PRIMARY HEALTH CARE DEVELOPMENT IN THE REPUBLIC OF ARMENIA AND PERSPECTIVES FOR ENHANCEMENT, 1997-2002

Master of Public Health Thesis Project Utilizing Problem-Solving Framework

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Yerevan, Armenia

October 2003

Acknowledgements

This study has been undertaken as my master of public health thesis project and examines the area of primary health care in Armenia and developments in the scope of the Armenian health care reform carried out during the period of 1997-2002. The study is directly linked to my professional practice in the World Bank Health Project Implementation Unit at the Ministry of Health, which main activities are in the domain of the primary health care reform.

Hereby I gratefully acknowledge the contributions of people who assisted me throughout my studies at the American University of Armenian and in the process of my thesis project. Particularly, I wish to acknowledge the enormous support of my primary and secondary advisors Dr. Krikor Soghikian and Dr. Robert McLean who assisted to bring this paper to fruition and were gracious in offering their time and insights regarding the concept and directions of primary care.

The assistance of the Public Health Faculty of the American University of Armenia is greatly acknowledged. In particular I would like to thank Associate Director Dr. Michael Thompson and Teaching Associate Yelena Amirkhanyan for their essential contributions during my study.

Executive Summary

Primary health care (PHC) is an essential component of an effective and efficient health care system. It is the basis of an effective health care system because it can address the large majority of the health problems present in the population, and achieve the main objectives of health care: high quality care, including desired health outcomes; patient satisfaction; and efficient use of resources.

Since 1995, the Republic of Armenia (RA) has introduced health care reforms focused on PHC. The reforms are necessitated by several factors: excessive centralization of management, sole reliance upon state funding, the limited framework of health care objectives and medical services, the exaggerated number of health care providers and medical facilities, and their inequitable allocation. These factors resulted in health care and medical science falling behind that of developed countries.

To increase the quality and effectiveness of PHC, the concept of "family medicine" (FM) was introduced in Armenia, and training and retraining programs for family physicians and nurses were launched. So far, training sessions have been mainly theoretical: time and opportunities for practice have been limited. In addition, introduction of family medicine has not received adequate support from the health financing system. Trained family physicians, who should be rendering a broader circle of services compared to traditional PHC providers, do not have the necessary incentives to do so. State financing is insufficient and the capacity of family physicians to render fee for services is limited. Improving provider payment mechanisms and support of FM could be better were it not for the scarcity of state financial resources.

The goal of this research is to show the dynamics of PHC development in Armenia from 1997-2002, analyze the main problems still present in the PHC system, and describe current and potential intervention strategies. Based on the above analysis it is recommended

to introduce social workers into the interdisciplinary teams of PHC providers; create community nursing organizations for provision of home care of patients; introduce a compulsory referral system by family doctors to secondary level; add to the curriculum clinical instructions to reflect the practical needs of family medicine; improve the provider payment mechanisms in the area of primary care. These long-term initiatives will ultimately improve both access and the quality of health care services

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1. Statement of Problem

Primary Health Care (PHC) is an essential component of an effective and efficient health care system (1). It can address the large majority of the health problems present in the population. PHC is essential in achieving the main objectives of health care: high quality of care, including desired health outcomes; patient satisfaction; and efficient use of resources (2).

Almost 25 years have passed since the World health Organization's (WHO) Alma-Ata Declaration placed primary care at the top of the health policy program (3). Since then, the significance of PHC has been reaffirmed, in various ways: some countries have taken major steps to strengthen it, and some have based their health policies entirely on its principles. In another group of countries, probably the most numerous, continuous small-scale changes in the health systems have gradually increased the role of PHC (3).

General practice functions within primary care were described at the WHO meeting in Alma-Ata (1978) as follows (4):

> "*Primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination. It forms an integral part both of the country's health system, of which it is the central function and main focus, and of the overall social and economic development of the community. It is the first level of contacts of individuals, the family and community with the national health system bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process.*"

The World Organization of National Colleges, Academies and Academic Associations of General Practitioners/ Family Physicians (WONCA) defines a general practitioner as providing comprehensive care to every individual seeking medical care and arranging for other health service personnel to provide services where necessary. The notion

of comprehensive care distinguishes the general practitioner (GP) from all other health care workers, whether functioning in primary or secondary health care sectors (3). In the document, published by WONCA in 1991 (5), several requirements for general practitioners are listed:

- **Comprehensive care** To include not only curative care, but also rehabilitation, prevention and health promotion. It is not limited by gender or by diagnostic category.
- **Coordination** A responsibility to make available to individuals and families the differing resources of health care and a requirement to ensure the integration of GP services within an overall PHC system.
- **Information base** GPs should hold a well-defined set of clinical and personal skills
- **Accessibility** GP services are to be accessible and available to patients and other health care workers at all times.
- **Continuity** PHC addresses not only the treatment of one episode of illness, but the whole range of health care issues arising during an individual's life.
- **Resource management** The strategic position of the general practitioner implies a management role in the allocation of health resources.

The development of a PHC strategy, within the context of health care system reforms in the Republic of Armenia (RA), is based on the PHC concept adopted at the Alma-Ata conference in 1978 (6). As stated in the Lubliana Charter on "Health Care Reforms" (7), the main goal of health care is the improvement of the health of the population. As of 1996, 49 European countries, including Armenia, have accepted this charter (7). To reach this established goal, health care has to achieve the following objectives: (i) health promotion; (ii) prevention of diseases; (iii) early detection of diseases; (iv) treatment of diseases; and (v) rehabilitation (7).

During the last decade, the health care system of the RA has been in a difficult financial condition which, in turn, has influenced the provision of medical care, concerning both quantity, and in some cases, quality of services. This financial condition directly influences the relationship between the health care system and the community, and has brought about the need for reforms. Nevertheless, implementation of reforms is determined not only by the present difficulties, but mainly by the awareness of necessity in further development of the system (7).

The objectives of reforms in Armenia are similar to those of the European region countries, but scarce resources hamper their successful implementation. Failure of the reform effort is much more threatening both to patients and to doctors than reforms in affluent western societies. Uncontrolled expansion of doctors working in primary care has attracted an oversupply of poor doctors, a situation which a weak government has been unable to influence. The absence of control contrasts sharply with the situation in earlier years, and undermines the reform processes, which are badly needed for the improvement of equitable and high-quality health care (3).

Goal of Project

The goals of this research are to show the dynamics of PHC development in Armenia from 1997-2002, analyze the main problems still present in the PHC system, and describe current and potential intervention strategies. The main strategies of the European Region for PHC development will be reviewed in terms of their relevance to Armenia. Based on the findings of the research, recommendations will be made to improve the current situation, solve existing problems, and fill the gaps in the process of the PHC reform program in Armenia.

2. MAGNITUDE OF THE PROBLEM IN ARMENIA

2.1 Historical Background

Organization

PHC was historically provided by a network of rural ambulatory and urban polyclinics. These facilities were staffed by a mix of district therapists, pediatricians, ambulatory specialists (who were able to perform only the low level specialty interventions), feldshers, and nurses. Provision of PHC was fragmented with separate institutions for adult primary care, children's primary care, and women's consultancies. In 2002, the PHC sector in Armenia employed 1,335 district therapists, 1,121 district pediatricians, 2,207 polyclinic specialists, and 10,969 nursing staff; 44% of doctors and 27% of nursing staff worked in Yerevan (Table 1). (8)

Table 1: Correlation of PHC personnel and population in polyclinics of Yerevan, 2002.

	Total	N of population per one PHC provider
Physicians	2060 (44%)	485 adults and children
Nursing staff	2960 (27%)	337 adults and children

Data source: TNO Prevention and Health, 2002

The ratio of these providers to the population exceeded any international benchmark. According to international norms the minimum number of population to be served in PHC level is at least 1000 (8).

Because of chronic under-funding, low professional status and quality of PHC providers, and deteriorating infrastructure, the population tended to self-refer to hospital specialists (9). Hospital emergency departments have taken over part of the PHC workload; the number of ambulance calls from patients with chronic diseases is increasing (9). Strengthening PHC as an effective and affordable alternative for hospital based care has been one of the main Government reform priorities (9).

The main goal of PHC development is to improve the health of the population (1). Poor quality, accessibility, and level of PHC services in Armenia have led to a decline in population health status indicators (increased morbidity and mortality); it is anticipated that the enhancement of PHC level will contribute to improvement of these indicators (1).

Key Determinants

Health care reforms in Armenia are necessitated by several factors. Being a part of the former Soviet Health Care System, the health care system of the RA had some positive aspects as well as certain shortcomings. The main organizational shortcomings of the former system were the excessive centralization of management, sole reliance upon state funding, the limited framework of health care objectives and medical services, the exaggerated number of health care providers and medical facilities, and their inequitable throughout the country. These factors resulted in health care and medical science falling behind that of developed countries. This system, while seeming to have well-defined goals, that of creating the illusion of "free" health care, nevertheless limited the rights of people, as well as the rights of the system itself, and its possibilities for the development of the latter (7).

Hence, the previous PHC system had the following certain shortcomings in terms of provision of health care (7):

- Insufficient level of preventive measures;
- Insufficient quality of the provided health care;
- Passive role of district therapists, acting as dispatchers, referring patients to sub-specialists;
- Not considering a family as a unit, from the point of view of health care promotion, and as a result, separation of the adult, pediatric, and obstetric services;
- Overlapping of polyclinic and hospital specialists' activities;
- Intention to refer patients to in-patient care without any acceptable reason; and

- Lack of financial incentives for the development of services.

Introduction and development of PHC system is expected to eliminate these shortcomings. The PHC system is the main link of services when a person first applies for medical assistance. At this level, with a limited number of simple and cheap technologies and equipment it is possible to improve the health of a person, family and community through preventive, curative and rehabilitation measures (7).

3.2 Current PHC System

Health Care Reforms

Since 1995, the Government of Armenia has implemented a health care reform policy. The health care reform strategy is explained in detail in the 1995 Minister of Health's "Program on Development and Reforms of the Health Care System of the Republic of Armenia, 1996-2000." (6) The 1996 "Law on Medical Aid and Services to the population" provides a legal framework for the implementation of the strategy (6).

Particularly rapid and profound changes are under way in the organization and financing of health care in Armenia. Due to the rising costs of health care, some of these changes are intended to control the growth of expensive, specialized services and to favor the development of PHC. During the decline of public health spending during 1996-1998, utilization declined more for PHC services than for hospital care, reflecting the poor quality of PHC (9). One of the main objectives of health care reforms is to make primary care available to the whole population, regardless of economic status and geographic location (1). Because cost is the major concern of health care reforms, PHC is seen as desirable, since it is effective and less expensive (2).

The reform of the health care financing system currently under way will provide for the necessary financial incentives for health care providers. New reimbursement mechanisms

are being worked out by the State Health Agency (SHA) in the scope of health care financing reform aimed at establishing a sustainable and effective financing system (6).

PHC development in Armenia is closely linked with the implementation of the other components of the reform strategy. The RA Government committed an optimization program in the health care system on February 5, 2001 (10). Optimization of the Armenian health care system and matching the health care needs of the population is very important to improve the efficiency and quality of health care services. In particular, optimization of the number of hospitals, hospital beds, and human resources and the reduction of hospital patient load will enable the Government to direct the released funds to the primary care level, thus contributing to its development. Development of appropriate fields, such as family medicine and community nursing stipulated by the optimization program is another essential component underlying the improvement of the PHC system. According to this program family physician (FP) is the core of the PHC system and contains the main scope of activities of FPs taking into consideration the optimization issues (10).

Legislation

Several regulatory documents have been developed and approved during 1997-2002 period that form the legal framework for introduction of family medicine in Armenia (8):

- The Law "On Medical Care and Services Provision to Population" (04.03.1996) in which Article 2, paragraph A defines primary medical care as "a free for everybody and state guarantied type of medical care based on the most accessible (affordable) methods and technologies".
- Decree # 375 (28.06.1999) on approval of the "Temporary provisions of the FPs and FNs" based on which the educational and licensing programs were established.
- Decree "Final (confirmed) provisions of FPs and FNs" (14.02.2001) defines the rights, responsibilities, professional skills and job description of both professions.

- The procedures, established by Decrees #186 (2001) and #121 (2002) of the Minister of Health, define the minimal, optimal, and maximal numbers of population to be served by a FP and a FN and the main principles of their work based on the above mentioned "Provisions of FP and FN".
- The agreement signed between the World Bank (WB), Armenian Social Transition Program (ASTP), and Yerevan municipality on the selection of polyclinic 17 of Yerevan as a family medicine teaching facility (approved by Decrees #255 (13.04.2001) of the Minister of Health and # 71 (16.04.2001) of the Mayor of Yerevan. Polyclinic 17 has been chosen because it has an adult as well as a pediatric department. The location of the polyclinic is in the center of the city and therefore convenient for teaching students in family medicine and in nursing coming from the FM chairs. The Yerevan Municipality Health Department, the polyclinic administration, and its staff are willing to become pioneers of family medicine in the Republic of Armenia. The 8 family doctors, working already in polyclinic 17, will be teaching family medicine to future family doctors in parallel with their daily activities.
- This master plan does not involve dental care (8).

Education and Training

To increase the quality and effectiveness of PHC, the concept of "family medicine" (FM) was introduced in Armenia, and training and retraining programs for family physicians and nurses were launched. So far, the following results have been achieved in this respect (10):

- Family Medicine Chairs were established at the National Institute of Health (NIH), Yerevan State medical University (SMU) and Basic Medical College (BMC);
- About 300 family physicians and 200 family nurses (FNs) were trained and qualified;
- Statement and 127 clinical guidelines for FPs, and 56 guidelines for FNs have been developed and published;

- 81 rural ambulatory clinics, FP offices were constructed/renovated and equipped;
- Clinical sites for practice and training of FPs at Policlinics N 1, N 17, and “Erebuni” have been established in Yerevan.

Although FM was introduced in Armenia nine years ago, the concept is still not well understood. Now, as pilot group practices are launched and GPs begin to be introduced into Armenia's health system, strong and informed advocacy is essential. Unfortunately, few medical professionals in the country have been trained in FM. Programs for preparing medical students as FPs, however, are designed and currently operate. The NIH admits FM residents to two different courses. The first course is an eleven-month retraining program for currently practicing therapists and pediatricians with substantial clinical experience. The second course is a two-year training program for newly graduated physicians from the SMU (11). In addition, since 2000, the SMU has offered a two-year residency in family medicine (12).

FM education programs for nurses in Armenia are not currently as advanced as FM education programs for physicians. There are two principal programs for FN education in Armenia: (i) a certificate program at BMC for new medical college graduates and (ii) a training program at the NIH for nurses currently practicing in Yerevan and rural areas (11). The World Bank has acknowledged that, "Current FM education programs in Armenia produce graduates who are unable to perform many of the tasks and procedures that are fundamental to the practice of FM." (13)

The main problem in this area is the lack of clinical training bases. If training continues at its current pace, 10-15 years will be required to reach the necessary number of FPs. So far, training has been mainly theoretical and time and opportunities for practice have been very limited (10). Furthermore, practical studies have been at inpatient facilities and not in outpatient ones. To cover this gap in the clinical training base, Polyclinic 17 in Yerevan is

being reorganized as a clinical training site for FPs. One can only judge its success after at least one year of operation (currently the polyclinic is being renovated). (10)

Financing

The indicators below characterize the status of the health system financing in the Republic of Armenia during the period from 1997 to 2002.

Table 2: Indicators of health care financing during 1997-2002

#	INDICATOR	1997	1998	1999	2000	2001	2002
1	Gross domestic product (GDP)*, drams billion	804.3	955.4	987.4	1031.3	1175.5	1357.3
2	Public sector health spending (target) as % of GDP**	1.5	1.9	2.1	1.9	1.5	1.2
3	Public sector health spending (actual) as % of GDP**	1.2	1.3	1.2	0.8	1.0	1.2
4	% of public expenditures on health as a % of total health expenditures**	16.9	22.3	20.8	14.5	n.a.	n.a.
5.1.	Planned state budget for health, in drams billion**	12.3	17.7	20.5	20.3	18.2	16.3
5.2.	Actual state budget expenditure on health, in drams billion**	9.5	12.8	12.4	8.8	13.7	16.0
5.3.	Share of planned health expenditure in total state budget, in %**	8.1	8.3	7.0	6.4	7.5	6.2
5.4.	Share of actual health expenditure in total state budget, in %**	6.4	6.3	5.4	4.0	6.4	6.1

Data source: * - Armenia Statistics Yearbook, 2002, National Statistics Service
** - RA Ministry of Finance and Ministry of Health data, expert estimates.

As the data above show, consistent progress in the Armenian health financing situation was not seen for the period from 1998 to 2002. The actual share of health expenditure in GDP fell from 1999 to 2000, down to about 0.8%, and tended to increase again in 2001-2002 to 1.2%. There remains a gap between planned and actual state budget health expenditure: during the period from 1997 to 2002, the health sector was never once completely funded. During 2001-2002 the absolute volume of health system financing increased, and, in 2002, health budget spending reached 98% of its planned level (10). In 2002, the bulk of budgetary arrears built up in the past were cleared.

However, this analysis shows that the Armenian health system financing situation remains extremely strained, and that, compared to the 1990s, significant progress has not been reported (10).

As a result of the current financing situation, the introduction of FM does not enjoy adequate support from the health financing system. Trained family physicians, who should be rendering a broader range of services compared to traditional PHC providers do not have the necessary incentives. The basic benefits package (BBP), a package of publicly funded health care programs financing, is insufficiently funded, and the capacity of family physicians to render fee for services is limited. Improving provider payment mechanisms and introducing family medicine could be better were it not for the scarcity of financial resources, the irregular and delayed disbursement of funds from the state budget, and the build-up of arrears (10).

Shortcomings

Despite the fact that numerous international and local organizations are actively working at the PHC level, implementing projects that provide humanitarian assistance or technical support to train medical specialists, raising awareness within the population, and improving health care organization and management, the situation is still far from satisfactory. Some shortcomings still hinder the effectiveness of the PHC system. A fundamental problem in PHC is access, which has become excessively difficult for a large segment of the population due to its inability to pay out-of-pocket for health care services (14). Other problems that currently exist on the PHC level are the following: deterioration of facilities and technologies in the PHC sector; low level of provider knowledge of clinical issues and of awareness of health issues; lack of incentives and mechanisms to implement preventive activities; distrust and alienation of the population from primary health care (8).

3. Potential Strategies for Primary Health Care Improvement

European Experience

Most countries in the WHO European Region have introduced reform in their health care systems. However, their motives vary widely. Most western countries are primarily concerned with the increasing share of gross domestic product spent on health care, without a proven improvement in health outcomes (15). But the problems created by the increasing proportion of elderly people in their populations, with a new perspective on the mixed social and health care services that they need at home and in the community, would be enough to justify the concern about the growing costs of care. Another factor is the impact of new medical technology, which expands the range of available interventions, increasing survival and citizens' expectations. In such a context, concerns about how to ensure the most efficient use of resources and to improve effectiveness and quality, without losing achievements made in equity during the last four decades, govern the reforms initiated in this group of countries. PHC is seen as a possible means of providing first-contact care to most people at lower cost: care that is flexible and delivered close to where people live and work (15).

Health care reforms are not following the same path everywhere in the Countries of Central and Eastern Europe (CEE). In Poland, the reforms started with legislative changes, then move to implementation regulations, then to analysis of the results (15). In Romania, the approach seems one of learning by doing: several districts, with about a tenth of the country's population, are testing different models before an overall legislative change is made (15).

Meanwhile, the central and eastern countries of the Region are more concerned with the introduction of market economy mechanisms in health care, and taking account of social aspects of human health that were rarely addressed in the past (15). General practitioners are given increased independence, and the citizens are given the freedom to choose their medical care providers. Providers, in turn, reasonably search for increases in their income. The risk

that these changes will result in a drastic reduction in equitable access to health care in relation to need, and an increasing demand according to purchasing capacity, cannot be overlooked (15).

PHC reform strategies are mainly focused on changes of the following three aspects of the system: (i) organization of PHC system, (ii) types and training of physicians (FPs, internist, pediatrician) and nurses that offer services, and (iii) financing mechanisms (15).

3.1 Organization of PHC

Teamwork

Family medicine or general practice is one of the main components of PHC services. Medical practitioners devoted to PHC are agents for health, dedicating their energy and professional skills to care for the human being, irrespective of age or gender, at home, in the community and in the hospital. Exactly how the practitioner does this depends mainly on the precise organizational arrangements made in each country (15). Throughout the European Region, PHC providers work either in groups (in health centers, group practices or outpatient clinics) or in solo practices. Different organizational settings can influence the way providers work. Working in a group creates an environment that facilitates but does not ensure effective teamwork (15). Though solo practice is declining there are still many countries in which it is the norm, with more than two-thirds of general practitioners working by themselves (Austria, Italy, Poland, Switzerland and Belgium). (3) In some countries of Eastern Europe doctors have moved their places of work away from polyclinics to establish themselves in solo practice (3).

The countries of Southern Europe, such as Spain and Portugal, have had a public medical care system based on ambulatory clinics in towns and solo practices in rural areas (15). Italy has the tradition of GPs working in private solo practices, and Greece has powerful

health insurance organizations that provide care through solo practices and polyclinics. Although there was no teamwork within the first-contact health services before the reforms were enacted, Portugal, Spain and Greece developed a new model for PHC services based on health centers and multidisciplinary teams (15). Table 3 shows the composition of such teams.

Table 3. Composition of PHC teams

Country	Team
Greece	GP, pediatricians, nurses, a dentist, and social workers (in a few health centers)
Portugal	GP, nurses, a dentist and social workers (in a few health centers)
Spain	GP, pediatricians, nurses, social workers and a dentist (in some regions)

Data source - Primary Health Care Reforms. WHO, 1996

In general, PHC teams in this region are responsible for addressing the health problems of the population in a limited geographic area. Each professional has some responsibilities for health promotion, disease prevention, cure, and rehabilitation (15). Even with the perspective of teamwork, each of these three countries keep a special interest in maintaining a personal approach to health care delivery. Each GP or pediatrician has a list of patients and works closely with a nurse in a basic care unit. Portugal has a structure closer to an ideal general practice definition; GPs take care of children, as well as adults, thereby covering all population groups. In Spain and Greece, however, pediatricians care for children under the age of 14 (15).

Health teams have one or two coordinators, a physician and a nurse, who emerge from the professional group. Coordinators were previously appointed by agreement between the administration and the team itself, but now are more often appointed by the health

administration alone. This change is intended to increase coordinators' management responsibilities and the health teams' autonomy in carrying out its responsibilities (15).

In the countries of Central and Eastern Europe (CEE), such as Poland, Romania, and Slovenia, family medicine represents an ideal model in which newly trained general physicians specialize after graduation, as in many western countries (15). PHC clinics in Poland have the same teams of personnel as before the reforms: GP, pediatrician, gynecologist, dentist and community nurse. Team composition in smaller clinics depends on who is available (15).

In Romania, GPs also work in teams with nurses, social workers, gynecologists and sometimes pediatricians. GPs are in charge of the following: acute and chronic diseases, disease prevention, health promotion, rehabilitation, epidemiological control, and health education (15).

In Slovenia, PHC services are organized in health centers. Every community has a health center, which serves the needs of its population. The central team is composed of a GP and one or two nurses. If there are two nurses, one works in the office and the other - the district nurse - performs preventive work and takes care of chronically ill and disabled people at home. The district nurse is relatively independent of the GP and she can provide care autonomously (15).

The conditions, which promote effective teamwork, depend primarily on good working relationships between team members. These relationships start with respect for each other's professional position. It is essential that the general practitioner appreciate the expertise of his/her team members. Teamwork has become increasingly important with the increase in specialization. Advances in medical technology will increase the need for super-specialization but will also increase the importance of team care and coordination of health care efforts. The size of the team and distribution of skills must reflect the needs of the

population served. A young population with a high birth rate will require relatively more midwives, whereas an elderly population may call for more home care givers. If teamwork is to be effective, boundaries of responsibility are needed. The coordinator of the team (or team leader) needs sufficient authority to function effectively. One drawback of group practices is the necessarily large size of the associated primary care team. Teams have to contain a sufficient range of skills but they can become too big. As mentioned under strategies, family physicians can also work in solo practice. This is especially typical for isolated rural areas where the opportunity of group practice is limited (3). The main disadvantages of solo practice are that the coordination and the potential for continuity of care among different care providers are poor (15).

Gatekeepig Role

GPs throughout the European Region have a gatekeeper's role, but they can achieve their true effectiveness in this role only if they have the necessary training, time, and facilities to perform a good consultation (15). Hospital admission rights for GPs are uncommon in Europe. In the United Kingdom, a few general practitioners have hospital admission privileges. In Finland and Croatia, some of the larger health centers have facilities for admitting patients to small wards (3).

The professional relationship between the GP and specialist is dependent on the referral arrangements to specialists. There are four models of access from primary to secondary care in relation to the gatekeeper. Exclusive GP control of the first model; this applies in both national health systems and in private medicine. This model is generally applicable to Denmark, Italy, Netherlands and the United Kingdom (3). In the second model, access to secondary care is controlled by primary care but the authority to refer is vested in several primary care workers; not only the GP but, for example, also community pediatrician, community gynecologist, midwives, etc. This model exists in Spain (3). In the third model,

hospital admission officers exercise control. Such an arrangement exists in Germany. In this model, the admitting officer is responsible for admitting the patient to the appropriate specialist within the hospital. There is no coordination with primary care and indeed, patients may have independent access to ambulatory care specialists. In the fourth model there is no control at all, patients may go to whomever they choose (3).

For practical purpose a gatekeeper role is operational in the first and second of the models described in the strategies, where exclusively GPs or PHC team control the referral to secondary care. It is only in these models that the GP can give any form of health care coordination or continuity. Access by referral from primary care will have followed some preliminary assessment, resulting in only some patients being referred. This group will include those who are more seriously ill, and those who perhaps pressured their doctors in primary care to such an extent that the referral is initiated in order to gain reassurance either for them or for the patient. Competence is therefore important in the determination of referral (3).

Home Care

Home care is a strategy to provide health care at home for patients who are chronically sick. Homecare strategies vary in different countries. While hospital-based health teams cover home care in Italy, the approach to these activities involves professionals at health centers in the other three countries of the southern region (Spain, Greece and Portugal). Unfortunately, there is no evidence of the effectiveness and efficiency of these strategies, due to the difficulties of determining appropriate outcome indicators. The life expectancy of these patients is short, and palliative care has limited outcome objectives (15). The Spanish experience shows that the ordinary PHC team could carry out home care activities (16).

Home care, as a part of functions of GPs, requires special attention for several reasons: the rapid aging of the population, the decreasing number of hospital beds and the lack of facilities for long-term care, the increasing number of people with chronic health problems, and the loss of autonomy that people suffer when they are unable to move freely outside their homes (15). Home visiting therefore is an essential part of the general practitioner's function. It creates extra opportunities to assess patients' needs in relation to their living situation and, as such, provides valuable additional information for patient management. Many other professionals in PHC team could fulfill this role. Much of the home visiting for health care screening of the elderly in the United Kingdom is undertaken by practice nurses (3).

Some arguments against home visits need to be considered (17). There is first the issue of the extra time involved. Fleming (18), in a review of doctors' working arrangements, reported that doctors considered home visit equivalent in terms of time to three surgery consultations. This argument indicates that a home visit should not be made as a substitute for a surgery consultation unless there are good reasons at the time for considering the particular home visit necessary. The economic argument is also strongly against doctors making home visits. In some circumstances, opportunity to examine a patient thoroughly is not available in the home, the equipment is restricted to what is carried in the doctor's case, and facilities to wash hands before and after a consultation are sometimes not satisfactory (3).

3.2 Education and Training of FM Physicians and Nurses

A doctor cannot function without an adequate knowledge base. In this regard, knowledge of the disease process, natural history and epidemiology are fundamental (3). In most countries medical graduates can no longer enter general practice without previously following a qualification process of formal education and training leading to official

recognition as specialists in the field. European Union (EU) Directive 93/16/EEC requires two years of full-time training in general medical practice (15).

Undergraduate Education

Portugal compared with Spain, Italy and Greece, has the most advanced PHC-oriented undergraduate teaching policy. Four of its five medical schools have departments or chairs of general practice and their curricula include PHC topics. The other three countries have no general practice departments, and PHC topics are only included in lectures on public health. Resistance to change has come from many university professors who remain too focused on the hospital. Spanish legislation, however, obliges every university to have at least two associated health centers, and nearly all medical, nursing and odontology students have a stage of practical training in PHC. In Slovenia, the reform introduced an undergraduate course of study lasting six years in 1994. The sixth year includes seven weeks of general practice. The proposed solution to the problem of undergraduate education is the establishment of an institute for FM. There is consensus on its importance and necessity (15). However, this does not seem to be a right approach, as it leads to more fragmentation of medical care. All GPs need basic medical education and then specialize as in many western countries.

Postgraduate Education

Entry into general practice now involves vocational training in most countries. The EU directive of 1993 made a minimum two-year period of vocational training obligatory (3). Greece, Portugal and Spain have very well established three-year vocational training for GPs and Italy recently developed a two-year course. In Spain, a specialty in general practice appeared just after the Declaration of Alma-Ata introducing a comprehensive approach to public PHC services. For this reason, the word "community" was added to the specialty's

name. GPs with specialty training are formally called specialists in family and community medicine. Great emphasis has been put on training in community techniques. This focus is believed to have contributed to greater acceptance of the PHC teams' community involvement (15).

In Poland, an Institute of Rural Medicine, established in the 1960s, offers courses and specialization in general and community medicine at present. Regional training units, based in medical academies and in cooperation with selected teaching hospitals, organize postgraduate training for PHC physicians and nurses who want to become family medicine specialists, or simply to improve their qualifications. In 1993, a three-year residency program similar to the system used in the United Kingdom was introduced (15).

Continuing Medical Education (CME)

CME policies are to introduce practicing GPs to recent developments in medicine and to new PHC topics, such as disease prevention and health promotion, quality assurance, and management. In Italy some regional health authorities have developed community-oriented CME programs for GPs (15). In Portugal and Spain, for GPs who have had more than five years of practice in the PHC setting, administrations are developing national CME projects. GPs work in the mornings as trainees in a teaching health center and attend afternoon lectures on PHC topics, such as epidemiology, statistics, quality assurance and the management of common acute and chronic diseases. The GPs who succeed in a final evaluation receive the diploma of the specialty of family and community medicine (15).

Nurses and Midwives in PHC Sector

Nurses and midwives are key members of PHC teams. They are the largest group of health workers in the Region, about 5 million, and are a major force for good in the delivery of first level of care. Nurses are trained and organized in various ways according to the health

systems in the different countries of Europe, but in every country they give care to individuals, families and groups. Nurses work with people of all ages, giving holistic care, in the context of the family, including social, psychological and physical aspects, to people both in hospital and ambulatory settings. The latter include; community hospitals, health centers, health clinics, dispensaries, first aid posts, schools and workplaces (15).

In many countries nurses undertake further education to enhance their skills and extend their practice. Feldshers are registered nurses who have a longer training that enables them to practice independently. In countries where there are not enough doctors, particularly in rural areas, the feldsher may be the health professional responsible for delivering PHC in the community (15).

The influence of nurses is increasingly acknowledged by member states of the European Region. All agree that the role of the nurse needs strengthening. The entire nursing infrastructure in these countries (leadership, education, practice development and institutional role) needs to be improved if nurses are to become effective participants in PHC teams (15).

Midwifery is a separate profession in many countries, independent of nursing. Midwives give preconceptual advice, including family planning; provide antenatal care; conduct normal deliveries in the hospital and the community; care for the mother and baby postnatally; encourage the establishment of breastfeeding, or formula feeding if this is the considered wish of the mother; and advise on care of the infant (15).

3.3 PHC Providers' Payment Mechanisms

A major element of the current policy of PHC is the change in the financing of health care (15). The three major types of providers' payment are (3):

- Fee-for-service - payment is made for each service, according to an established fee-schedule. This method is used widely in the United States, Belgium, France, and Germany;

- Capitation- where at least the bulk of the payment is based on the number of people cared for rather than services provided; this system predominates in the Netherlands, Italy, and the United Kingdom;
- Salary - a contractual arrangement where payment is made according to the hours worked; this system is used in Finland, Sweden and Norway, and in many parts of the world outside Western Europe.

Countries are identified by the predominant system of payment. In most, there are elements of more than one of the above methods. In Austria and Denmark, for example, there is a mixed system of capitation and fee-for-service; in the United Kingdom some services attract fees and there is a basic practice allowance but the general practitioner's income is largely determined by the capitation component (3).

In the Central and Eastern countries of the European Region, provider payment methods are changing as countries discuss and implement reforms ranging from (i) the direct payment of providers by global budgets and salaries in a vertically integrated system, in which the providers are public employees, (ii) to the direct payment of providers by contracts based on capitation or fees for services in a social insurance system, in which providers are independent professionals. The speed of change varies between countries (15).

The most sudden and dramatic reform was the wholesale conversion of the state health care system of the former German Democratic Republic (GDR) to a social insurance contract system in 1991, after the unification of Germany. Prior to unification, although patients could choose their physicians, the physicians were paid by salaries. With the reform of the system, GPs are now able to choose between continuing salaried service or accepting fee-for-service payment, as do their colleagues elsewhere in Germany. As a result, many polyclinics have closed and GPs work in solo practices (15).

Each PHC providers' payment method has its strengths and weaknesses. The capitated payment method, that covers services for one inhabitant person over a certain period (usually one year), facilitates prospective budgeting, gives provider incentive to minimize the cost of treatment, and to carry out preventive activities. The weaknesses of capitation fees are that the provider may reject high cost patients and select patients based on risk, and may under serve admitted patients. Moreover, it is difficult to analyze provider's practice. Another provider payment mechanism is salary, which is usually based on an employment contract between the provider and the health fund. Based on this, the provider is paid monthly salary by the health fund. The employee is paid on a time basis, not for the quantity of services provided. Administratively, it is the simplest method and facilitates potential budgeting, but can easily create incentives for providers to under serve patients, and reduces efficiency (19). Fee for service is the most common method of payment and the most "market-like". Providers are paid for each treatment or product they provide. The weakness of this payment mechanism is that fees or prices may be uncontrolled or based on an established fee or price schedule. The main strength is that the provider's reward is closely linked to his/her level of effort. However, it may create incentives for excessive and unnecessary treatment (19). A general practitioner who obtains a fee for service is less likely to refer the patient for someone else to provide that service. Under a capitation payment system or salary, it can be in the general practitioner's interest to refer patients to the specialists, since this action can be regarded as security in the event of patient dissatisfaction (3).

4. POLICY AND PRIORITY SETTING

The key government health policy plan of the past ten years of transition includes: (i) strengthening of primary health care; (ii) implementation of health care financing reform to create incentives for efficient functioning and population's access to essential health care

services, in particular for vulnerable groups; and (iii) optimization of extensive health services network (9).

The PHC strategy aims at securing access to quality basic health services, in particular for the poor and in rural areas. The strategy includes: (i) integrating separate directions of primary health care functions (children, adults, and women consultancies) within the role of the family doctor; (ii) strengthening the qualifications and skills of the PHC providers through training and retraining family physicians and nurses, and developing practice guidelines; (iii) improving infrastructure for essential health services in rural areas; (iv) putting in place appropriate financing mechanisms; (v) increasing community ownership and responsibility of PHC services; and, (vi) increasing share of public expenditures for PHC (9).

According to the current health care policy family physicians together with community nurses should form the basis of primary care. Initial steps toward this end have already been taken. The training of FPs is being implemented and the first FPs have graduated. The family physician should lead and direct the referrals of patients to specialist care (secondary care). He/she should act as a “gate-keeper”. The introduction of a referral system by FPs will reduce the process of applying for expensive specialist care when it is not necessary. In case specialist care is needed it is important that the specialist refer the patient back to the primary care level as soon as specialist care is no longer indicated. The referral to tertiary care by FPs is also very important; however this will be often based on consultations with specialists and the results of laboratory tests and/or other diagnostic examinations (8).

Ministry of Health of Armenia proposed to set the following norms for FPs starting from the year 2001: minimum number of the population served is 1000 (300 children, 700 adults), optimum number is 2000 (700 children, 1300 adults) and the maximum number is 2500 (800 children and 1700 adults). Based on these rates, Yerevan needs 650 FPs assuming that the population is approximately 1.260.000 and the optimum size of a practice is 2000. (8)

PHC services in Armenia will be provided by the PHC team. During the transition period the PHC team will consist of the following providers: FP/GP, pediatrician, gynecologist, nurse and midwife. However, in connection with the development of the social and economic conditions of the Republic, the team composition can be reviewed. (6). Services that will be provided by the Armenian PHC team are the following: health education; maternal and child health care, including immunization and family planning; prevention and control of endemic diseases; identification of the social, environmental, demographic, and psychological risk factors for disease, and development of preventive measures directed towards health promotion for the population; diagnosis, treatment and rehabilitation for health problems; medical assistance in emergency situations; and social services (11).

International experience shows that general practice can be strengthened by the establishment of group practice. In terms of feasibility in Armenia, teamwork is preferable, since minimum 10 years are required to train sufficient FPs to be able to replace all present physicians of the polyclinics. For the time being teams of internists, pediatricians and gynecologists would be able to provide FM both for adults and children, until there is sufficient FPs with the ability to manage all age groups. The necessity of including a social worker into the PHC team in Armenia should be emphasized, based on the experience of most European countries. Although social work is independent of health care, it is nevertheless highly relevant to general practice because of the social impact of the problems presented to GPs (3). The PHC team has the responsibility to help the community solve its own health problems (20). Social workers do not currently function in the Armenian health care system. In 1993, a Social Support Department was established within in the Ministry of Social Affairs. However, its personnel are not fully professionally trained. Personnel from the Department have little or no knowledge of health care (8).

In Armenia, community nursing care does not exist to provide adequate home care. In addition, sufficient funds are not available for home care. Community nursing care organizations could be established to provide care at the homes of patients who need nursing care and some medical interventions that can be delivered by specially trained nurses, for which direct supervision (presence) of physicians is not required. Patients who need home nursing care are often oncology patients, patients after a stroke, after surgery, disabled patients after traumas, etc. Nurses and nurse aids working in these organizations provide nursing care (treating wounds, washing and dressing patients, preparing medicines, etc) at the homes of patients, alleviating the tasks of untrained family members by rendering professional assistance and often, moral support to the families (8). Still, the matter of home visiting remains very relevant and national health care policy is needed to define the requirement and to finance it appropriately.

Joint cooperation between the Ministries of Health, Education and Social Affairs is needed to eliminate the barriers for improving home care and including qualified personnel of social workers into PHC team. Special attention should be paid to the improvement of the current legal framework for the successful implementation of the above priorities in PHC system.

FPs and FNs are currently being produced through postgraduate training programs implemented at NIH, SMU and BMC. NIH also carries out CME courses for FPs. The medium term (2003-2004) PHC reform strategy, in terms of FM education sets the objective of accelerating training and retraining process of FPs and FNs; the total need for family doctors is estimated to be 1500-2000 (11). Training of FPs and FNs is an expensive activity, which the local Government cannot afford. Continuous support of international donor organizations is required for further education of FPs and FNs. Taking into consideration the

existing over supply of human resources in other areas, a certain number of specialists maybe retrained to FPs and FNs as a less expensive and faster way of recruitment of professionals.

The reform of health care financing system that is currently under way will provide new funding mechanisms for reimbursement of PHC providers. The PHC providers' team will contract with the State Health Agency (SHA) according to which services will be provided within the framework of the BBP. Payment for these services will be carried out according to the principle of capitation (6). It is anticipated that the future family doctor will act as the financial and logistic manager of the PHC team and contract with the SHA regarding services implemented by teams within the framework of the state order. Team members will be paid by contracts with the manager from the sources allocated for them by the Government. The manager will be accountable to a council for his/her activities. The council will be made up of family doctors. However, it would be appropriate to include also community member nurses into the council. In rural areas, FPs' teams will be located mainly in ambulatory clinics. The family doctor will be the manager of the team. The team will contract directly with the marz branch of the SHA. For services outside the National Health Care System, the patient will pay himself, on the basis of a fee-for-service system (6).

Considering advantages and disadvantages of the 3 payment methods in terms of feasibility in Armenia, a combination of capitation, fee-for-service and salary systems could be used for reimbursement of health care providers to produce incentives, encourage certain behaviors and penalize inappropriate health services provision models.

The PHC teams will be given the opportunity to work independently from the polyclinics and establish private offices (6). Solo private practices, as well as private group practices, may be located in the current polyclinic buildings, using the available services and equipment of the polyclinic on a contractual basis, which could be more efficient than starting and equipping their own building. It would be expedient if family physicians organized their

activities in the current polyclinics, because the space could be allocated to them without remuneration, by long-term rent, or by privatization (8).

5. Specific Recommendations

Based on the discussion of the outlined strategies, their strengths and weaknesses, potential benefits, technical and political feasibility, and easiness of implementation in Armenia the following actions are recommended:

1. Continue strengthening Family Medicine. This long-term initiative will ultimately improve both access and the quality of health care services.
2. Enhance quality, efficiency, and responsiveness of PHC by the use of interdisciplinary teams; it is recommended that the team concept of primary care be adopted whenever feasible.
3. Include in the PHC team social workers, as social workers also form an essential group of professionals in primary health care. Close cooperation with social workers, especially in early stages, may be of great benefit for the people concerned and will lighten the burden on primary medical care providers.
4. Create community nursing organizations for provision of home care of patients who need nursing care and some medical interventions that can be delivered by specially trained nurses, for which direct supervision (presence) of physicians is not required.
5. Regulate the process of applying for specialist care by introducing a system for referral by FPs only (general internists/pediatricians at present).
6. Provide additional training and technical assistance to FPs and FNs designed to increase the understanding and advocacy of FM training and practice.
7. Add to the training programs clinical instructions to reflect the practical needs of FM.
8. Retraining of a certain number of existing health care professionals to FPs and FNs.
9. Establishment of regional cites of training of FPs and FNs.

10. Increase the amount of time devoted to FM in the curriculum of the medical school.
11. Determine the existing health status of the population and monitor any changes over time during PHC strengthening period, as health status changes are the most important product of health care system functioning.
12. Continue licensing and accreditation initiatives of FPs and FNs, with the Ministry of Health taking the lead role.
13. Improve the provider payment mechanisms in the area of PHC. In addition to capitation payment, other methods such as fees for certain services (maternal and child health care, health promotion/prevention activities) could be instituted to create a financial incentive system for FPs and enable them to shift from the expensive hospital care to more cost-efficient primary care services.

6. Implementation and Evaluation

Many of the actions recommended in this report are intended to shape changes already under way, rather than to mark the start of new efforts. If primary care is to be strengthened in the direction indicated by this paper simultaneous actions would be required of many parties. A comprehensive strategy that deals with the many interrelated dimensions of PHC seems more likely to succeed. Focusing on needed changes one at a time is unlikely to be as successful. Actions must be focused toward a common objective, and they must be mutually reinforcing. For example, changes in education for primary care are unlikely to bring about desired changes in the practice of primary care unless the changes are reinforced by the organization and financing of services (2).

The effects of the proposed interventions can be seen only after a long time, so it may be difficult to evaluate their effects shortly after implementation and to assign any given effect to a particular intervention. One can quantify underuse and overuse of services as well

as technical and interpersonal quality in primary care settings. The effectiveness of the recommended actions can be evaluated by measuring each attribute of primary care, such as accessibility, comprehensiveness, continuity of care and resource management, as well as determining the impact on outcomes such as health status improvement, patient satisfaction, use of services, and costs of care (2).

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