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**APPENDIX A**

**THE SOVIET LEGACY AND HEALTH STATUS IN ARMENIA**

## THE SOVIET LEGACY AND HEALTH STATUS IN ARMENIA

During its years as a Soviet republic, Armenia maintained a relatively strong economy and its people were known to be among the most educated and longest living in the Soviet Union. Consistent with Soviet policies, Armenia considered health care a public responsibility. Universal access to health care, financed by the state, was a major goal. From the 1940s until the mid-1970s, Armenia and other socialist republics achieved better health outcomes than other countries with similar levels of income, due in part to strong public health measures, such as compulsory childhood immunization. Beginning in the late 1970s, however, health status indicators for the socialist republics showed no further improvement, and adult health indicators started to worsen.<sup>1</sup> In the transition years, as the Soviet Union collapsed and Armenia and other newly independent states struggled to gain their footing, health status indicators throughout the region continued to stagnate. In some cases, as in the Russian Federation, they deteriorated even further.

With the collapse of the Soviet Union in 1991, Armenia declared independence. Shortly thereafter its industrial base collapsed and the economy crashed. The Soviet-style, centrally directed economic system broke down and widespread poverty ensued. Armenia and Azerbaijan declared an uneasy border war cease-fire in 1994, but by then the economies of both countries were already crumbling. Armenians speak of the winter of 1995–96 as being their hardest time after the collapse; many trees were cut to supply heat as no energy was available. Even today, Armenia and Azerbaijan continue to suffer because of their inability to make any substantial progress toward a peaceful resolution.<sup>2</sup>

In the wake of the Soviet collapse, Armenia inherited a health system that was overstaffed, outdated (by Western standards), and inflexible. With no Soviet protection and its economy in ruins, Armenia's government was no longer able to maintain the system or guarantee free health care for all of its people. The country's economy and its health system continue to struggle, and the results can be seen in the health status of the Armenian people.

### LIFE EXPECTANCY IN THE SOVIET UNION

From 1985 to 1987, life expectancy in the Russian Federation appeared to be on the rise, increasing from just under 68 years to 70 years, most likely from a reduction in deaths from accidents and violence, alcohol-related causes, heart disease, and pneumonia, especially among those aged 40–45 years. But as the Soviet Union collapsed, these gains were lost; life expectancy dropped markedly. By 1994, life expectancy in the Russian Federation had fallen to 64 years, down nearly six years from its 1987 high. At the time, an authoritative panel of demographers reported that Russian men lived 15–17 years less than men in Western Europe, while Russian women lived 7–10 years less.<sup>3</sup> Life expectancy rates in many Eastern European and former Soviet Union countries are compromised: they should be about 0.5–4 years shorter, according to the severity of underreporting of infant mortality rates (see next section). For example, if a country reports a 72-year life expectancy but 2 percent (20 per 1,000 births) of the infant deaths

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<sup>1</sup> Belli, Paolo, *Ten Years of Health Reforms in the ECA Region: Lessons Learned and Options for the Future*, The World Bank, May 2000, p. 3.

<sup>2</sup> Armenia, *The World Fact Book*, Government Guide, America Online.

<sup>3</sup> Presidential Commission on Problems of Women, Family, and Demography, 1997, *The Current Mortality Situation of the Population of Russia*, as cited by Belli, P., The World Bank.

are not reported, in that birth cohort (life expectancy at birth), the corrected life expectancy would be  $72,000/1,020 = 70.6$  years.

While the drop in life expectancy in Russia was particularly dramatic, it was indicative of a trend occurring at the time throughout Eastern Europe and the former Soviet Union. With the exception of Slovenia, the Czech Republic, and Poland, life expectancy either stagnated or worsened everywhere in the region during that period, with the leading cause of death being cardiovascular disease.<sup>4</sup> In Eastern Europe, ischemic heart disease, cerebrovascular disease, and lung cancer accounted for one third of total years lost. Death by injury and alcohol-related self-poisoning were also common. In contrast, in the Central Asia region, communicable diseases, perinatal, and maternal causes constituted 53 percent of the total burden of disease.<sup>5</sup> (Burden of disease is based on the evaluation of disability-adjusted life years [DALYs].<sup>6</sup> In the DALY methodology, as developed through a collaborative effort between Harvard University and the World Bank, each medical condition is evaluated on the basis of the loss of productivity due to disability or premature death.)

## **ISSUES OF WOMEN AND CHILD HEALTH**

In the decade following the Soviet Union's collapse, female death rates from cardiovascular disease increased and still remain significantly higher than rates in the European Union (98 per 100,000 in the former Soviet Union compared with 33.1 per 100,000 in Europe).<sup>7</sup> There have been sharp increases in lung cancer among women due to increased smoking. Throughout the region there are inadequate screening and prevention programs for cervical and breast cancer. Abortion remains the dominant method of birth control, with the average woman living in the former Soviet Union experiencing three abortions during her fertile life, with even higher levels in some areas. The abortion rate in Armenia, for example, was 627 per 1,000 live births in 1995. In the same year, neighboring Azerbaijan reported a staggering 2,199 abortions for 1,000 live births, the highest rate in any country.

Although there has been some improvement over the last decade in maternal and infant mortality rates in the former Soviet Union, overall rates remain high, but with considerable regional variation. Maternal mortality averaged 41 deaths per 100,000 live births in former Soviet Union countries, with a low of 17 per 100,000 in Lithuania, to 44 per 100,000 in Kyrgyzstan, up to 96 per 100,000 in Tajikistan. In Eastern Europe, Romania had 67 deaths per 100,000, while Bulgaria had 10.43 and Hungary 12.58 per 100,000. In 2000, Armenia's maternal mortality rate was reported to range from 52.5 to 81.7 maternal deaths per 100,000 live births, which would be one of the highest in the former Soviet Union.

Relatively good performance in the former Soviet Union's officially reported infant mortality rates have not been confirmed by survey-based evidence or other closely related indicators. The Soviet Union officially reported most infant mortality in the first 6–7 days of life as miscarriage. As a result, even today, infant and child mortality rates in many of the Eastern European and former Soviet Union countries are underreported.

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<sup>4</sup> Belli, Paola, pp. 4–5.

<sup>5</sup> *Ibid.*, p. 5.

<sup>6</sup> The World Bank, *World Development Report 1993*, p. 213.

<sup>7</sup> *Ibid.*, pp. 6–7.

The under-5 mortality rate in Russia, for example, is 3–4 times higher than in developed countries, and has worsened considerably over the last decade. In addition, in the Caucasus and Central Asia, the cases of undefined diarrheal disease, meningitis, infectious mononucleosis, rubella, and influenza have sharply increased, an indication that infant mortality rates have probably deteriorated rather than improved.

## **LINGERING ISSUES OF LIFESTYLE AND NUTRITION**

There is strong evidence that lifestyle factors—alcohol and tobacco consumption, diet, stress, and lack of exercise—account for changing patterns of mortality and morbidity throughout the former Soviet Union, including Armenia. A 1997 WHO study estimates that one quarter of all worldwide deaths attributable to tobacco occurred in former Soviet countries. Middle-aged men in the region were twice as likely as those in Western Europe to die of tobacco-related causes. In 1995, tobacco caused an estimated 41 percent of all deaths among men aged 35–69 years. Sharp fluctuations in alcohol consumption during the period make it difficult to identify trends, but in a 1997 study of disability-adjusted life years, alcohol was ranked second only to tobacco as the leading cause of lost years of healthy life.<sup>8</sup>

The impact of nutrition on health status in the former Soviet Union has been poorly studied, but three aspects of the issue were noted in a World Bank study.<sup>9</sup> Undernutrition is becoming a problem for poorer and more vulnerable segments of the population, micronutrient malnutrition is evident in iron and iodine deficiencies, and overnutrition of high caloric, fatty foods could explain the relationship between income per capita and adult male mortality rates.

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<sup>8</sup> Murray, Christopher, and Alan Lopez, “Global Mortality, Disability, and the Contribution of Risk Factors: Global Burden of Disease Study,” *The Lancet*, v. 349, May 17, 1997, pp. 1436–42. Cited in Belli, Paola, p. 9.

<sup>9</sup> Belli, Paola, p. 10.

**APPENDIX B**

**CHANGING ROLES AT  
NATIONAL AND LOCAL LEVELS OF GOVERNMENT**

## **CHANGING ROLES AT NATIONAL AND LOCAL LEVELS OF GOVERNMENT**

The Armenian health system became part of the public administration decentralization process in the mid–1990s. Decentralization in Armenia has both functional and geographical aspects, and has been associated with the political decentralization for attaining representative democracy. Decentralization has been performed in several types, including strengthening lower levels of the health system, local government, more autonomous institutions, establishment of executive agencies (State Health Agency), and the introduction of nongovernmental service providers.

Three levels of governance were introduced in the administrative reform: national, marz, and local. The national level in health is represented by the MOH. The marz level is represented by the governors (as owners of public facilities), and the marz health departments as administrative units in health system issues. Heads of local governments represent the local level.

The responsibilities of the three levels of health administration are outlined below as they are stated in the Armenian government’s regulatory and legal documents.

### **Responsibilities of the Ministry of Health<sup>10</sup>**

- Elaboration and implementation of state health care programs
- Population’s primary and specialized health care
- Drafting legal acts related to health care
- Financing organizations and institutions under the MOH
- Licensing of medical and pharmaceutical activities
- Centralized procurement of drugs and medical equipment
- State registration of drug and control of its quality

### **Responsibilities of the Governor (Marzpet) for Health Care<sup>11</sup>**

- Implementation of public health care programs, organization of the activities of health care facilities subordinated to the marz, ensurance of the provision of free health care services to the population as envisaged by the law, and control of whether the performance of private health care facilities is consistent with the legislation
- Undertaking and implementation of epidemiological and quarantine measures, undertaking of sanitary-hygienic measures to prevent infectious and mass noninfectious diseases and poisonings
- Support of the public sanitary-epidemiological service in control of the community water supply and the sanitation of dwelling houses, schools, and other places
- Management of the construction, maintenance, and utilization of health care facilities subordinated to the marz

<sup>10</sup> From the charter of the MOH. See *Legal Analysis: Issues Related to Organization and Delivery of Health Care in Armenia*, ASTP, PADCO, November 2000, p. 6.

<sup>11</sup> Paragraph 1.17 from the decree.

### **Activities of the Community Head in the Sphere of Health Care, Physical Training and Sports<sup>12</sup>**

The community head, as delegated by the government, performs the following function: support to the sanitary-hygienic, epidemiological, and quarantine measures undertaken by health care entities.

In the above-mentioned fields, the community head has the following optional responsibilities:

- maintenance of sanitation and better health of the environment, and
- contribution to the development of physical training and sports in the community, construction of playgrounds and other sports facilities, and the creation of recreation zones.

Only the national level MOH has defined roles in health policy, health system strategic development, regulation, drug policy, and management. MOH's authority in decision-making extends to budget planning, resources allocation, and price regulation for the health system. The MOH has an operational budget for carrying out these defined roles.

The marz level government operationalizes national health programs. Additionally, the marz has a great degree of responsibility in controlling epidemiological situations, especially communicable diseases.

The budget process does not support the decentralization of health management to the marz level, making this level of governance of weak sustainability. There are no marz-level health budgets in the state finance system, and marzes have no decision in resource allocations. Within such a financial structure, the central government has to commit to equalization of resource allocation across marzes and delegate to the marz level some role in the justification of health resource requests, according to demographic, epidemiological, and technological needs and specifics in health care.

The present financial mechanism determines marz dependence on central funding (from the Ministry of Finance and Economy) relative to the ability to convert authority for health system oversight into effective practice. Hence, marz governments and their health departments have mainly administrative tools for executing oversight and management roles. Marz health departments act as intermediaries for the MOH in carrying out central government policies and regulations. Being separated from the purchasing function, marz governments associate their power in governance with ownership authority. However, if privatization of health institutions evolves, marzes will require more regulatory power to represent the population's interests in the health sector.

It is uncertain whether the marz represents a sustainable governance level, and if the new cycle of public administration reform will address this issue.

Local (community) governments, in contrast with marzes, collect local taxes and other revenue and have their own budgets. The ability to combine decision-making with financial means makes local governance operationally strong. However, there is an

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<sup>12</sup> Article 35 from the Law on Local Governance.

opinion that community governance is of too small a scope and capacity to represent their relatively small populations.

A different aspect of decentralization is the process of autonomization of health facilities. The decentralization effort removed all but a few tertiary facilities from MOH management and transferred ownership authority to marz-level departments of health and local authorities. Institutions gained greater autonomy but also became more responsible for their own financial sustainability. They were not given the knowledge or tools to successfully fulfill their new responsibilities.

The legal framework also needs to be in place to support decentralized authority. Functional decentralization did not occur in conjunction with the legislative power transferred to regional levels (there is no national assembly at the marz level), which is understandable for a relatively small country like Armenia. A legal framework should provide for marz government authority to make decisions and take responsibility for the population's health through active involvement in resource allocation (at least). Funding from the State Health Agency is based on a centralized decision line (MOFE to MOH to the State Health Agency), and in absence of practices in contract negotiation, marz governments are excluded from funds allocation to the populations and providers in their jurisdictions.

The decentralization program in Armenia can best be described as divestiture and abdication. Secondary hospitals and clinics were essentially cast adrift by the Ministry of Health. Many were left with poorly maintained facilities and inoperable equipment. They were saddled with debt and left to gather much of their own financial resources. Local governmental authorities, at the marz and municipal levels, were given no instructions, authority, or finances to help them understand or fulfill their new responsibilities. At present, there is no balance between the national and local levels.

**APPENDIX C**

**PROBLEMS WITH INFANT MORTALITY, PERINATAL MORTALITY, AND  
PREMATURITY DATA**

## **PROBLEMS WITH INFANT MORTALITY, PERINATAL MORTALITY, AND PREMATURITY DATA**

Conflicting definitions of live birth in Armenia over the years makes the reported infant mortality rate unreliable. Under the Soviet system, if a low birth weight baby died during the first 6 days of life, the baby was classified as miscarried. Since 1995, some of the obstetrics/gynecology departments have tried to correct the definition of live birth so that it matches that of the WHO, which considers a live birth any infant who has any sign of life (a breath, heartbeat, or movement of voluntary muscles). The changed definition is not yet practiced nationwide. For example, the director of Yerevan's Obstetrics and Perinatology Hospital has ordered the reporting of live birth any infant over 500 g who has taken a breath, but believes that some doctors, out of laziness, incorrectly report the newborn as less than 500 g because they do not want to be bothered with an autopsy. The director of maternity at the Number 1 Hospital Complex, Vanadzor, waits until infants less than 1,000 g have survived 6 days before reporting the birth as live, apparently unaware that the definition has changed. Since facilities and equipment for infant resuscitation are limited (no surfactant or parenteral feeding is available and predelivery corticosteroids are never used), it would be rare for one of these babies to survive. As an example, Lori Marz Maternity had a bluish and clearly dehydrated 2-day old, blue 900 g baby in the nursery that was not registered and looked like it would not survive. The baby was not sucking and the hospital had no infant gastric tubes, breast pumps, or infant formula, let alone total parenteral nutrition.

The DHS recall method for infant mortality would most likely lead to a slight underestimate of the number of live infants, since mothers are often not very aware of what happens in the delivery room and fathers are not present, and memory of events declines over the years. A greater underestimate would be expected for the most distant time (1986–90) due to recall being poorer in the more remote past. If anything, the improvement would be even greater than reported. The Armenian Ministry of Health infant mortality rates are much lower, and appeared to have leveled off at about 15–16 deaths per 1,000 live births; however, in reviewing these data, the leveling off is from an increasing rate of early neonatal deaths (0–6 days).<sup>13</sup> The increase in the previously unreported neonatal deaths reflects the beginning of correcting the definition of live birth. The leveling off trend, therefore, is an artifact, whereas the true trend is decreasing infant mortality.

### **PERINATAL MORTALITY AND PREMATURITY**

Perinatal mortality (the sum of stillbirths and deaths in the first 6 days per 1,000 pregnancies of 7 months or more—an excellent measure of prenatal care) at Erubouni Hospital, a graduated program of AIHA, dropped from 24 perinatal deaths per 1,000 pregnancies in 1995 to 11.2 in 2001. During this period, Erubouni has an intensive prenatal, antenatal, and obstetrical delivery training intervention (with education and equipment from AIHA). Erubouni probably has the lowest perinatal mortality in Armenia. The National Statistics Service and the MOH report approximately stable rates of perinatal mortality during this same seven-year period, between 15.6 to 16.3 and

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<sup>13</sup> WHO, *Highlights on Health in Armenia, 2001* and *Health Statistics Annual, 2000*.

between 22.9 to 23.7 per 1,000 pregnancies, respectively.<sup>14</sup> The DHS 2000 survey reports an average rate of 28.9 in the five-year period of 1995–2000. Neonatal deaths in the same survey were 26.2 per 1,000 live births for the previous 10 years. Erubouni Maternity Hospital could be a model for what the entire country can achieve, but now that it is a private hospital, much of its recent improvement in decreasing perinatal mortality may be associated with the socioeconomic status of the patients served.

Prematurity is another indicator associated with infant mortality and quality of prenatal care. The Armenian government gives an 8.4 percent prematurity rate (an increase from 6.3 percent in 1990, less than the United States), but this number is unlikely to be accurate because of the poor reporting in the first 6 days of life. The director of the Center of Perinatology, Obstetrics and Gynecology suspects that low birth weight and prematurity is closer to 20 percent, but it is unclear how such an amount of miscounting could be possible. The 1997 Italian survey reported that 7.8 percent of births were babies of less than 2.5 kg in weight. The DHS 2000 survey obtained information on birth weight on 95.7 percent of births (births at home are less apt to have weight measured); this survey estimated 6 percent low birth weight births (which is a lower percentage than in the United States). Six or 7.8 percent seems too low, given the high infant mortality of Armenia; perhaps this is partially explained if Armenia has a low percentage of small-for-gestational-age babies. In general, small-for-gestational-age babies, stressed in the womb by such factors as undernutrition or nicotine exposure, survive better than premature low birth weight babies. Information about level of maturity is not available in Armenia. In any case, with such disparities in low birth weight estimates, no clear trend in birth weight can be ascertained.

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<sup>14</sup> Mkrtchyan, Ararat, *New Trends in Armenia Health Care*, Akop Megapart, Yerevan, 2001, table 1.22.

**APPENDIX D**

**FETAL INFANT MORTALITY AND  
MATERNAL MORTALITY REVIEW TEAMS**

## **FETAL INFANT MORTALITY AND MATERNAL MORTALITY REVIEW TEAMS**

Each marz health department could use help in setting up its own fetal infant mortality review (FIMR) system; these are becoming more and more common in American and Western European health departments. (FIMRs in the United States have a semiannual national meeting in Washington, D.C., in late summer; it might be helpful to send an Armenian doctor or doctors to this meeting.) FIMR uses a continuous quality improvement approach in which the object is not to punish or penalize but to try to make the system easier for the best infant survival rates by examining case reports and conducting additional interviews. It should be an educational process performed on a regular basis, such as every month or two. Reporting marz information to the ministry, perhaps in an annual meeting, is an important way of communicating problems in the regions and getting local and national health workers to work and think together on a common problem. However, caution, education, and perhaps facilitation is necessary to teach the nonconfrontational approach to solving these problems—a system that would be quite foreign to Soviet-trained medical doctors and department heads. AIHA might consider an urban health department exchange with a marz health department to help start such a process.

One way to improve quality control (and data gathering) in obstetrical care is to develop a maternal mortality review team, similar to the FIMR discussed above, in which all maternal deaths are fully investigated. Romania has such a system in place, run by the oblast/government health promotion office (the former SanEpid). Since Armenia only has 8–28 maternal deaths per year, a national maternal mortality review board could be formed, meeting 2–4 times per year. Membership might include district and local doctors doing delivery, obstetrics/gynecology nurses and midwives, a few of the best obstetricians in the country, and perhaps some international NGO family medicine physicians or obstetricians who are familiar with this process. The object of such a review board is to practice continuous quality improvement around obstetric care. For example, with each case, members of the board would gather information collected from the woman's family and hospital or emergency room records. They would then make recommendations on how to avoid similar deaths in the future. The object is not to condemn or punish for malpractice, but to determine ways to institutionalize improvement and decrease maternal mortality. The FIMR is more common in western countries and could be instituted at the marz level in Armenia; they often review cases with obstetric problems.

**APPENDIX E**

**DATA ON MATERNAL MORTALITY AND INFERTILITY**

## DATA ON MATERNAL MORTALITY AND INFERTILITY

For 2001, eight maternal deaths were reported. These numbers, having low absolute values, make maternal mortality rates unstable and trends difficult to detect. The best estimates of Armenia's maternal mortality is a three-year average, which would include over 100,000 live births. The maternal mortality rate would still be high—about 46 per 100,000 for 1998–2001. If trends for maternal mortality are determined by averaging two to three years so that at least 100,000 live births occurred, then it would appear that there was a sharp decline in maternal mortality immediately after independence (1991–92), which does not seem likely (see data below).

If the 2000 data point was dropped, it would appear that the maternal mortality rate has stabilized in the last seven years. However, since maternal mortality is more likely underestimated than overestimated, dropping this data point does not seem reasonable.

### Trends in Maternal Mortality, Abortions, and Infertility in Armenia

Year	Number of Maternal Deaths	Number of Live Births	Number of Abortions	Number of Newly Identified Infertile Women
1984	26	79,767	33,383	
1985	18	80,306	33,896	
1986		81,192		
1987	32	78,492		
1988	22	74,707	29,628	
1989	26	75,250	27,220	
1990	32	79,882	28,307	799
1991	18	77,825	30,418	
1992	10	70,581	30,049	
1993	16		29,723	
1994	15	51,143	33,636	516
1995	17	48,960	33,388	565
1996	10	48,134	25,869	542
1997	17	43,929	19,035	553
1998	10	39,366	14,747	527
1999	11	36,502	12,080	480
2000	28*	34,276	11,400*	943
2001	8	32,000*		

Asterisk (\*) indicates preliminary data or data estimated from other information.

Sources: 2000 *Statistical Report Book*, MOH, Armenia, and 1997 *UN Fertility Publication*. Recent information is from the director of Maternal and Child Health, MOH, Armenia.

**APPENDIX F**

**TUBERCULOSIS, WHO'S DOTS STRATEGY, AND RECOMMENDATIONS  
FOR ARMENIA**

## TUBERCULOSIS, WHO'S DOTS STRATEGY, AND RECOMMENDATIONS FOR ARMENIA

The current incidence for tuberculosis in Armenia is 43 per 100,000 (Health Statistics Yearbook 2000, after adjusting for 2001 census). This rate has leveled off in the last three years,<sup>15</sup> but this leveling is probably an anomaly because of the incorrect estimate of denominator population. Tuberculosis incidence is less than the average for the other CIS countries; it has been lower since the dissolution of the Soviet Union, but the rate of increase is the same as or higher than the other CIS countries. The percentage of multidrug resistant (MDR) tuberculosis for any segment of the Armenian population is not known. (The team did not have time to visit the GTZ program on tuberculosis eradication, which may have some idea on resistance.) It is possible to try to extrapolate from neighboring Georgia for an expected MDR tuberculosis rate of about 10 percent.<sup>16</sup>

The first line strategy to decrease tuberculosis is the DOTS program; only 39 percent of Armenia's tuberculosis cases are diagnosed and treated through the DOTS program. WHO<sup>17</sup> defines the five key components of DOTS as:

- government commitment to sustained tuberculosis control activities;
- case detection by sputum smear microscopy among symptomatic patients self-reporting to health services;
- standardized treatment regimen of 6 to 8 months for at least all confirmed sputum smear positive cases, with directly observed treatment for at least the initial 2 months;
- a regular, uninterrupted supply of all essential antituberculosis drugs; and
- a standardized recording and reporting system that allows assessment of treatment results for each patient and of the tuberculosis control program overall.

Although DOTS is a first step in combating tuberculosis, this strategy has two major drawbacks. The first problem is that standard DOTS has no capacity to diagnose/treat MDR tuberculosis. The CDC has articulated this concern:<sup>18</sup>

Mathematical modeling suggests that MDR TB needs to be aggressively managed, since the WHO DOTS strategy for control of drug-susceptible TB is not sufficient to control this deadly variant of TB. Given the increasing trend toward globalization, transnational migration, and tourism, all countries are potential targets for outbreaks.

In response to this concern, WHO has developed DOTS-plus as a supplement to the standard DOTS treatment for countries with have more than 4 percent MDR tuberculosis

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<sup>15</sup> 2000 Annual Statistical Report, Armenian Ministry of Health, *Health in the Republic of Armenia 2000*, Official Statistics Data, Yerevan.

<sup>16</sup> National Tuberculosis Program of Georgia, brochure, "Tuberculosis Control in Georgia, 2002."

<sup>17</sup> <http://www.who.int/gtb/publications/whatisdots/summary.html>

<sup>18</sup> [http://www.cdc.gov/nchstp/tb/notes/TBN\\_2\\_01/IA.htm](http://www.cdc.gov/nchstp/tb/notes/TBN_2_01/IA.htm)

and fully implemented DOTS. DOTS-plus is still in the pilot phase worldwide. Although Armenia no doubt meets the need criteria, its 2000 rate of 39 percent of tuberculosis cases detected and treated through DOTS<sup>19</sup> disqualifies it from piloting DOTS-plus. Furthermore, the government of Armenia still does not have enough antituberculosis medication to assure full treatment nationwide, let alone second-line antituberculosis medication.

The second major problem with the DOTS (and DOTS-plus) strategy is that it treats only active diseases, and tuberculosis has significant latency. WHO estimates that one third of the world's population is infected by tuberculosis (the vast majority with latent disease).<sup>20</sup> By the time a patient becomes symptomatic he/she has already infected other people (all the more so in populations like Armenia, where limited health care access decreases timeliness of diagnosis). The U.S. National Institutes of Health has expressed concern for the limitations of DOTS because it treats only patients with active disease. An NIH conference concluded that by treating only active cases, decades are needed to significantly reduce the incidence of tuberculosis.<sup>21</sup> A better practice in a population like Armenia's, where the community infection ratio is sufficiently low for most transmission to be within the household,<sup>22</sup> would be to check sputum smears for symptomatic household members (for possible DOTS) and give nonsymptomatic household members (directly observed) INH prophylaxis against conversion to active tuberculosis.<sup>23,24</sup> Another good practice in combating tuberculosis is sputum smears for anyone with an undiagnosed cough of more than 2 weeks, but this would require one of the inexpensive diagnostic methods (which are also used for quick MDR tuberculosis testing) discussed below.

The diagnostic capacity for tuberculosis in Armenia is so poor that diagnosis is often based solely on symptoms. Additionally, prevalence of antituberculosis drug resistance is for the most part unknown (despite asking people at Armenia's CDC and WHO); therefore, Armenia must also be lacking in the capacity to determine MDR tuberculosis and drug susceptibility. Currently, two inexpensive, functional products for rapid tuberculosis testing and drug susceptibility testing, which would be particularly useful in Eastern Europe and the CIS, are available: MODS<sup>25</sup> and MABA.<sup>26</sup> A physician at Johns

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<sup>19</sup> WHO Report, 2002 *Global Tuberculosis Control: Surveillance, Planning Financing*, WHO/CDS/TB/2002.295, at <http://www.who.int/gtb/publications/globrep02>.

<sup>20</sup> Details at [http://www.cdc.gov/nchstp/tb/notes/TBN\\_2\\_01/IA.htm](http://www.cdc.gov/nchstp/tb/notes/TBN_2_01/IA.htm).

<sup>21</sup> NIAID, *The Global Burden of Tuberculosis, Blueprint for Tuberculosis Vaccine Development*, at <http://www.niaid.nih.gov/publications/blueprint>.

<sup>22</sup> Madico, G., Gilman, R.H., Checkley, W., Cabrera, L., Kohlstadt, I., Kacena, K., Diaz, J.F., and Black, R., "Community Infection Ratio as an Indicator for Tuberculosis Control," *Lancet* 345(8947):416-9, February 18, 1995.

<sup>23</sup> Comstock, G.W., Baum, C., Snider, D.E. Jr., "Isoniazid Prophylaxis Among Alaskan Eskimos: A Final Report of the Bethel Isoniazid Studies." *American Review of Respiratory Disease*, 119(5):827-30, May 1979.

<sup>24</sup> NIAID, *The Global Burden of Tuberculosis, Blueprint for Tuberculosis Vaccine Development*, at <http://www.niaid.nih.gov/publications/blueprint>

<sup>25</sup> Caviades, L., Lee, T.S., Gilman, R.H., Sheen, P., Spellman, E., Lee, E.H., Berg, D.E., and Montenegro-James, S. "Rapid, Efficient Detection and Drug Susceptibility Testing of Mycobacterium Tuberculosis in Sputum by Microscopic Observation of Broth Cultures." The Tuberculosis Working Group in Peru. *Journal of Clinical Microbiology*. 38(3):1203-8, March 2000.

<sup>26</sup> Franzblau, S.G., Witzig, R.S., McLaughlin, J.C., Torres, P., Madico, G., Hernandez, A., Degnan, M.T., Cook, M.B., Quenzer, V.K., Ferguson, R.M. and Gilman, R.H. "Rapid, Low-Technology MIC

Hopkins Bloomberg School of Public Health, International Health Department, has developed MABA, which can test for tuberculosis and resistance in a couple of days (as opposed to regular culture which takes 2–3 weeks). This test has been cited for its usefulness, sensitivity, and reproducibility in several journals. For humanitarian reasons of keeping the costs down, the physician has not patented or sold the methodology (materials cost about \$1 per individual); hence, no company or agency is actively promoting the product.

Once past the infectious stage (at which time a tuberculosis patient must be hospitalized), an eventual goal would be to utilize the family physician (or a specially trained family practice nurse) to conduct and document directly observed treatment of tuberculosis, which should be part of their training.

Tuberculosis, specifically MDR tuberculosis, is perhaps the greatest health threat in the world today. Unlike AIDS, there is essentially no protection from tuberculosis; you can become exposed by walking down the street. Both the NIH and the CDC in the United States have made strong statements about the need for a real plan of attack. USAID, particularly in Eastern Europe and the CIS, needs to have a cohesive plan of support for the effort to eradicate tuberculosis. Discussion of this plan is beyond the scope of this report.

**APPENDIX G**

**INFORMATION ABOUT THE NUTRITIONAL STATUS OF  
ARMENIAN CHILDREN**

## INFORMATION ABOUT THE NUTRITIONAL STATUS OF ARMENIAN CHILDREN

When considering the nutritional status from the earlier CDC studies to the most recent DHS, the nutritional status of children in the country is improving. However, since the relevant data are unavailable from CDC, it is necessary to look at the data that are available. The World Food Program (WFP) survey showing a worse situation may be related to an unaccounted for seasonal factor (September would be before the harvest and the winter slaughter of animals for meat), or as WFP suggested, due to a sampling error. The Italian study found 4.2 percent wasting ( $\pm 0.7$  percent delineates the approximate 95 percent confidence interval) and 12.2 percent stunting ( $\pm 1.5$  percent), whereas the more recent DHS study found 2.3 percent wasting ( $\pm 1.0$  percent) and 15.5 percent stunting ( $\pm 2.4$  percent); the study was conducted at the time of year when food is most plentiful. For significant differences, the 95 percent confidence intervals should not overlap. Wasting has a significant improvement (decrease) but stunting has no significant change.

The DHS does not have large enough numbers of children in individual marzes to accurately report malnutrition rates by marz, so larger numbers of children measured in the high-risk marzes would be helpful. Knowledge of whether or not seasonality of malnutrition exists in Armenia, as implied by the results of the WFP survey, is important for the planning of nutritional assistance programs. A better idea of anthropometrically defined malnutrition status in Armenia would entail taking measurements of about 500 children 4 times a year in a few of the marzes that appear to have consistently higher malnutrition rates (such as Gegharkunik, Ararat, parts of Yerevan, and Shirak). An alternative list of where children under 5 are likely to be malnourished would be some clusters from the list recently compiled by ORC Macro. Such surveys could be implemented relatively easily at the time of the UNICEF vaccination programs, given the measurement instruments and education on how to use them.

The DHS showed a surprisingly high percentage of acute malnutrition only in Kotayk Marz, but only 69 children under 5 were measured. As a general rule, at least 100 children should be measured in each age group for anthropometric measurements to merit presentation of a single population group. This accounts for the need to break down data by 12-month age group; otherwise the data are misleading.<sup>27</sup> In a short visit to Kotayk and Gegharkunik marzes, Kotayk did not have clear evidence of malnutrition, whereas some undernourished children in Gegharkunik were observed. Interestingly, when one reviews the calculated sampling error for Kotayk, the standard error of weight-for-height is more than 4 times the amount of most of the other marzes, and the 95 percent confidence error is much wider than the other marz. The percentage of children with weight-for-height less than 2 standard deviations of the reference median in Kotayk was 10.5 percent, but the 95 percent confidence interval of 1.4 percent to 19.5 percent includes the national average of 2.3 percent. Most of the weight-for-height 95 percent confidence intervals range from 0 to 5 percent. Hence, increased variation of measurement in Kotayk Marz probably explains the high wasting rate.

Unfortunately, data from the Italian and WFP studies are not broken down by age. In most countries, the wasting for the 12–23 month old age group would be about 3 times

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<sup>27</sup> WHO, *Guidelines for Measuring Nutrition*, Geneva, 1985.

the percent of wasting for all children 24 months and older.<sup>28</sup> The DHS does give anthropometric nutritional status measures broken down into smaller age groups. Indeed, the percent wasting for 12–23 month olds (4.5 percent) in Armenia is more than 3 times the percent of wasting among 24–59 month old children (1.3 percent). The DHS sampling error by age group is not given, but among 0–59-month-olds, 2.3 percent have wasting, with a 95 percent confidence interval equaling from 0.9 to 3 percent, so the difference in percent wasting between these age groups (12–23 months and 24–59 months) is probably statistically significant. Children 12–23 months old generally have more wasting than the other age groups for several reasons: 1) this is the weaning age group and their gut is exposed to a variety of new bacteria (causing worse and more frequent diarrhea), 2) children of 1 year are not able to make their hunger known or to fend for themselves to obtain food, and 3) parents often make uneducated weaning food choices, with little protein for these children. The age group of 6–12-month-old children in poor countries often has similar, although not as severe, wasting problems, as seen in Armenia.

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<sup>28</sup> W. Keller and C-M. Fillmore, *WHO Statistics Quarterly*, 1982.

**APPENDIX H**

**APPROACHES TO A PUBLIC/PRIVATE MIX IN  
HEALTH SERVICES DELIVERY**

## APPROACHES TO A PUBLIC/PRIVATE MIX IN HEALTH SERVICES DELIVERY

### Range of Approaches for Private Sector Involvement in Health Services Delivery

Approach	Application
Contracting Out or Outsourcing	Purchase one or more services from a private source. Examples range from clinical laboratory services to laundry services. More ambitious examples include contracting with an NGO for management of a district health system, as in Cambodia.
Procurement	Purchase supplies or materials from private sources. Common examples include drugs, medical supplies, equipment, and food. This is usually most beneficial when a large volume of the item is needed.
Lease and Rental Arrangements	Securing the use (but not the ownership) of facilities or equipment from a private source. Items are usually capital intensive, such as x-ray equipment.
Subsidy	Direct or indirect financial support to a private source, intended to alter or enhance the provision of a selected service. Direct subsidies include grants and budgetary support.
Franchise	A private contractor is granted the right to provide a specified service to specified clientele, usually in a defined geographic area. A fee from the contractor may be required.
Licenses and Permits	Through regulation, a private provider is authorized, by license or permit, to provide specified services.
Nongovernmental Organization (NGO)	A private, independent agency usually operated as nonprofit, with a narrowly defined range of services.
Proprietary Enterprise	A private independent agency owned by a private individual or a group of private investors.
Privatization and Autonomization	Privatization is selling or turning over ownership of public assets to private ownership. Autonomous institutions may remain under public ownership but may not be able to rely on governmental support except through contractual arrangements (as with decentralized facilities in Armenia).

*Source:* Taylor, Robert, 2002, unpublished

**APPENDIX I**

**PREVENTIVE MEDICINE SERVICES**

## PREVENTIVE MEDICINE SERVICES

### Typical Preventive Medicine Services Offered at the Primary Care Level

- Immunizations
- Nutritional status evaluating and monitoring (including screening for anemia)
- Prenatal care with screening (sexually transmitted infections and anemia, giving vitamins and iron supplementation)
- Supporting/encouraging breastfeeding and correct weaning practices
- Postnatal care
- Disease prevention and risk factor counseling
- Preventive examinations for tuberculosis and sexually transmitted infections
- Cancer screening
- Hypertension and cholesterol screening and control
- Family planning services
- Depression and mental health screening
- Smoking cessation
- Diabetes screening and screening diabetics for common complications
- Advice on healthier lifestyles
- Detection/isolation/reporting of transmissible diseases
- Child developmental screening

**APPENDIX J**

**A STEP-BY-STEP APPROACH  
TO PRIMARY HEALTH CARE AND FAMILY MEDICINE**

## **A STEP-BY-STEP APPROACH TO PRIMARY HEALTH CARE AND FAMILY MEDICINE**

### **1. Define the providers of family medicine.**

The MOH has already determined that family medicine will be provided by certified family physicians and has also piloted family medicine practice teams (of pediatric general practitioners, adult general practitioners, and obstetricians/gynecologists). These teams make sense in the transition to family physicians if they are used until the doctors retire and are replaced by family physicians. They should be required to be retrained to the level of a family physician in their specific field (i.e., the pediatric general practitioners should be taught the family medicine modules for pediatrics—preferably by family physicians), until such a time as family physicians replace retiring subspecialist members of the family medicine team. A definitive decision on this matter needs to be made.

### **2. Define the scope of work for family physicians.**

Decree N375 on June 28, 1999, of the Minister of Health: Family Physician Statement (subject to Amendments) was meant to define the responsibilities and work of the family physician. It is inadequate. Currently, the “retrained family physicians” and those graduating from “family medicine residencies” are unable to treat and follow approximately 80 percent of the diseases listed. The scope of work should carve out a place in the medical system for family medicine, listing (and perhaps pushing the limits of) medical management and procedures that are possible. The scope will no doubt become larger with time. At the same time, the two-year residency programs for internists and pediatricians need to define a scope of work which differentiates them from family physicians, that is, they hospitalize and take care of the most difficult cases in their field, which would make them less threatened by family medicine. In practice, physicians of all specialties all over the world tend to define their own scope of work by their skills, but in CIS countries, a scope of work for family physicians is required to give them a legal niche.

### **3. Once a commitment is made to family physicians and their scope of work is determined, the physician manpower structure needs to change accordingly.**

Armenia cannot expect to have a successful family medicine program if it continues to produce the same overabundant number of other primary health care doctors (pediatricians, internists, and obstetricians/gynecologists). These specialists feel threatened because family physicians will be able to do much of their work. The mass production of doctors who are unemployed and/or whose training does not meet the goals of the Armenian MOH or the health care needs of the country must be stopped. In particular, the overabundance of specialists increases antagonism toward family physicians and both fight for the same patient base. In this transitional period, balancing the physician (and nurse) manpower structure will need constant adjusting, but it needs to be in place as a supportive measure for family medicine. The USAID

program could be helpful in developing a system in which this would be accomplished over the long term.

**4. Define the training curriculum by board certification requirements for family physicians.**

Both the Armenian National Institute of Health and the State Medical University have residency curricula for family medicine. The current curricula are heavily geared to evidence-based treatment guidelines, which is an excellent idea as long as those guidelines are practical for what the physician will have access to in practice (i.e., medicines and equipment), which currently is not the case. One retrained family physician stated that all her training was didactic except her mannequin training at the AIHA's affiliated emergency medicine department ("the best part of the training"). PADCO is actively involved in trying to arrange a hands-on clinical training site. However, at least one of the residency program directors believes this is not necessary. The MOH may need curriculum requirements to enforce this type of training. The current momentum of curriculum development has been exceedingly slow. Training curriculum should be determined by board certification requirements, which generally require that a certain percentage of residency training be spent acquiring hands-on experience with managing one's own patients. Armenia currently has no board certification requirements for any specialty or subspecialty.

**5. Define how family physicians will be paid.**

Health insurance issues (such as the Basic Benefits Package and capitation) and methodology are still being discussed in Armenia. (These issues are discussed in the financial part of this report.)

**6. Armenia must have the legal framework to support the development of a family medicine training clinic.**

Both residency directors (at the National Institute of Health and the State Medical University) are unable to provide hands-on experiences for their residents because no legal structure has been developed that allows for the enrollment of patients into a training clinic. Currently, primary care doctors (pediatricians, adult general practitioners, and obstetricians/gynecologists) have a designated catchment area that provides a certain number of patients per doctor (approximately 1,000 for pediatricians and 1,600 for adult general practitioners). All of Armenia's population is divided into these physician catchment areas.

The MOH generally understands that a family medicine training clinic will need open enrollment and that legal permission must be obtained, but it has been slow in pursuing this legal framework. Precedence exists; Erubouni Hospital and Polyclinic (a successful graduate of the AIHA program) has open enrollment in a private practice system (as long as the patient can pay set fees).

A family medicine training clinic will need to have a sufficient number of patients in order to teach—which means breaking the current trend of the population rarely accessing the medical system. It must offer better medical care than what is generally obtained in Armenian clinics. One of the goals of family medicine is for a doctor to

care for all members of a given family, under the hypothesis that a single doctor would better understand the medical/social dynamics of the entire family. Open enrollment could require that entire families or households enroll with a family physician trainer with the understanding that they will be seen by a resident under the supervision of the family medical trainer. In order to enroll, the family could be required to make an agreement that each family member will make all necessary preventive care appointments (hours for the clinic must be patient/family-friendly, include home visits when clinic visits are impossible, and have a policy for handling those families not following this rule). This would give the family medicine resident a real chance to practice preventive medicine. Furthermore, the population served by each family physician trainer should be required to approximate the population distribution in age, sex, and social status (i.e., the new personal number system—PM) of the city or community served. First, the physician trainer should enroll the maximum number of patients he/she can handle (1,600 patients, approximately 400 households), allowing for some didactic time and additional time if a resident is just starting training. Two or three residents can be trained with a 1,600 patient base. Such a clinic would still need to have the physician trainers paid by the government primary care rate (unlike Erubouni), as well as to collect payment for training. Advertising for such an open enrollment of specially trained family physicians (with sliding-fee medications, patient-centered care, the ability to handle cases out of the hospital, and assurance of no illegal payments) would no doubt produce an abundance of people trying to enroll, so that waiting lists would be necessary.

Recommendations and discussions of difficulties of starting a family physician practice in Romania are published in *Innovating Primary Care Delivery in Romania: Group Practice Development and Clinical Practice Enhancement*, USAID, Societatea Civila Medicala, Health and Human Services, July 2002.

**7. Have available the minimum medications and medical equipment for good patient management.**

A training clinic would also need to be a testing site for a low cost essential drug list or United Methodist Committee on Relief-type insurance for medicines (with concurrent regular availability of these medicines, or the residents would not be able to practice clinical treatment guidelines). Sliding fees for medications need to ensure that patients can afford to take prescribed medication regularly.

**8. A system of quality assurance for primary care needs to be developed.**

This system is necessary for all medical specialties, but if family medicine is to be supported as the goal for meeting primary care needs in the future, the specialty will need its own continuous medical education requirements, which are best tied to licensure renewal for doctors and nurses. Attention to the teaching of quality assurance within the clinic and continuous quality improvement will be especially necessary at this point in the support and strengthening of primary care through family physicians. Armenia health workers must understand that being a physician or nurse is a continuous learning process. Quality assurance should also reflect the medical goals/needs of the country. For example, cardiovascular disease is a great problem in Armenia; once adequate medicine is available at an affordable cost, doctor and nurse

teams who are able to keep a good percentage of their patients under control could receive more pay than those who do not (or some other reward).

**APPENDIX K**

**LESSONS LEARNED BY THE WORLD BANK IN ARMENIA**

## LESSONS LEARNED BY THE WORLD BANK IN ARMENIA

The World Bank is a major donor and is a prime mover in promoting primary health care and the introduction of family medicine in Armenia and elsewhere in the developing world. The World Bank's current program provides the government of Armenia with a loan of US \$10 million to pursue two major issues: strengthening primary health care and strengthening health care financing. In primary health care, loan proceeds are targeted for the construction of 80 family medicine clinics, the training of family doctors, and the development of clinical guidelines.<sup>29</sup> In health financing, the World Bank loan was used to help establish the State Health Agency and develop the Basic Benefits Package, provider payment mechanisms, and the State Health Agency's financial information system.

From its experience, the World Bank has identified a number of lessons learned.

- Expectations for reform have been too optimistic for both the World Bank and client countries.
- Institutional aspects of reform are as important as technically proficient strategies. Institutional aspects means providing sufficient time to build up capacity before taking on full functions and raising expectations.
- Greater attention needs to be paid to the political economy of reform.
- Projects have been too complex.
- Adequate resources need to be committed to the supervision of projects.

In promoting primary health care, the World Bank's efforts have encountered a number of difficulties.

- Early efforts to develop the legal foundation for family medicine have been criticized as too idealistic. It did not establish the practical underpinnings needed to help family doctors start their medical practices once clinic facilities are built and equipped.
- Training programs for family medicine were developed with no provision for hands-on learning with real patients in a model clinical setting.
- The architectural design of the model family medicine clinic is too large and expansive and does not reflect an understanding of how family physicians will practice.
- The cost of building each clinic has escalated and the construction of facilities in several locations has been delayed.

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<sup>29</sup> World Bank, *Staff Appraisal Report, Health Financing and Primary Health Care Development Project*, Republic of Armenia, June 30, 1997.

In health finance, the current World Bank loan was successful in helping to establish the State Health Agency. However, the State Health Agency financial information system, used to track services and process claims, was not functional. The assistance of PADCO was mobilized to design and implement a new system, recapturing the State Health Agency's lost files in the process.

## **APPENDIX L**

### **THE IMPACT OF OPTIMIZATION ON CLINICS AND HOSPITALS**

## THE IMPACT OF OPTIMIZATION ON CLINICS AND HOSPITALS

**As the result of optimization, clinics and hospitals have been burdened with debt and forced to collect fees from patients. Those clinics that have been consolidated have difficulty laying off personnel because of back wages that are owed.**

To date, optimization means decreasing the number of health facilities. In the few cases where decreases have been implemented, they were accomplished by closing one facility and forcing staff to join another facility. It does not appear that any doctors have been laid off in this process. Laid off personnel have a right to sue for back pay, which poses a cash flow problem for the facilities that inherited the debt from the government. There is a separate Armenian government budget to cover past debts, but it is neither fully funded nor properly executed.

The head of one polyclinic reported that she had enough money so far this year (2002) to pay all her salaries, but she used 2 months of the money to start to pay off the various staff members who had been laid off as a result of optimization. (Only one laid-off person tried to sue for back pay.) She settled out of court with complete back pay and the guarantee that this person would not tell anyone. Her budget from the State Health Agency is also supposed to pay for overhead, salaries, and medicine at three ambulatories and five feldsher offices. She has 124 employees (which includes 60 nurses), and had to lay off 56 people (nurses, accountants, and various support and custodial staff) with optimization. The polyclinic currently owes \$8,000 in back pay.

The maternity hospital in Vanadsor (Lori Marz) became just a department in the general hospital complex as a result of optimization. The head of obstetrics/gynecology incorrectly blames optimization on PADCO and states that “the PADCO project has ruined us.” His hospital had been financially solvent before optimization; now spending is equalized among all departments. Apparently some of the other hospitals had millions of Armenian dram (ADM) of debt. Now the maternity department is not responsible for its own spending, so it cannot obtain sufficient blood supplies, sutures, and detergents, for example. Salaries are also lower in his department. Accountants, orderlies, and nurses were laid off at the various hospitals as a result of optimization. The State Health Agency does not cover even 40 percent of the finances for the hospital, even though baby delivery is considered to be part of the Basic Benefits Package. The obstetricians/gynecologists used to have two outpatient obstetric/gynecologic polyclinics. Now obstetric/gynecologic polyclinic doctors have to work in general polyclinics throughout the marz. This head obstetrician/gynecologist believes this will have a negative impact on the quality of care because the obstetricians/gynecologists will be too isolated and will not have others with whom to discuss cases and get advice.

The Lori Maternity Hospital had been the third largest maternity hospital in Armenia. After optimization, it is only a department. According to the June 20, 2000, decree of the Minister of Health (part B1.4), it is only allowed to treat and deliver women of the normal and low risk group. High-risk deliveries and gynecology cases must be referred to independent maternity hospitals (of which six exist, all in Yerevan). The maternity department continues to treat high-risk cases, but technically this is illegal.

## **THE INFLUENCE OF REGULATION AND MARKET FORCES ON RESTRUCTURING**

**There has been debate among members of the assessment team about the extent to which restructuring should be driven by the government through regulation and financing, as opposed to allowing market forces to influence the shape of the system. In reality, both approaches are needed.**

The MOH's restructuring program, no matter how ineffective, reflects the state's effort to influence the shape of the system. Payments through the State Health Agency can also play a strong role in restructuring the system, although the potential impact has not yet been tested. Given the necessity to survive on their own financially, some institutions will aggressively compete for patients by upgrading services and improving quality, which is an expected response in a market economy. At present, the current government of Armenia's optimization program is a two-tier program. First, it envisions public ownership of most facilities and therefore assumes the state's authority to decide the programs that a facility can provide and the facilities that should be expanded, merged, or closed. Second, decentralized facilities are expected to perform in a competitive market where their financial success is dependent on satisfying consumer demand. In reality, health markets are imperfect and the state will need to continue to provide regulatory guidance and financial interventions and support.

There is, then, a need for legal and regulatory changes that support the restructuring effort. Labor laws need to be revised, for example, to allow institutions greater flexibility in hiring and firing personnel. Policy and legal barriers to reform need to be overcome and new policies and legislation supportive to reform need to be adopted. Obstacles to optimization need to be identified and resolved. The payroll debt, for example, is an obligation of central government that has been unfairly assigned for pay off to provider organizations going through the optimization process.

Most hospitals and clinics will have a hard time taking advantage of market forces anytime soon. Most inherited dilapidated facilities, outmoded or inoperable equipment, excessive personnel, and a large debt from the MOH. In some cases, facilities are barely habitable. Many rural clinics are unheated in the winter. Current revenues, including formal and informal fees, and payment from the State Health Agency, do not adequately cover current expenses and contribute nothing toward needed capital improvements or debt retirement. There are restrictions on reducing staffing levels, and no money is available for much needed staff training. Until government payments improve or until resources can be infused from some outside source, most providers have little hope of improving the quality or efficiency of their services or attracting a larger customer base.

### **PRIMARY CARE PRACTICE: IMPRESSIONS FROM SITE VISITS**

**The site visits revealed that large primary care settings have poor resources and therefore quality, are not yet capable of leading in delivery systems, and are likely to remain unattractive to and untrusted by patients.**

During its recent visit to Armenia, the assessment team was able to visit only a few representative clinics. In typical Soviet style, the doctors' and nurses' desks (offices) are in the same room in which the patients are seen; no privacy curtain is necessary because

these Soviet-trained general practitioners generally do not touch their patients. Sometimes there will be two patients in the office; often, the patient sits on a chair in front of or at the side of the doctor's desk. Armenian doctor visits appear to have the entire family in the room more frequently than what has been observed in Romania and Ukraine. Almost no visit begins with either blood pressure or weighing.

In general, adult general practitioners and pediatricians prescribe some antibiotics (which are given whether the infection is viral or bacterial) and a few other general medications, immunize children, and write notes for time off from work. Only at the clinics involved in AIHA partnerships was there capability for some diagnostic tests. The feldsher acusher post (feldsher offices) is staffed by a nurse, or feldsher, who generally spends her time recording birthdates, deaths, keeping SanEpid records, and conducting monthly vaccinations of children. The high rates of vaccination in Armenia can be attributed to the network of feldshers originally established during the Soviet period. One feldsher explained how she typically "prescribed" during home visits; she looked in the family's medicine chest and chose the most appropriate medicine for the illness.

**APPENDIX M**  
**PERSONS CONTACTED**

## **PERSONS CONTACTED**

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Multiple pediatricians and adult general practitioners taking part in an Abt Associates, Inc.-sponsored crosstraining in child development

#### **POLYCLINIC #5/VANADZOR, LORI MARZ**

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**APPENDIX N**  
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**APPENDIX O**  
**SCOPE OF WORK**  
**(from USAID)**

## STATEMENT OF WORK

### Assessment of USAID's Assistance to the Armenian Health Sector

#### I. OBJECTIVE

This Scope of Work calls for an assessment of USAID's assistance to the Armenian health sector. The Assessment Report will review the health component of USAID/Armenia's current five-year social transition strategy (FY 1999-FY 2003). The report will later be used in designing the follow-on strategy (FY 2004-FY 2008). The assessment will be critically important, both in providing the analytical underpinnings for the Missions' health sector strategic planning and in offering a valuable reference document for future activity development. It should also prove to be useful to the Mission's Government of Armenia (GOAM) counterparts and other development partners.

#### II. BACKGROUND

Before gaining independence in 1991, Armenia's health care system was highly centralized. The entire population had access to a comprehensive range of medical services free at the point of access.<sup>30</sup> Following independence, Armenia faced an extreme economic crisis that initially prevented a structured approach to change. Efforts focused on maintaining basic supplies, many of which were all but unobtainable. Concerted reforms were initiated in the mid-1990s, based on the premise that health care can no longer be provided free on demand to the entire population. Most people now have to pay in full for their medical care through formal and often informal non-subsidized payments to providers. As a result, the past eight years have witnessed a sharp drop in the use of health facilities as many people go to doctors only in emergency cases. The drop in health services utilization has underscored further the country's excess capacity of health facilities and personnel. The GOAM is engaged in an "optimization" program to reduce this excess capacity, an exercise that is all the more challenging to implement under Armenia's current depressed economic conditions.

Total expenditure on health is estimated to have been between 1% and 2% of GDP throughout the 1990s, though this estimate most likely fails to fully account for private, out-of-pocket payments. This estimates compares with an average of 8.6% of GDP (1998) spent on health in western European countries. Armenia's health expenditures as a percent of GDP pales even worse when one takes into account the fact that its GDP level in 1999 was only 60 percent of that in 1989. Armenia's National Statistical Service recently estimated that over 55% of Armenia's population is regarded as "poor" or

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<sup>30</sup> Nevertheless, the quality of health care did not comply with western standards, and unofficial gratuity payments were commonly expected especially for secondary and tertiary care.

“impoverished” (very poor). Moreover, Armenia has one of the highest income polarizations of all former Soviet republics.

Although the government attempts to ensure that a basic health benefits package is provided free of charge to vulnerable groups, funding shortages mean that even these groups must sometimes pay out-of-pocket. These changes have undermined the principle of equity, and there are concerns that the health of the population may be affected. The planned health finance reform and eventual introduction of compulsory medical insurance, together with decentralization of the Ministry of Health functions and increased provider autonomy, are expected to accelerate the reform process and help mobilize funds for the health sector. These initiatives will be challenging, however, in the absence of more vigorous and equitable economic growth.

Available data indicate that life expectancy in Armenia was the highest of all the former Soviet republics in the early 1980s. It fell in the early years after independence but is now climbing again. In 1999 it stood at 74.7 years. Falling life expectancy during the first half of the 1990s was due to increases in cardiovascular disease, cancer, diabetes, and tuberculosis. The incidence of major communicable diseases such as tuberculosis and HIV/AIDS has increased. Maternal and child health suffered partly as a result of diminished access and poor quality of health care services.<sup>31</sup>

In this environment of economic hardship, the fertility rate at 1.7 has dropped below replacement level. Although, modern methods of contraception are more available now than they were several years ago, many women continue to rely on abortion for fertility regulation. While the contraceptive prevalence rate is 60.5, prevalence for modern methods is much lower at 22.2. The average number of abortions a woman will experience in her life time (2.6) exceeds the number of births, further pointing toward the need to address mistimed or otherwise unwanted pregnancies. Abortion accounts for 55% of pregnancy outcomes.

Outbreaks of waterborne diseases are attributed to the degradation of poorly maintained water supply networks. Tobacco consumption is rising rapidly, and drug abuse is starting to be a problem particularly among adolescents. These trends have been the result of the breakdown of the centrally planned economic system and the socioeconomic hardships of the transition period, particularly 1992-94.

USAID/Armenia is implementing a comprehensive social transition program to mitigate the adverse social impacts of the transition. The program aims to strengthen and make sustainable social and health care systems, while providing urgently needed services to the most vulnerable in selected regions. USAID/Armenia is currently focusing on providing services in the regions of Lori, Shirak, Yerevan, Syunik and Gegharkunik. Before 1999, health was not a priority sector for USAID activities in Armenia. Limited assistance focused on reproductive health programs, CDC activities to strengthen health

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<sup>31</sup>The WHO World Development Report 2000 surveyed countries by overall health system performance and Armenia ranked 104 out of 191 countries.

information systems, hospital partnership programs, and health related humanitarian assistance. The Mission's humanitarian assistance activities helped mitigate immediate human suffering, but widespread poverty remains a serious problem. Therefore, attention has been shifting to longer-term efforts to rebuild a social safety net that will help ensure that all Armenians have access to adequate and affordable health care, food and shelter. Accordingly, the USAID program aims to:

- *Establish foundations for implementing sustainable social and health insurance systems:* USAID/Armenia is supporting the GOAM's efforts to enact legal and policy reforms and increase its capacity to administer these systems. Through these activities, USAID/Armenia also will increase citizen awareness of changes in government-supported social and health insurance programs.
- *Increase access to quality social services and primary health care in selected regions:* USAID/Armenia supports legislative and policy reforms which promote community-based primary health care and effective social assistance programs. The social transition program is assisting the GOAM and private sector service providers to improve the targeting of benefits and services, increase the delivery of those services and develop the GOAM's capacity to plan for, monitor and evaluate health and social assistance programs. USAID is also supporting the establishment of a referral system and a network of service providers including NGOs. It is also helping citizens become better informed about their health care and social assistance rights and obligations.
- *Create short-term employment or income generating opportunities in selected regions:* To temporarily alleviate the problems of unemployment in selected regions, USAID is funding a program of small-scale public works. These activities will address critical infrastructure needs identified by the community, while providing temporary employment opportunities for the most vulnerable.

The major components of USAID/Armenia's current health activity portfolio include initiatives to reform health financing; improve the quality of and expand access to primary health care; and integrate quality reproductive health services (focusing on maternal health and newborn care) into the primary health care system. Annex A provides a concise description of GOAM health reform initiatives, supporting ongoing international financial institution activity, USAID/Armenia health reform activities (FY 2000-FY 2004), and current USAID implementing partners. Also see USAID/Armenia's website at <http://www.usaid.gov/am/social.html>.

### **III. STATEMENT OF WORK**

Specifically, the consultants will perform the following tasks:

Produce an assessment report that:

- examines the appropriateness of USAID/Armenia’s present health strategy, with particular attention to the linkages of the strategy components—or lack thereof;
- identifies important developmental gaps that are not being adequately addressed;
- suggests the rationale and justification for a follow-on health strategy over the FY 2004-FY 2008 period;
- recommends and prioritizes options and activities for a follow-on health strategy over the FY 2004-FY 2008 period. The team will attempt to prepare a draft results framework if it does not interfere with the completion of the assigned tasks.

The team will also be expected to accomplish the following:

- Meet with key USAID/Armenia, GOAM, other donor, PVO/NGO, and private sector representatives.
- Conduct limited visits to representative activity sites (candidates will be discussed prior to travel). During these site visits, the team is encouraged to talk with health care providers, managers of health care provider institutions, and with patients and clients in order to solicit “customer” views regarding priority health concerns and actions needed to address them.

The contractor will perform the following tasks:

- Collect health sector documents in Washington, D.C. and the field and distribute it to all team members 2 weeks before the team’s departure for Armenia;
- Hire a local translator to work with the team (including two weeks for assignment planning, scheduling, logistic arrangements, and three weeks of fieldwork).
- Conduct a two day team planning meeting (TPM) before the team’s departure for Armenia. The TPM will draft an initial work plan, clarify team members roles, and assign drafting responsibilities for the assessment report;
- Hold weekly debriefing meetings with USAID/Armenia;
- Before leaving for Armenia, the team will meet with (or speak by telephone with) representatives of USAID (E&E/EEST/HRHA, Global Bureau for Health, desk officer), headquarters representatives of key contractors and grant recipients (PADCO, Abt Associates, the American International Health Alliance, INTRAH, and UMCOR) and the World Bank to discuss the purpose of the assessment and to solicit their views on re-designing the health sector strategy. The contractor will set up these interviews;

The team will also be guided in its deliberations by the list of illustrative questions in Annex B and will be responsible, with support from the advisory committee, for addressing all the questions raised in the Annex.

#### **IV. REPORTS**

##### **A. Work Plan**

The Contractor will hold a two-day team-planning meeting to clarify team member roles and responsibilities and to produce a 3-5 page work plan. The work plan will outline the steps the consultants will take to produce the final assessment report; propose an implementation schedule with target dates; and will include an initial topical outline for the report. The contractor will email the work plan to Ms. Edna Jonas, the Mission's Health Advisor, before departure for Armenia. USAID/Armenia staff will review and comment on the proposed work plan and the consultants will revise the work plan, taking into account staff comments within 1 working day after receiving Mission comments. Edna Jonas will approve the final work plan for the Mission.

##### **A. Oral Briefing and Annotated Report Outline**

Before the team's departure from Armenia, the Contractor will present an oral briefing and an annotated outline of the assessment report to USAID/Armenia on the team's findings, conclusions and recommendations.

##### **C. Draft Report**

The Team Leader will submit 5 copies of the draft report to Edna Jonas within 15 working days after the team departs. She will circulate the draft report within USAID/Armenia for comment and will submit written comments to the Team Leader within 10 working days.

##### **D. Final Report**

The Team Leader will make revisions in the draft report and submit the report for clearance. The contractor will produce and mail 100 copies of the final report to Edna Jonas as soon as USAID/Armenia gives final clearance on the report.

#### **VI. ILLUSTRATIVE IMPLEMENTATION SCHEDULE**

April 24-25 Washington, DC Team Planning Meeting and creation of work plan  
April 26 Washington, DC interviews with implementing partners and World Bank.  
April 27 Team departs for Yerevan  
April 29 In-country TPM

April 30-May 9 Make site visits and hold meetings, including a stakeholders' roundtable in Armenia  
May 10 Report writing begins and work on annotated report outline  
May 16 Team debriefing and outline due  
May 18 Team departs  
May 31 Team Leader submits draft report to mission  
June 21 USAID comments due back to Team Leader

## **VII. SUGGESTED TEAM COMPOSITION**

The following summary descriptions indicate the required experience and skills for the health assessment team members. Each of the international team members will have advanced degrees in appropriate fields, from 5-10 years of experience in their professional field. Experience within the E&E region will be an added advantage, as will Russian language skills.

- 1. Team Leader:** The team leader must have proven leadership and team management skills. The Team Leader will also serve as the health planning and policy specialist. S/he must have a comprehensive understanding of USAID's health policies, programs, and objectives and be familiar with USAID's G/PHN and E&E strategic plans for the health sector.

The team leader will have overall responsibility for the final draft report, and will have a major role in writing it but may designate responsibility for drafting the overall report to another team member.

36 days of LOE: 3 prep days, 4 days of travel and work in Washington, DC, 4 days of travel to and from Armenia, 17 days of LOE fieldwork, and 8 days for report preparation.

- 2. Health Specialist --** S/he must have broad health program planning and management experience, and an excellent understanding of the range of health financial reform options that may be relevant to Armenia—including the role privatization can play in achieving successful health reform and long-term sustainability. S/he must also have experience in developing the legal, regulatory, and policy foundations needed to support health reform programs.

S/he must have a comprehensive understanding of USAID's health policies, programs, and objectives and be familiar with USAID's G/PHN and E&E strategic plans for the health sector.

30 days of LOE: 3 prep days, 4 days of travel and work in Washington, DC, 4 days of travel to and from Armenia, 17 days of LOE fieldwork, and 2 days for report preparation.

**3. PHC Program Expert --** S/he must have comprehensive technical knowledge of and experience in health service delivery systems, with an emphasis on integrated services (principally PHC services including but not limited to infectious diseases, reproductive health and family planning, and child survival). S/he must have an understanding of the importance of related services (e.g., laboratory services, drug supply systems) required to achieve effective, integrated PHC services. S/he must have prior experience in the assessment of health care issues and the examination, analysis and interpretation of epidemiological data to help determine the implications for health program development. Familiarity with health service delivery systems and health issues in the E&E region would be a major advantage.

30 days of LOE: 3 prep days, 4 days of travel and work in Washington, DC, 4 days of travel to and from Armenia, 17 days of LOE fieldwork, and 2 days for report preparation.

To assist the contractor's assessment team, USAID/Armenia will assemble a technical advisory group composed of, but not limited to, the following individuals:

**Armenian Primary Health Care Expert** (provided from USAID/Armenia staff)– S/he must have at least 5 years experience working with the primary health care delivery system in Armenia, a strong knowledge of GOAM and MOH health care policies and programs, particularly as they relate to the GOAM's health reform initiatives.

**World Bank Health Reform Consultant (optional person the World Bank may choose to sponsor)** S/he will preferably have 2-5 years experience designing and/or implementing World Bank health sector loan programs in the E&E region, preferably Armenia.

**Health Reform Advisor/Design Officer (provided by E&E/EEST/HRHA)** S/he must have a good understanding of the E&E Bureau's Strategic Objective 3.2 approach, prior experience in assessing health care issues in the E&E region, and experience in designing health reform programs, including the preparation of results frameworks.

**Armenia Ministry of Health Policy and Programming Specialist/Expert** S/he will have an in depth understanding of Ministry of Health policies, plans, and capacities. S/he will represent the Ministry of Health on the assessment team.

The technical advisory group will meet with the team during the in-country TPM to provide background information. They may also join the team on field visits and for other meetings. In addition to hiring three consultants, the Contractor will also cover the costs of a local translator/logistics coordinator.

## **VIII: RELATIONSHIPS AND RESPONSIBILITIES**

The USAID/Armenia manager for this activity is Edna Jonas. Ms. Anna Grigoryan will assist her. Dr. Grigoryan will be the backup activity manager in Ms. Jonas' absence. As an advisor to the team, Dr. Grigoryan will assist the team with questions delineated in section 4 of Annex B. Ms. Jonas is the Health Specialist with the Mission's Democracy and Social Reform Office (DSRO); Dr. Grigoryan is DSRO's Project Management Specialist. Both work under the supervision of Mr. James Van Den Bos, Director of DSRO. Contact information for Ms. Jonas and Ms. Grigoryan follows:

Edna Jonas  
Health Advisor  
Democracy and Social Reform Office, USAID/Armenia  
(374-1) 543-841; 543-835  
Fax: 543-871  
E-mail: [ejonas@usaid.gov](mailto:ejonas@usaid.gov)

Anna Grigoryan  
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(374 1)151- 955  
Fax: 543-871  
E-mail: [agrigroryan@usaid.gov](mailto:agrigroryan@usaid.gov)

Edna Jonas will provide overall direction to the assessment team and will be the official contact for the team in Armenia. The team will make all requests for contacts with Government of Armenia officials through Ms. Jonas. USAID/Armenia will be responsible for delivering background reference documents to the Contractor 30 days before field travel, obtaining country clearances for travel, and scheduling and confirming all meetings and site visits in country.

The Contractor will be responsible for all costs incurred in carrying out this assessment for the international and local facilitator fielded under the contract. Costs incurred will include, but not be limited to: 1) pre-departure expenses (e.g., visas, required vaccinations, medical exams/tests); 2) international and regional travel; 3) lodging; 4) M&IE; 5) interpreters; 6) cars and drivers; 7) other office supplies and logistical support services (i.e., paper); and 8) local hire(s). The Contractor will provide laptops and back up battery packs for its consultants.

## **IX. PERFORMANCE PERIOD**

Work under this contract will begin on or about April 22, 2002 and will end before or no later than August 31, 2002.

## ANNEXES

*Annex A – USAID/Armenia Health Program*

Annex B – Illustrative Questions to be Addressed

Annex C – Key Documents and Websites

Annex D – Key Informants

## ANNEX A

### USAID/ARMENIA HEALTH PROGRAM

#### GOAM/Ministry of Health (MOH) Initiatives for Health Reform

- ✓ Creation of State Health Agency (SHA) as Separate Payer for Health Services
- ✓ Adoption of Principle of Capitation Rates
- ✓ Decentralization of Health Facility Ownership and Control
- ✓ Development of Marz Optimization Plans (Facilities and Staff)
- ✓ Creation of Family Medicine (FM) Education and Retraining Programs
- ✓ Establishment of FM Practices
- ✓ Plan for Health Information System (HIS) Enhancement
- ✓ Alternative health systems for health financing and insurance

#### Supporting Ongoing International Financial Institution Activity

##### World Bank Activity

##### USAID Complementary Activity

Primary Health Care Training and New Clinics

Technical Assistance for FM Training (Polyclinic 17 in Yerevan as a National Center and Polyclinic 1 in Vanadzor as Regional Center)TA for Strengthening FM Training and Education  
AIHA US and Armenian Health Partnerships

Establishment of SHA as Separate Payer

Extensive TA on Health Care Financing Options

HIS Enhancement and Equipment

TA to Prepare and Implement HIS Plan  
Support for Software Development

Personal Number Assignment for Data Mgmt

Creation of Computer Center for PIN  
TA for PIN System Development

Support for Better Targeting of State Funded Health Services (social assistance)

TA for Household Income and Expenditure Survey  
TA for Analysis of Targeting Options

## **USAID Activities to Reform the Health Sector (2000-2004)**

### **Defining Roles of National, Regional, & Local Governments**

- ✓ Designing rational optimization planning and implementation process
- ✓ Restructuring finance process
- ✓ Testing new roles on regional pilot programs (currently, sites in Yerevan and Vanadzor)

### **Building capacity of MOH to analyze and evaluate policies and manage programs**

- ✓ Acquiring computer equipment for MOH, SHA, and National Institute of Health
- ✓ Linking MOH, SHA to national and international health information sources
- ✓ Training MOH staff in policy analysis and management
- ✓ Designing integrated human resource policy development

### **Enhancing Health Information Systems (HIS)**

- ✓ Creating legal basis for HIS data sharing and privacy protection
- ✓ Developing systems for collecting, reporting, and analyzing health indicators

### **Creating Financial and Budgeting Models**

- ✓ Restoring SHA financial data and reporting systems
- ✓ Implementing National Health Accounts (Long Term)
- ✓ Training GOAM in health budgeting

### **Improving Legal Framework for Health Care and Finance**

- ✓ Establishing the foundation for Mandatory Medical Insurance (Long Term)
- ✓ Improving legal basis for contracting with private entities

### **Fostering Improved Education and Training of FM Practitioners**

- ✓ Creating national and regional training centers
- ✓ Strengthening curriculum and clinical training component in FM programs

### **Improving Licensing and Accreditation Procedures**

#### **Creating model FM group practices**

- ✓ Training staff in skills needed to run group practices
- ✓ Piloting alternative models of financing and developing financial incentives for primary care
- ✓ Introduce evidence-based clinical protocols

#### **Creating Quality Improvement Systems**

- ✓ Implementing health indicator reporting systems
- ✓ Training in alternative models of supervision that encourage and enforce quality standards
- ✓ Incorporating consumers' input on their needs and satisfaction with care

### **Rationalizing Allocation of Health Resources**

- ✓ Designing models to guide facility and personnel optimization
- ✓ Testing optimization procedures through pilot projects

### **Supporting Health Education Initiatives**

- ✓ Targeted publications for health care providers and health consumers
- ✓ Community health education

### **Creating Sustainable Health Finance Systems**

- ✓ Community-based financing pilots
- ✓ Eliminating informal payments and formalizing patient co-payments
- ✓ Establishing the institutional foundation for viable insurance models

### **Current USAID Implementing Partners**

**Armenian Assembly of America's NGO Center** – building capacity of local NGOs to do social and primary health care service delivery and education.

**American International Health Alliance (AIHA)** – partnering Armenian and American health institutions to improve health management education and community based healthcare.

**Carelift International** – supplying medical technology, equipment, and supplies to Armenian institutions.

**Macro International, Inc.** – supporting the Demographic and Health Survey (DHS).

**PADCO, Inc.** – supporting GOAM in social insurance, social assistance and health care reform.

**Intrah** – supporting improvements in the quality of women's health services, with emphasis on maternal and newborn care.

**UMCOR** – providing mobile medical, community nursing and nutritional support for the most vulnerable.

## ANNEX B

### Illustrative Questions to be Addressed

Illustrative questions that the team should consider follow below. Questions are suggested for each team member, although, in many instances, it may be appropriate for more than one team member to address a particular question. These questions are illustrative only. The team may wish to change, delete or add to the list as may be suggested by its team planning meeting, early key informant interviews, and ongoing deliberations as the fieldwork proceeds. Maintaining such a list should be helpful in guiding key informant interviews and drafting the assessment report.

#### 1. Health Planning and Policy

1.1 - Does the Government of Armenia (GOAM) health strategy adequately identify, analyze, and recommend appropriate policies and programs to respond to the country's health problems? Is it practical and realistic, taking into account Armenia's capacity to implement health reforms now and over the next five years?

1.2 - Is the GOAM's legal, regulatory and policy framework adequate to create the "enabling environment" conducive to health sector development over the next five years. Are there missing gaps, and, if so, how might these be addressed?

1.3 - Does the Ministry of Health have an adequate planning and policy analysis capacity? If not, how might it be strengthened?

1.4 - What are the five key issues facing Armenia's health sector? How would the team prioritize these and how should they be addressed?

1.5 - Are Armenia's health and management information systems adequate to provide the reliable and timely information needed by decision-making at the national, regional and local levels? Is the GOAM producing national health accounts data? Is the capacity to do so institutionalized? Is this data being used in national planning and decision-making?

1.6 - Does an effective mechanism exist to ensure donor assistance is well coordinated? How might coordination be improved? Does an effective mechanism exist to ensure USAID/Armenia's health assistance programs are well coordinated among the Mission's development partners? If this is weak, how might it be improved?

1.7 - Is USAID/Armenia's health assistance program responsive to Armenia's priority health development needs? Does it strike the right balance between horizontal and vertical programs?—between short-term relief and long-term development activities? Is USAID/Armenia's current health program linked with the GOAM's health strategy? Is USAID's program on track or should it be adjusted? What alternative approaches might

be considered for the next five years? Which of these options does the team consider most appropriate?

## **2. Health Financial Reform**

2.1- Is the GOAM's "optimization" program to better align Armenia's health facilities and personnel to the population's needs appropriate and timely? How should excess capacity in the overdeveloped hospital sector be addressed? What policy considerations are there, if any? What are the prospects for overcoming the political resistance that typically accompanies such initiatives? Would cost savings likely be available from a shift to primary health care?

2.2 - The GOAM plans to implement a national health insurance program. Do adequate financial, regulatory, and administrative systems and capacity exist to implement the program? Is the proposed implementation approach appropriate? Are adequate measures being planned to ensure the public understands and will be receptive to the program?

2.3 - What payment systems are in place to allocate resources to health care providers-- hospitals, polyclinics, rural clinics, etc.? Are these appropriate? If not, how might they be improved?

2.4 - Are pharmaceutical management policies and practices well developed and implemented to ensure the cost-effective procurement, distribution and marketing of drugs? If not, how might they be improved?

2.5 - What are the respective public health roles assigned to the national, regional, and district levels under Armenia's decentralized health system? Are the financing mechanisms to support these programs adequate, efficient, effective, and equitable? If not, how might they be improved?

2.6 - What is the potential for increasing the role of the private sector in health service delivery? Are their currently impediments for doing so? How might these be addressed?

2.7 - Is corruption a problem in the health sector? If so, how is it being addressed? Are these approaches likely to succeed?

## **3. Integrated Primary Health Care Program**

3.1 - From a national health policy perspective, to what extent does strengthening primary health care (PHC) remain a GOAM priority? Are the GOAM's programs for strengthening PHC appropriate and being implemented in a timely and effective manner? What legal and/or policy initiatives can be taken to strengthen PHC? What legal and/or policy implications are there for integrating current vertical health programs into a broad PHC framework? Does the country have a strategic plan and programs of action for strengthening PHC?

3.2 - Are family medicine and health management education curriculums and training capacity adequate and appropriate to meet the country's needs for PHC doctors, nurses, and PHC practice managers? If not, how might they be strengthened?

3.3 - Are quality assurance and quality improvement programs being effectively implemented in Armenia's hospitals, polyclinics, and rural clinics? If not, why and how might these type programs be improved?

3.4 - Are clinical practice guidelines evidence-based and on par with western diagnosis and treatment standards? If not, how might these be improved?

3.5 - Are licensing and accreditation programs for health personnel and medical facilities adequate and effective? If not, how might they be strengthened?

3.6 - What is the potential in Armenia for the establishment of family group practices as a means of improving access to and use of primary health care services?

3.7 - Are primary health care facilities, medical equipment, drugs, and medical supplies adequate to support a major PHC development initiative?

3.8 - What health promotion activities are currently ongoing and how can they be better incorporated into a more integrated PHC approach?

3.9 - How can the population become more involved in decisions about its health? How can the health sector be better linked to the community?

3.10 - What is the appropriate role for local (as opposed to international) NGOs in the health sector?

#### **4. Health Trends and Issues**

4.1 - What are the major health problems in Armenia now and what are the trends—especially those that affect women and children? Is the health system effectively addressing the major causes of morbidity and mortality?

4.2 - Are major health problems emerging that are not being dealt with by the current system? Are HIV/AIDS and tuberculosis becoming an increasingly important problem, as is occurring elsewhere in the region? If so, what is being done to address them? Are these efforts sufficient to address the problems? What more might be needed?

4.3 - How do environmental conditions affect the health of the population? Are adequate responses being made to reduce environmental threats to health?

4.4 - Are medical waste management policies and practices adequate? In not, how might they be improved?

## **5. Sustainability and Replication**

5.1 - Are the health reforms in Armenia programmatically and financially sustainable? What can be done to improve sustainability?

5.2 - What is the role of PHC demonstration activities? Should they be linked to a commitment to roll out successful models? What geographic scope and timeline are appropriate?

5.3 - Given the budgetary constraints faced by the Armenia government now and in the foreseeable future, the sustainability of a health financing and services reform system at country level and below will likely depend heavily on shifting government resources and expanding involvement of the private sector. What steps have already been taken? What additional approaches are likely to be successful?

5.4 - Depending on the overall approach(es) the team proposes, what non-USAID resources may be available (e.g., other donor funding, reprogramming of Armenia government resources)? How can USAID/Armenia best leverage its resources to achieve maximum impact? What is USAID's comparative advantage in the sector, relative to other donors?

## ANNEX C

### KEY DOCUMENTS AND WEBSITES

#### DOCUMENTS:

USAID/Armenia, *Strategic Plan, FY 1999-FY 2003*, March 1999.

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Purvis, George, *Pilot Site Development in the Health Systems Component of the Armenia Social Transition Project*, January 14- February 3, 2001.

Armenia National Statistics Service, Armenia Demographic and Health Survey 2000

UNICEF, Proposal and Final Report on Iodine Deficiency Disease Project

UNICEF/Armenia, Assessment of Antenatal Care in Armenia, Mission Report, October 12-25, 1999

Ruschman, Donald, Assessment of the Armenian Pharmaceutical Sector, final report

Commercial Market Strategies, Armenia Market Segmentation Study and proposal for private sector development project

WEBSITES:

USAID/Armenia, <http://www.usaid.gov/am/>.

Government of Armenia Ministry of Health, <http://www.armhealth.am/>.

PADCO, Inc., Armenia Social Transition Program (ASTP), <http://www.padco.am/>. Also see links under PADCO website to other ASTP sub-contractors and GOAM ministries, and Reports section for a comprehensive listing of reports produced under the project to date.

## ANNEX D

### KEY INFORMANTS

#### GOVERNMENT OF ARMENIA

A. Mkrtchyan, Minister of Health  
L. Yepiskoposian, MOH Policy Office Head  
H. Darpinyan, PHC and Optimization  
Ara Ter-Grigoryan, Director, State Health Agency  
D. Dujmalyan, Director, National Institute for Health  
R. Yuzbashian, Director, Primary Care, MOH  
K. Saribekian, Director, Maternal and Child Protection, MOH  
R. Abrahamian, Advisor to the Minister of Health on Reproductive Health  
V. Davidyants, Chief Sanitary Doctor  
S. Grigoryan, Director, National HIV/AIDS Prevention Center  
K. Babayan, Director, National STI Center  
H. Kochinyan, Marzpet, Lori Marz  
R. Dilbaryan, Director, Lori Marz Health Department

#### USAID/Washington

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Erin Nicholson, Armenia Desk Officer, USAID/E&E/ECA/C  
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John Novak, HIV/AIDS Advisor, USAID/GH/HIV-AIDS

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Susan Vogelsang, Senior Project Manager

PADCO, Inc./Armenia

Roger Vaughan, Chief of Party, Armenia Social Transition Program  
Dean Millslagle, Health Advisor, Armenia Social Transition Program  
Robert McPherson, Program Evaluation Specialist, Armenia Social Transition Program

Abt Associates, Inc./Bethesda

Lonna Milburn, Senior Advisor, Capacity Building, Abt Associates, Inc., Bethesda, MD

Abt Associates, Inc./Armenia

Dr. Nancy Fitch, Primary Health Care Advisor, Armenia Social Transition Program

American International Health Alliance/Washington

Jim Smith, Executive Director  
Donald Harbick, Associate Executive Director for Partnership Programs  
Laura Kayser, former Program Officer (now Deputy Director, YouthNet, Family Health International)

American International Health Alliance/Armenia

Ruzan Avedissyan, AIHA Country Coordinator

Intrah/PRIME/Chapel Hill

Marcel Vekemans, Medical Advisor

Intrah/PRIME/Armenia

Rebecca Kohler, Country Director

World Bank/Washington

Dominic Haazen, Armenia Health Program Team Leader and Senior Health Specialist  
Kari Hurt, Task Team Leader and Operations Analyst

World Bank/Armenia

Owaise Sadaat, Country Manager  
Susanna Hayrapetyan, Health Specialist and Project Officer

WHO/Armenia

Hrair Aslanian, WHO Liaison Officer

UNFPA/Armenia

Karen Daduryan, Program Officer

UNICEF/Armenia

Liana Hovakimyan, Health Program Officer

GTZ/Armenia

Yerevan office, regarding support for TB control efforts in Armenia

UMCOR/Armenia

Paul Daniels, Chief of Party  
Marianne Tillman, Director Social Transition Program

Local NGOs, including Magistros Physicians Association; Young Medics' Association,  
S.V. Monjian, President; and SAMSA, among others



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