of systematically collected data that can be analyzed to demonstrate if there have been changes in key reform objectives, such as enhanced equity, efficiency, effectiveness, choice, and improved health outcomes. There was limited base-lining of PHC outputs in the pilot sites to enable detailed before- and after-intervention analysis.

215. There is no monitoring of quality levels in PHC. There is no requirement of PHC providers to provide reports to the SHA to demonstrate that they have provided adequate services to meet their obligations under the State Orders to provide BBP to the populations they cover. There is reporting of services provided by narrow specialists and diagnostic investigations, as these attract fee-for-service payment from the SHA, but there is reporting of quality levels. There is a need to identify a set of core indicators collected at the PHC level to capture relevant, reliable, and timely data to assess whether the key health system objectives are achieved and to inform policy decisions.
8.2. SERVICE PROVISION

8.2.1. Access

216. Although the patients have been given the right to choose their PHC physicians, uneven distribution of human resources with staff shortages in rural and mountainous areas means that, in reality, it is difficult to exercise this choice and that inequitable access remains a fundamental problem. This is further compounded by the limited accessibility of services by a large proportion of the population who are unable to afford out-of-pocket payment for services. Poor infrastructure and lack of equipment in the polyclinics and health posts that have not refurbished creates a negative perception of PHC and encourages behavior to seek hospital care.

217. Despite the new provider payment system, the money tends to follow structures rather than need, although the allocation of funds on the basis of the number of VPs served by hospitals in marzes and per capita rates for PHC is a significant step in the right direction. The Health Agency has not yet evolved into a strategic purchaser and has not been able to achieve significant rationalization of the excess infrastructure. In the absence of a dramatic rationalization of the health system, the SHA is condemned to just let the system continue maneuvering around it.

218. Limited financial resources to fund State Orders and prohibition of co-payment for services included in the BBP have led to a widespread system of informal payments combined with a substantial amount of official private out-of-pocket expenditures for users. This has created barriers to access and led to widening inequalities.

219. Much of the income (around 75 percent) generated by the PHC providers is spent on remunerating staff. This leaves a small amount of money to purchase and dispense drugs that the vulnerable population requires. This creates further barriers to care.

220. Although, officially, PHC services in polyclinics are free of charge, the providers frequently request unofficial payments for their services. These out-of-pocket payments are said to be a key reason for deterring use of polyclinics as both the amount of unofficial payment and the level of service quality are unpredictable.52

8.2.2. Fragmentation of PHC Services

221. Many PHC services that could be provided by family physicians or generalists are still provided by narrow specialists. These services include: antenatal and postnatal care provided by gynecologists in towns and Yerevan; routine care of common chronic illnesses, such as diabetes and mental health, that are provided in dispensaries; and ongoing care of common chronic conditions such as hypertension, ischaemic heart disease, and so on, that are managed by narrow specialists in polyclinics.

222. Furthermore, in Yerevan, PHC services are still provided in a tripartite model, comprising adult, women, and pediatric polyclinics. Together, these shortcomings in structural arrangements and service delivery fragment key PHC functions of gate keeping, continuity, and comprehensiveness, and reduce the efficiency and effectiveness of the PHC level.
8.2.3. Fractured gate keeping

223. The gate keeping function by family physicians in PHC is not well established—a lack of strong referral and counter referral mechanisms means that many narrow specialists can be accessed directly at hospitals.

8.2.4. Integration, continuum of care, and referral systems

224. Although an FM-centered PHC system is being introduced in Armenia, there are few incentives to achieve a substantial secondary-to-primary shift, thus limiting the ability of the PHC level to develop extended primary care and to move beyond a gate keeping role.

225. Vertical integration is limited—in effect the PHC and hospital levels operate as two subsystems with precarious links between them. As the financing of the two systems are unlinked, there is an incentive to shift risk between and within levels—between family physicians and narrow specialists in PHC settings and between PHC and hospitals. This will undermine the gate keeping, continuity, and comprehensiveness functions at the PHC level.

226. Mechanisms that encourage development of an effective interface between primary and secondary levels are needed to enhance integration and continuity of care.

8.2.5. Difficulties in Practicing Family Medicine

227. Trained family physicians who participated in the evaluation of the WB HFPHCD Project identify a number of obstacles that prevent them from optimally discharging their duties and effectively integrating into the PHC system. These include: overcrowding of polyclinics with general physicians, pediatricians, and narrow specialists (and consequent competition); insufficient numbers of patients registered with family physicians; insufficient financing; low salaries; lack of medicines; and inadequate technical resources.53

228. The inadequate academic capacity to train family physicians has been identified as a major constraint to PHC development. Although good capacity exists in the three main training institutions, this is not adequate to meet the needs of Armenia.54

229. Most of the family physicians participating in the focus group discussions and interviews undertaken during the evaluation of the WB Health I Project commented that the retraining period is too short, as their earlier training is inappropriate for family medicine. Furthermore, limited practical experience and short clinical skills training were identified as the key shortcomings of the retraining program, which was otherwise very well received.55

8.2.6. Limited capacity for scale up of family medicine

230. Most PHC-based health care providers have found the transition to the new payment system rather challenging, with many experiencing difficulties in managing their cash flow. This difficulty, combined with arrears in pay from SHA, resulted in many PHC providers experiencing severe budgetary problems, with some unable to pay their staffs for months.
8.3. RESOURCE ALLOCATION AND PROVIDER PAYMENT SYSTEMS

8.3.1. Incentives

231. Doctors and nurses working in PHC recognise that without retraining in family medicine their future employment prospects are rather poor. This has encouraged doctors and nurses working in PHC to retrain as family physicians or nurses, even though the training has meant leaving their workplace and home to Yerevan for the duration of the training.

232. Training as a family physician does not attract significant rewards—only a minimal increase in the capitation fee received from the State Health Agency. Further, the current remuneration system does not adequately distinguish between family physicians and traditional PHC providers (adult physicians and pediatricians) and does not confer any privileges given to narrow specialists (such as the possibility of attracting user fees). Hence, many family physicians question whether additional retraining lasting 11 months improves their prospects in the health system.

233. Per capita payment for PHC providers is not linked to any performance measures. There are no financial incentives for the PHC provider to provide services themselves and to reduce referrals to secondary care or narrow specialists. Further, as the narrow specialists are remunerated according to the volume of services they provide to vulnerable populations, there is an incentive for narrow specialists to manage as many patients as possible. This further fragments the gate keeping, continuity, and comprehensiveness functions of the PHC level in urban areas.

234. Inclusion of trained family physicians in the PHC system is more difficult in urban than in rural areas, as the urban PHC providers employ narrow specialists. This problem is compounded by the provider payment systems for government-subsidized services, as the services of a family physician are government-subsidized and cannot be rendered for a fee, while narrow specialists who can earn additional income—a major source of income for the polyclinics—receive preference for employment.56

235. The lack of incentives and poor salary levels of FM specialists are two major problems that need addressing in the immediate term. It is critical that in the early stages of the reforms, incentives are introduced to retain the “early adopters” and leaders and to give them the opportunity to innovate and lead change. Failure to do so will lead to demoralization of FM teams in general and the innovators in particular, and adversely affect the sustainable development of family medicine.

236. There needs to be a much stronger indication that FM is valued on par with narrow specialties. A key problem with the image of FM is that the family physicians who have undertaken additional training are not remunerated commensurately to compensate for this additional training. This dampens the enthusiasm of doctors to enter residency programs and of narrow specialists to retrain in family medicine. A visible salary differential between general doctors and FM specialists would send a strong signal that FM is valued.

8.3.2. Equity and allocative efficiency

237. Major differences in access to services and funding exist. Resource allocation does not reflect health needs or poverty levels, and there are clear differences in the levels of resources provided to urban and rural regions.
238. The next phase of reforms should place an emphasis on changing resource allocation mechanisms to take into account poverty and health needs and to substantially modify the patterns that currently favor urban areas and hospitals.

8.4. Communicating the Reforms

8.4.1. Poor awareness

239. The benefits of a family medicine-centered PHC system are not adequately communicated to citizens and health professionals. There is, hence, a limited understanding of family medicine and modern primary care amongst health professionals, citizens, and politicians. In particular, the awareness of health reforms amongst the general population in Armenia is low.\(^\text{57}\)

240. A survey undertaken in 2003 found that the willingness of the population to participate in activities to address health problems in their communities was rather weak, except for the target hamaynks where the World Bank Project was working.\(^\text{58}\)

241. There is a generally limited understanding of the PHC and financing reforms amongst health professionals and the population. In particular, understanding of the financing mechanisms and the BBP are very low. Many people are not clear about the eligibility criteria and whether they are entitled to "free" health care services. Many people are unsure about which providers they should visit for first contact care and for referrals. This lack of clarity is a source of anxiety for both the health professionals and the population as it reduces accessibility and increases the risk of rent-seeking behavior by some health professionals.

8.4.2. Opposition to reforms

242. Managers as well as narrow specialists who work in PHC and hospitals oppose the introduction of family medicine-centered PHC. This is identified as a key barrier to further development of family medicine in Armenia.\(^\text{59}\) There are misperceptions of family medicine amongst some health professionals who see this as a retrograde step from "advanced" Soviet medicine.

243. Further, focus group discussions undertaken during the evaluation of the World Bank-financed Health I Project show that about half of the respondents felt introduction of paid medical services, although understandable, was not a justified step given the social and economic circumstances of Armenia; in fact, many wished for a return to the "old, Soviet system." Respondents from villages remarked that the services were not paid for, as the village heads had demanded provision of free services. Most were unaware of the SHA or its role, but those who were aware expressed dissatisfaction.\(^\text{60}\)
9. LESSONS LEARNED

9.1. CRITICAL SUCCESS FACTORS FOR SUSTAINED DEVELOPMENT OF PHC

244. This study has identified a number of critical success factors. These include: (i) image building to improve the status of FM specialists, as compared with narrow-specialists; (ii) improved incentives and working conditions of the FM teams to improve acceptance of the new model; (iii) improved communication between and within levels of the health system and with the public to share the objectives and values of FM; (v) sustaining a holistic approach to reform; and (vi) developing trust through better engagement of the operational level to create ownership.

9.2. COMMUNICATION

245. Inadequate and ineffective communication breeds resistance and creates barriers to change. A well-developed communication strategy aimed at users, health professionals, managers, and decision makers is necessary to sustain achievements, inform key stakeholders about the FM-centered PHC model, and allay any fears.

9.3. BALANCING SHORT- AND LONG-TERM GOALS

246. Armenia has successfully introduced an FM-centered PHC model in several regions. In the short term, it is important to develop a critical mass of family physicians and nurses and to enhance the FM model brand. However, long-term planning is needed to ensure appropriate numbers of human resources in the right specialties and geographic areas.

9.4. APPROPRIATE GOVERNANCE STRUCTURES

247. Inappropriate governance structures can limit what can be achieved and limit chances of sustainability. Governance structures that afford autonomy to family medicine units are necessary to balance power relations with narrow specialists.

9.5. RESPONSIVENESS

248. The fluidity of the sociopolitical and economic contexts in Armenia means that the political economy of health reforms and factors influencing strategic change must be continually analyzed to ensure that generic technical solutions are not applied to complex sociopolitical problems. Programs should adopt a flexible approach to implementation—allowing timely adaptation to changes and responding to windows of opportunity, but without sacrificing a strategic approach.

9.6. INCENTIVES

249. As in the other countries studied, there are few economic and noneconomic incentives for family physicians. This limits the attractiveness of the specialty and dampens enthusiasm, as additional training is not adequately recognized or appropriately remunerated.

9.7. MONITORING AND EVALUATION

250. One of the most important findings of this study was the paucity of appropriate systems for monitoring and evaluation of interventions and programs. As with the other countries studied, there was
limited baseline information against which PHC reforms or program success could be measured. There is an urgent need to develop appropriate metrics and information systems to monitor progress of PHC reforms and to systematically gather information to verify progress against objectives.

9.8. DISSEMINATION AND CROSS LEARNING

251. There is currently inadequate dissemination of experience and sharing of these within and between countries. Regional collaborations, regular exchanges, and dissemination of achievements and lessons should be encouraged and supported. Key documents (such as technical reports) should be available in local languages and disseminated widely to local counterparts.

9.9. EXIT STRATEGY

252. Much has been achieved in the PHC reforms, and the World Bank’s support has been critical in reaching current levels of development; but, to fully scale up the FM model, an additional ten years of technical support is necessary. It is important that a clear exit strategy be developed over a ten-year period and agreed upon with local counterparts to ensure the development of a sustainable PHC system.
10. APPENDIX

10.1. ANNEX 1: METHODOLOGY—FRAMEWORK FOR ANALYSIS

1. Kutzin suggests a three-step approach to evaluating health reforms, describing clearly: (i) key contextual factors driving reform, (ii) the reform itself and its objectives, and (iii) the process by which the reform was (is being) implemented. To this approach, three further elements can be added: (i) describing clearly the changes introduced by the reforms, (ii) analyzing the impact of these changes on health system objectives and goals, and (iii) establishing whether the reforms have achieved the policy objectives set by the government—or the agency leading the reforms.

2. An evaluation should describe key features of the main policies, structural changes, new financing and care provision mechanisms, and processes introduced as a result of reforms. Where possible, the evaluation should also describe and measure changes in health system performance and try to establish causal linkages between intervention and outcome to assess the extent to which the changes observed can be attributed to the reform implemented. However, in real life, attribution and establishing causal links are not easy. Health reforms do not happen in a laboratory. They are not “ahistorical” or “acontextual,” but rather tend to follow a trajectory of development and changes over a period of time—and, hence, can be considered part of a continuum rather than a discrete event. Further, reforms are not isolated and clearly discernable experimental interventions in a controlled setting, but rather are multifaceted and complex organizational change programs.

3. A further difficulty with evaluation of health reforms arises with measuring health outcomes, which are often influenced by multiple personal and nonhealth factors, such as the stage of economic development in the country, income and education levels, the environment, and housing.

4. In practice, it is extremely difficult to separate and control for the contextual factors from the policy interventions and to clearly establish causal links. Given these difficulties, any method used to evaluate complex policy interventions will have limitations in establishing causal links. A further difficulty arises in comparing different countries or settings, as it often difficult to draw conclusions from international healthcare systems comparisons. Nevertheless, a systematic approach to evaluation can yield useful information that can be used to reach plausible conclusions about cause and effect.

5. A number of frameworks have been developed for analyzing the performance of health systems. For instance, the WHO Performance Assessment Framework (WHO PAF) is used for comparative evaluation of health systems performance of the member countries and provided the basis of the World Health Report 2000. The WHO PAF assesses health systems performance in terms of attainment of a number of goals—average health level, distribution of health, average responsiveness, distribution of responsiveness, and fairness of financial contribution. Both the World Health Report 2000 and the WHOPAF generated significant debate on measuring health system performance, and the framework has been further developed and refined.

6. There are other frameworks that focus on efficiency, financing, equity of access, and financial sustainability. In relation to PHC, there are evaluation frameworks that focus on measuring quality.

7. These frameworks have strengths but also limitations. Many of the existing frameworks for assessment and evaluation of health systems and PHC performance measure health sector inputs, resources utilization, activity levels and changes in processes rather than outputs or outcomes. This is
probably because health sector inputs and processes are easier to measure and the data on these can be obtained in the short term. Any analytical framework used to assess health systems should capture not just inputs and processes, but also outputs and outcomes of the system, as well as the interrelationships between the system components.\textsuperscript{71} Moreover, the wider context, within which the health system functions and interacts, also needs to be understood, and contextual changes need to be captured in the analysis.

8. A health system is made up of elements that interact. The sum of the system’s elements is greater than its parts. The interactions of these elements affect the achievement of health system goals and objectives. Therefore, any framework for analyzing health systems should be able to capture not just the changes in goals and objectives, but also system elements.
### 10.2. **ANNEX 2: NIVEL TASK PROFILE INSTRUMENT**

<table>
<thead>
<tr>
<th>Section</th>
<th>Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Practice and personal information</td>
<td>Demographic data; education and training; employment status; normal working hours; population characteristics; location of the practice; working arrangement; teamwork; average workload; home visits; emergency services; practice organization: staff and equipment; medical record keeping; use of computer.</td>
</tr>
<tr>
<td>2. Provision of medical technical procedures</td>
<td>A list of 14 medical techniques, such as: wedge resection of ingrown toenail; wound suturing; insertion of IUD; fundoscopy; strapping an ankle; setting up an intravenous injection, and so on; also perceived involvement of the GP if patients in the practice population need such procedures—indicated using a five-point scale ranging from “(almost) always” to “seldom/never.”</td>
</tr>
<tr>
<td>3. Provision of first contact care</td>
<td>27 Short case descriptions of patients' health problems such as: child with a rash; woman aged 18 asking for oral contraception; man aged 24 with chest pain; man aged 50 who burnt his hand; woman aged 50 with a lump in her breast; woman aged 60 with acute symptoms of paralysis/paresis; man aged 29 with lower back pain; couple with relationship problems; woman aged 50 with psychosocial problems related to her work and perception regarding prevalence of these conditions and presentation to the FP—indicated using a five-point scale ranging from “(almost) always” to “seldom/never.”</td>
</tr>
<tr>
<td>4. Provision of screening, preventive care, and so on</td>
<td>Questions about the routine of the GP concerning: measuring blood pressure; measuring blood cholesterol level; taking cervical smears for cancer screening; examination for breast cancer screening. Questions about involvement of GPs in: health education clinics on smoking cessation, food intake, and alcohol consumption; intra-partum care; pediatric surveillance clinics; family planning / contraception; homoeopathic medicine.</td>
</tr>
<tr>
<td>5. Provision of disease management</td>
<td>A list of 17 diseases, such as: hyperthyroidism; peptic ulcer; congestive heart failure; peritonsillar abscess; uncomplicated diabetes type 2; depression and perceived involvement of the GP in the treatment if these cases occur in the practice population could be indicated on a five-point scale ranging from “(almost) always” to “seldom/never.”</td>
</tr>
<tr>
<td>6. Job satisfaction</td>
<td>Seven statements on aspects of GPs' work, such as: “My work still interests me as much it ever did”; “Assuming that pay and conditions were similar, I would do nonmedical work”; agreement expressed on a five-point scale, varying from “agree strongly” to “disagree strongly.”</td>
</tr>
</tbody>
</table>
10.3. ANNEX 3: UNIFIED FM TRAINING CURRICULUM

Proposed length of training 72 weeks (28 at SMU/NH, 44 in family practice settings)

<table>
<thead>
<tr>
<th>Contents (modules)</th>
<th>%</th>
<th>Weeks</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health promotion and disease prevention</td>
<td>3</td>
<td>2</td>
<td>10,8</td>
</tr>
<tr>
<td>Communication Skills</td>
<td>3</td>
<td>2</td>
<td>10,8</td>
</tr>
<tr>
<td>Risk management</td>
<td>1</td>
<td>$\frac{1}{2}$</td>
<td>3,6</td>
</tr>
<tr>
<td>Patient counselling</td>
<td>2</td>
<td>$\frac{1}{2}$</td>
<td>7,2</td>
</tr>
<tr>
<td>Nutrition</td>
<td>2</td>
<td>$\frac{1}{2}$</td>
<td>7,2</td>
</tr>
<tr>
<td>Sports medicine</td>
<td>1</td>
<td>$\frac{1}{2}$</td>
<td>3,6</td>
</tr>
<tr>
<td>Infant and Child Care</td>
<td>12</td>
<td>8 $\frac{1}{2}$</td>
<td>39,2</td>
</tr>
<tr>
<td>Adolescent care</td>
<td>2</td>
<td>1 $\frac{1}{2}$</td>
<td>7,2</td>
</tr>
<tr>
<td>Care of Older Adults</td>
<td>2</td>
<td>1 $\frac{1}{2}$</td>
<td>7,2</td>
</tr>
<tr>
<td>Women's health</td>
<td>5</td>
<td>3 $\frac{1}{2}$</td>
<td>17,0</td>
</tr>
<tr>
<td>Men's health</td>
<td>7</td>
<td>5</td>
<td>25,2</td>
</tr>
<tr>
<td>Human behavior and mental health</td>
<td>7</td>
<td>5</td>
<td>25,2</td>
</tr>
<tr>
<td>Rheumatic Diseases</td>
<td>2</td>
<td>1 $\frac{1}{2}$</td>
<td>7,2</td>
</tr>
<tr>
<td>HIV / AIDS</td>
<td>2</td>
<td>1 $\frac{1}{2}$</td>
<td>7,2</td>
</tr>
<tr>
<td>Diseases of Musculoskeletal System</td>
<td>3</td>
<td>2</td>
<td>10,8</td>
</tr>
<tr>
<td>Obstetrics and Gynecological care</td>
<td>8</td>
<td>6</td>
<td>25,0</td>
</tr>
<tr>
<td>Care of the Surgical Patient</td>
<td>4</td>
<td>3</td>
<td>13,4</td>
</tr>
<tr>
<td>Substance abuse</td>
<td>1</td>
<td>$\frac{1}{2}$</td>
<td>3,6</td>
</tr>
<tr>
<td>Skin problems</td>
<td>2</td>
<td>1 $\frac{1}{2}$</td>
<td>7,2</td>
</tr>
<tr>
<td>End-of-life care</td>
<td>1</td>
<td>$\frac{1}{2}$</td>
<td>3,6</td>
</tr>
<tr>
<td>Occupational medicine</td>
<td>1</td>
<td>$\frac{1}{2}$</td>
<td>3,6</td>
</tr>
<tr>
<td>Allergy and Immunology</td>
<td>1</td>
<td>1 $\frac{1}{2}$</td>
<td>3,6</td>
</tr>
<tr>
<td>Neurological problems</td>
<td>3</td>
<td>2</td>
<td>10,8</td>
</tr>
<tr>
<td>Urgent and emergency care</td>
<td>10</td>
<td>7</td>
<td>36</td>
</tr>
<tr>
<td>Cardio-vascular problems</td>
<td>4</td>
<td>3</td>
<td>13,4</td>
</tr>
<tr>
<td>Eye problems</td>
<td>2</td>
<td>2</td>
<td>10,8</td>
</tr>
<tr>
<td>Medical Genetics</td>
<td>1</td>
<td>$\frac{1}{2}$</td>
<td>3,6</td>
</tr>
<tr>
<td>Scientific Research</td>
<td>1</td>
<td>$\frac{1}{2}$</td>
<td>3,6</td>
</tr>
<tr>
<td>Medical Ethics</td>
<td>1</td>
<td>$\frac{1}{2}$</td>
<td>3,6</td>
</tr>
<tr>
<td>PHC organization and practice management</td>
<td>2</td>
<td>2</td>
<td>10,8</td>
</tr>
<tr>
<td>Care Management</td>
<td>2</td>
<td>2</td>
<td>10,8</td>
</tr>
<tr>
<td>Medical informatics and computer use</td>
<td>1</td>
<td>$\frac{1}{2}$</td>
<td>3,6</td>
</tr>
<tr>
<td>Office laboratory</td>
<td>1</td>
<td>$\frac{1}{2}$</td>
<td>3,6</td>
</tr>
<tr>
<td>SUM</td>
<td>100%</td>
<td>72</td>
<td>360</td>
</tr>
</tbody>
</table>
10.4. ANNEX 4: THE PROCEDURE OF FAMILY MEDICINE TRAINING, MONITORING, AND ASSESSMENT IN THE REPUBLIC OF ARMENIA

The goals/objectives of the training process:

9. THE UNIFIED FAMILY MEDICINE CURRICULUM (UFMC) describes the training outcomes of post-graduate training appropriate for the specialty of family medicine resulting from teaching new skills and professional approaches in the given period of time. Through developing and modifying previously acquired qualities as well as through gaining new knowledge, skills, and personal attributes in real-life situations, family physicians will be able to meet the health needs of the patients and the community.

10. The specific aims and requirements of the training in family medicine are presented in the appropriate modules based on their importance for the training process. The knowledge, skills, and values as well as the systemized approach acquired during the training / retraining process should be used in the following spheres: clinical practice, patient communication, and practice management. Family physicians should:

11. Be aware of health promotion and disease prevention measures, their methodology and limitations, as well as master methods of early diagnosis, health promotion, and disease prevention in general practice.

12. Use completely and appropriately knowledge, methods, skills, and competencies acquired at different stages of the training in hospitals and PHC centers so as to be able to: a) carry out health promotion and disease prevention activities, b) act based upon his/her own diagnosis (and confidence level) and treat patients regardless of their age, sex, type of health problem or disease, considering the individual character of each of them.

13. Be able to independently diagnose, treat, and manage common health problems and diseases, based on the UFMC requirements.

14. Be able to organize work with patients appropriately and master different emotional situations, establishing trusting relationships with patients.

15. Use his/her knowledge in epidemiology while reasoning clinically and making decisions.

16. Manage time effectively, including diagnosis, treatment, and organizational work.

17. Master the principles of practice organization and management and assure adequate access to and continuity of his/her services.

18. Establish efficient collaboration with other medical and non-medical specialists, governmental and non-governmental structures.

19. Be aware of the main methods of medical scientific and research work.

20. Be aware of continuous quality improvement methods and assess his/her own needs for continuous education.

21. Act according to the norms of morality and medical ethics.
STAGES OF TRAINING

Retraining of practicing physicians.

22. For practicing physicians that are being retrained into family physicians, a training period of 1.5 year’s duration is proposed in the UFMC. Of this period, intermittent courses organized at NIH clinical training facilities in Yerevan will comprise 28 weeks, and worksite-based training under appropriate supervision and direction will comprise 44 weeks. Both types of training courses should meet the following requirement: theoretical training—lectures, classroom sessions, seminars, and didactic work in small groups—should comprise about 30 percent of the time, while practical work—patient management, practicing skills on mannequins, and documentation management—should comprise about 70 percent. Trainees must assume significant responsibility for self-education and the study of modern, evidence-based medical literature.

23. On the whole, the time percentages presented for each module in the general part of UFMC will be kept, although, as mentioned already, such time distribution is very relative, as the knowledge and skills specified in the UFMC should be acquired throughout the training process and become finally shaped during the last session in the offices of the family clinical preceptors.

24. The 28 weeks will be distributed the following way:

<table>
<thead>
<tr>
<th>Training facility</th>
<th>Modules</th>
<th>Duration/days</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIH Chair of FM</td>
<td>1, 2, 3, 4, 5, 28, 29, 30, 31, 32</td>
<td>20</td>
</tr>
<tr>
<td>Children’s diseases clinic</td>
<td>7, 8, 2, 4, 5, 12, 23</td>
<td>20</td>
</tr>
<tr>
<td>Obstetrical-gynecological hospital, including maternity wards and women’s consultations</td>
<td>2, 4, 16, 10, 23</td>
<td>11</td>
</tr>
<tr>
<td>Therapeutical department of a multi-field hospital / internal diseases clinic / including intensive care unit</td>
<td>9, 10, 11, 13, 24, 32</td>
<td>12</td>
</tr>
<tr>
<td>Endocrine department / office</td>
<td>5, 6, 7, 8, 9, 10, 11</td>
<td>5</td>
</tr>
<tr>
<td>Tuberculosis clinic</td>
<td>7, 8, 9, 10, 11</td>
<td>4</td>
</tr>
<tr>
<td>ENT department / office</td>
<td>7, 8, 9, 10, 11</td>
<td>4</td>
</tr>
<tr>
<td>Gastroenterological department / office</td>
<td>7, 8, 9, 10, 11</td>
<td>3</td>
</tr>
<tr>
<td>Urological department / office</td>
<td>7, 8, 9, 10, 11</td>
<td>5</td>
</tr>
<tr>
<td>Cardiological clinic / department / office</td>
<td>25</td>
<td>5</td>
</tr>
<tr>
<td>Surgical clinic and traumatological clinic / department / office, reception ward, post-operative care block</td>
<td>17, 15, 24, 6</td>
<td>8</td>
</tr>
<tr>
<td>Mental diseases and psychological clinic / office</td>
<td>2, 4, 12, 23</td>
<td>8</td>
</tr>
<tr>
<td>Eye diseases clinic / office</td>
<td>26</td>
<td>3</td>
</tr>
<tr>
<td>Neurological department / office</td>
<td>23</td>
<td>5</td>
</tr>
<tr>
<td>Dermatovenerological department / office</td>
<td>7, 8, 9, 10, 11, 19, 22</td>
<td>5</td>
</tr>
<tr>
<td>HIV / AIDS center</td>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td>Genetics center</td>
<td>27</td>
<td>1</td>
</tr>
<tr>
<td>Family Medicine center / FP office</td>
<td>All the 33 modules</td>
<td>20</td>
</tr>
</tbody>
</table>
RESIDENCY

25. The duration of the residency program in UFMC is 36 months /including three months’ vacation.

LONG PERIODS OF TRAINING

26. Two months for public health, including health promotion, medical ethics, risk management, environmental and lifestyle risk factors, health screenings and statistics, health care organization, and economics.

27. Four months at a children’s diseases clinic, including half a month in the intensive care department and one month in the outpatient department of the clinic.

28. Three months at an obstetrical-gynecological clinic, including maternity ward, and one month in the outpatient department of the clinic.

29. Five and a half months at an internal diseases clinic, including one month in the intensive care department.

30. Two months at a surgical and traumatological clinic/department, including a quarter of a month in the intensive care department and half a month in the reception ward of the traumatological hospital and outpatient care of the patients.

31. Two months at a mental diseases and psychological clinic, including one month of outpatient care of the patients.

32. One month at an emergency care service.

33. Eleven months at the family medicine center (offices of family physicians).

SHORT PERIODS OF TRAINING

34. Half a month at an ENT clinic/department.

35. Half a month at an ophthalmologic clinic.

36. Half a month at a neurological department/office.

37. Half a month at a dermatovenerologic clinic/office.

38. Half a month for the methodology of scientific research work, clinical epidemiology, methods of statistics, data collection, assessment, and analysis with the use of simple computer programs.

SPECIAL COURSES

39. Within the frames of vocational training, the participation of the trainees in different seminars and conferences is desirable; in the future, when a credit system is implemented, such participation will be given certain credits.
11. REFERENCES

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ENDNOTES


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55 Ibid.


