

EVALUATION OF THE Emergency Medical Services Training Program

AN INITIATIVE OF THE
American International Health Alliance

Newly Independent States of the Former Soviet Union



May 2000

Robert Bannon
Susan Fleming
Bjorg Palsdottir
Julie Ting



Robert F. Wagner School of Public Service
New York University

Capstone Project
Robert F. Wagner School of Public Service
New York University

The Capstone Project is sponsored by New York University's Robert F. Wagner School of Public Service. The Capstone course spans two semesters and provides students with exposure to public service work in their education. Students learn to apply classroom theory to practical reality by confronting the many issues service organizations face. The students assigned to each project range from seasoned professionals to those just beginning their careers.

The Capstone Team evaluating AIHA's Emergency Medical Services Training Initiative was comprised of four NYU graduate students who each contributed their individual talents to the evaluation project. Susan Fleming is a health policy major who is a certified emergency nurse with previous evaluation experience in Russia; Julie Ting is a management major and a research associate at the Institute for Education and Social Policy and speaks the Russian language as a result of spending two years in Central Asia as a Peace Corps Volunteer. Robert Bannon brings his financial background to the project and concurrently works at the Open Society Institute; and Bjorg Palsdottir, the Associate Director of the Center for Global Health at NYU School of Medicine, contributes her extensive experience in overseas humanitarian work to the Capstone project.

Acknowledgments

We would like to acknowledge a number of people whose contributions of time and energy added to and strengthened our findings. We especially appreciate the directors, staff, and trainees of Emergency Medical Service centers in the Newly Independent States and their American-based EMS partners. Their insights and opinions helped us gain some understanding of the realities of establishing and sustaining EMS training centers in the NIS. We are also grateful for the contributions of government officials, AIHA regional staff, EMS providers, and USAID representatives. We appreciate the hospitality and assistance we received during our travels and hope that this report may be of value in their impressive efforts.

We are indebted to a number of people whose contributions of time, energy and ideas over the course of the evaluation strengthened our findings. Most importantly, we thank Dr. Terry Richardson, Program Officer for Monitoring and Evaluation at AIHA in Washington, DC and Dr. Jeyhoun Mamedov, Program Coordinator at AIHA in Baku, Azerbaijan. We are also grateful for the contributions of Janet Wiersema, Program Associate, Monitoring and Evaluation; John Capati, EMS Program Associate; and Laura Kayser, EMS Program Officer.

Moreover, we would like to express our gratitude to our faculty advisors at the New York University Robert F. Wagner School of Public Service. Dr. Dennis Smith and Dr. Aleya Hammad provided valuable insight and support during the last nine months.

In conclusion, we wish to thank the American International Health Alliance for providing us with the opportunity to observe firsthand these important EMS centers. We believe that it is under such leadership, which encourages evaluation and analytical exploration, that successful programs are nurtured and sustained.

Table of Contents

	Page Number
I. Executive Summary	6
1.1 Project Background	
1.2 Findings-General	
1.3 Process-Key Determinants of and Barriers to Success	
1.4 Outcomes-Behavior and Attitude Changes	
1.5 Impact-Health Systems and Health Status	
1.6 Recommendations	
II. Introduction to Capstone EMS Evaluation	13
EMS in the Newly Independent States of the Former Soviet Union	
Methodology	
Conceptual Model-USAID Results Framework	
Limitations	
III. Findings	22
Third Level-Process-Inputs and Activities	
<u>Access/Availability</u>	22
Location	
Economic Constraint	
<u>Quality</u>	23
Training Equipment/Practical Approach	
Quality of Teachers	
Curriculum	
Partnership Inputs	
Forum of Exchange	
<u>Sustainability</u>	27
Leadership	
Financial Resources	
Enabling Environment-Government	
Integration into local educational and health Systems	
Demand Among Potential Paying Customers	
Partnership Model	
<u>Demand</u>	30
Unique Program	
Perceived Value of Training Program	
Affiliation with the United States	
Barriers to Success.....	32
Financial Constraints	
Resistance to Change and Attitudes	
Socio-Economic and Political Conditions	
Secondary Level: Outcomes.....	34
Behavior Changes of Trainees	
Attitude Changes	
Intermediate Impact: Improved Health Systems.....	38
Emergency Medical System	
First Responder Systems	
Disaster Preparedness	
Other Medical Health Providers	
General Population	
Highest Level Impact- Improved Health Status.....	42

IV. Performance Measurement Indicators	44
V. Recommendations	44
VI. Bibliography	48
VII. Endnotes	79

Appendices

- A. List of Performance Measurement Indicators
- B. Translation of AIHA Conference Focus Group of EMS Directors
- C. General Survey
- D. Clinical Survey-Additional Survey Findings
- E. Initial Scope of Work
- F. U.S. Agency for International Development Results Centered Model

I. EXECUTIVE SUMMARY

Project Background

The American International Health Alliance (AIHA) is a non-profit agency, operating under a cooperative agreement with the Agency for International Development. Since 1992, AIHA has been establishing and managing health related partnerships between health care institutions in the United States and their counterparts in Central and Eastern Europe (CEE) and the Newly Independent States (NIS) of the former Soviet Union. An alliance of major hospital associations and hospital-related organizations, AIHA is the US hospital sector's most coordinated response to health care issues in CEE/NIS. After two years of productive partnership efforts, local officials and practitioners in the NIS and CEE designated as high priority, lowering instances of morbidity and mortality through improved pre-hospital and hospital-based emergency care.¹

Consequently, in January 1994, AIHA initiated a collaborative inter-partnership task force to develop comprehensive, standardized tools and approaches to the training and organization of Emergency Medical Services (EMS). The overall objective of AIHA's EMS Initiative is to strengthen local capacity among EMS providers and first responders to provide effective care during medical emergencies and mass-casualty disasters. AIHA helps to establish EMS training centers that offer a standardized curriculum specifically designed for the health care systems in the NIS and CEE. A core curriculum of modules was developed which includes slides, overheads, and handouts. The training program was further enhanced by the integration of practical, mannequin-based exercises. Currently, AIHA EMS training centers are operational in Tirana, Albania; Tallin, Estonia; Almaty, Kazakhstan; Kiev, Donetsk, and L'viv, Ukraine; Yerevan, Armenia; Chisinau, Moldova; Moscow, Murmansk, and Vladivostok, Russia; Tbilisi, Georgia; and Ashgabat, Turkmenistan. A center in Minsk, Belarus is expected to open this year.

In 1999, AIHA developed a comprehensive evaluation framework to document the various questions and issues related to its overall evaluation strategy. As part of this strategy, four graduate students from New York University's Robert F. Wagner School of Public Service were recruited in October 1999 to conduct an evaluation of AIHA's EMS Initiative. The EMS Initiative is one of AIHA's five crosscutting initiatives. Faculty advisers at the Robert F. Wagner School and AIHA's evaluation staff provided ongoing guidance to the Capstone Team to enhance the evaluation process. The Team participated in AIHA's 1999 Annual Partnership Conference

on November 15 to 17, 1999 and visited three EMS training centers in the NIS. The three centers were chosen by AIHA as examples of different stages or approaches to the EMS training initiative. The three centers represented different geographic regions of the NIS: Central Asia, Russia and Western NIS. After preliminary research and discussions with various stakeholders, three questions were chosen to form the foundation for the overall evaluation. The design of the study was exploratory utilizing key stakeholder perspectives to answer the following questions:

- 1) What are the key determinants and barriers, internal and external, to long-term success of the centers?
- 2) How does AIHA and the EMS centers it supports act as agents of change in these communities?
- 3) Which measurable performance indicators² can be used to evaluate EMS centers?

A “Results Framework” developed by United States Agency for International Development (USAID) was chosen as a tool to examine the relevance of findings as well as to help structure the report. In the framework, process changes in demand, access, quality and sustainability directly contribute to a program’s success in effecting participants’ behaviors and practices. These changed behaviors are assumed to lead to improved health care delivery ultimately resulting in improved health status of the target population. The model was modified to closer approximate the reality in emergency medical services in the NIS. It should be emphasized that given the short-time frame, the Team did not measure the impact of the EMS Initiative, instead, this study centered on the process component of the model.

Summary of Findings

General

In the face of many obstacles including considerable resource constraints, the dedication, motivation, and innovative thinking among EMS training center staff is inspiring. When asked about satisfaction with various components of training program such as curriculum, qualifications of instructors, methodology and others, between 96 to 100% of the trainees reported that were satisfied. A great deal of the EMS centers' successes can be attributed to the AIHA partnership model and the sense of local ownership that this model fosters. It is clear to Team members that AIHA's support of the EMS training initiative results in institutional capacity building with lasting impact. While the centers are currently small on a national level,

they have the potential for a broader-scale impact on policy and practices related to emergency medical services.

Process: Key Determinants of and Barriers to Success

Access/Availability: The study found that the strategic location and geographic reach of EMS training center is a crucial element of access and availability. Most centers are located in highly populated capital cities that provide greater access to potential trainees, instructors and policy makers. Moreover, an affiliation with hospitals, universities, and post-graduate centers of medical schools enhances access to potential trainees and instructors. To date, the EMS training centers have reached a relatively small portion of the target population, mainly due to the centers' limited financial resources as well as inadequate economic resources among the target population. In response, individual centers have tried to improve access by developing satellite centers or taking the training program to various other areas.

Quality of Programs: The fundamental strength of the EMS Initiative is that it is a well-defined program that is easily replicable, adaptable to local conditions and meets the basic training needs of EMS providers and first responders. According to the Team's findings critical success factors were the EMS training equipment, particularly the mannequins, high quality of instructors and the hands-on approach to teaching. In a region where the study of theory is emphasized over practical training, the practical approach and teaching format seems to encourage participatory learning. A majority of the stakeholders interviewed and surveyed also placed a high value on the quality of instructors and their role in enhancing training center success. Moreover, the Capstone study found that the standardized yet flexible curriculum was another key factor of success. Several EMS centers used the core curriculum to develop shorter and longer versions of it to meet the diverse needs of trainees whose experience range from senior health professionals to flight attendants. The Team concluded that the varying degrees of commitment and resource contributions among the US partner institutions affected the centers' success. However, staff of centers with US partners who are heavily involved in activities center activities, state that this relationship is vital to their success.

Sustainability: Not surprisingly, financial resources and the fundraising ability of the EMS centers' leaders were seen as essential to their sustainability. The study found that the ability of

leaders to launch innovative marketing and programmatic initiatives, adapt curriculum to the needs of participants, and develop new and creative ways to fund the center and monitor its progress, were vital components of the success of EMS centers. The ability of the leadership to create a sense of ownership among its staff was also important. For example, one center developed a less costly version of expensive foreign EMS equipment. Another center established a potential source of revenue by obtaining government support to develop a medical kit that will be required at all EMS and first responder locations. The latter illustrated the importance of strong relationships to local and national authorities for the sustainability of the centers. Governments throughout the region were key providers and funders of education and health services and responsible for the development of EMS related policies. Consequently, to ensure the sustainability of EMS training centers, they must fully integrate themselves into the overall structure of their community's health and education systems.

Demand: While financial constraints limited centers' marketing activities, some factors have played a role in increasing demand for EMS training. The difference between the AIHA-supported programs in comparison to other more traditional emergency training programs in the region, has increased demand for services at the EMS training centers. The most attractive features include the training equipment, the qualifications of the instructors, and an affiliation with an American organization.

Outcomes

Clearly, the expected initial outcome of any training program is the change in behavior resulting from the learning experience. While the team did not have time to evaluate changes in behavior among EMS graduates, it conducted surveys and interviews to gauge how the behavior of graduates was altered after the program. The surveys revealed that between 94% and 100% of survey respondents believe that EMS training center graduates are better qualified to deliver emergency services, deliver better care in emergency situations, and are more knowledgeable about emergency medical techniques. While the trainees were consistently impressed with the skills and approaches they learned, external stakeholders were often more impressed with the trainees' and EMS staff's positive attitudes, initiative and commitment.

Impact

The Team did not attempt to assess the impact of the training centers on involved systems or on health status indicators. The comments provided in the impact sections are based on anecdotal information and qualitative survey data. Most notable is the effect the EMS centers are having on EMS standards, policy, and legislative developments in the NIS. Individually, each EMS training center in the NIS is increasing the number of skilled EMS professionals and the network of training centers is expanding. Over time, these trainees and the efforts of the EMS centers to change policies, legislation, standards and attitudes have the potential to affect the various health systems throughout the region.

Barriers to Success:

Although deficiencies in any of the previously mentioned determinants of long-term success may constitute barriers; survey respondents as well as interviewees identified the lack of financial resources as the most pressing one. Some interviewees revealed that resistance to change and pessimism among health professionals and authorities may be just as important. In addition, a host of economic and political factors present barriers beyond the control of the centers.

Recommendations

Many of these recommendations are based on comments and suggestions from the various stakeholders both in the United States and overseas.

1. Data Collection and Performance Measurement

Improved data collection and analysis are crucial components of successful evaluations, particularly when measuring outcomes and impact. AIHA should continue to emphasize the value of data collection, assessments, and evaluations and provide training to assist centers in this endeavor.

- 1.1 A needs assessment, which includes data collection and documentation on how an EMS training program would fit into the health and education system, should serve as a basis for developing objectives, mission and planning activities.
- 1.2 To monitor progress, EMS training centers need to develop specific, measurable, realistic and time-bound program objectives that link program activities to expected outcomes. These objectives can then be used to develop measurable indicators.

- 1.3 EMS dispatch and service centers in the sites visited are already collecting substantial patient data. However, in order for the information to be optimally utilized, training on data collection and analysis is needed.
- 1.4 While EMS training centers conduct pre-and post-tests, these tests do not adequately measure whether training skills and knowledge are being utilized. Conducting follow-up tests and providing refresher courses at service delivery sites may encourage retention of both EMS skills and knowledge and highlight which components of the curriculum are most useful.

2. Funding and Expansion of Services

Increased access to EMS training was a concern highlighted by all stakeholders in the EMS training centers. In some cases, the centers were not able to meet demand within the EMS community because individual institutions or potential trainees were not able to pay for services.

- 2.1 Centers may consider establishing or expanding mobile training teams as a cost-effective method of increasing access to EMS training.
- 2.2 AIHA regional offices may consider increasing training in business practices such as strategic planning, marketing, fundraising, grant writing, and facilitating outreach to local private funders. In addition, AIHA could facilitate contact with organizations that donate equipment.
- 2.3 The centers should explore the possibility of using volunteers such as medical students to provide EMS training services in exchange for subsidized training.

3. Resource Sharing and Cross-Partnership Capacity Building

To maximize the use of resources, facilitate EMS reform on a broader, more comprehensive scale, AIHA should continue to encourage resource and information sharing among EMS centers and across partnerships.

- 3.1 The EMS Initiative Group, a newly formed collaboration of directors, could serve many functions such as standardizing testing for certification, sharing methods and innovations, organizing conferences in the NIS regions, reviewing curriculum, and addressing various other EMS issues, including data collection.
- 3.2 AIHA should investigate the possibility of sponsoring regular meetings of EMS Directors at the various EMS training centers, providing each center an opportunity to showcase accomplishments and learn from others.
- 3.3 EMS center may benefit from the development of a specific EMS website component that contains resources such as the various curricula developed, audio-visual presentations, pre and post tests, proposal writing, budget and evaluation guidelines, information about potential donors, relevant reports, indicators and data set development.
- 3.4 AIHA should continue to encourage information and resource sharing across initiatives. For example, established EMS training centers could support the newly initiated primary

care partnerships by sharing facilities, faculty and lessons-learned. Primary care topics could also be added to some versions of the curricula.

- 3.5 To promote long-term commitment and strengthen relationships between NIS and US partners, AIHA might consider providing orientation courses for new US partners that help prepare them for their overseas experiences. This may be valuable for all partnerships.

4. Program Recommendations

Many of the EMS training centers have developed interesting additions to the standardized curriculum while others suggested that their trainees desired additional training in topics not currently covered.

- 4.1 Survey respondents suggested that topics such as pediatrics, emergency obstetrics, infectious disease and primary care could enhance the curriculum. Other areas for development may include EMS system management and data collection and analysis.
- 4.2 Survey results indicated that the training had minimal effect on teamwork and coordination. Subsequently, it is recommended that the curriculum be strengthened in these areas. Established EMS teams should also attend the training as a unit when possible.
- 4.3 A new curriculum piloted in Armenia was developed to extend EMS pre-hospital advances to in-hospital care. AIHA may consider teaching it at other sites. This may enhance teamwork and coordination.
- 4.4 Additional emphasis should be placed on how to deal with shortages of supplies as well as finding or developing local or less costly substitutes to equipment.

Indicators

To answer the third evaluation question: "Which measurable performance indicators can be used to evaluate EMS centers?" the Team conducted literature research, used its findings and the structure of the results framework to develop a list of performance indicators. These indicators are meant to be a platform for the development of realistic indicators relevant to individual sites. (See Appendix A)

II. INTRODUCTION TO CAPSTONE EMS EVALUATION

EMS in the Newly Independent States of the Former Soviet Union

The health systems in the countries of the NIS are at various stages of transition and often face their own particular challenges. Hence, generalizing about EMS in the region is problematic. However, several countries in the NIS still operate EMS systems similar to the Soviet model, including those visited by the Team.

Most sources agree that the health care systems in the Newly Independent States are generally in a state of crisis, mainly due to resource constraints. The doctor/patient ratio in the NIS is one of the highest in the world (Lassey 1997:271), but their salaries are low. In a system based on access for all, critical shortages of medicines and equipment have sometimes led to fee-for-service in which only those who can pay have access to the necessary health resources.⁵ The figure below developed by Preker and Feachem in "Market Mechanisms and the Health Sector in Central and Eastern Europe," provides interesting insights into the type of problems hampering health reform in transitional economies.

Figure 1.

"Legacies" of Poor Health and Inefficient Health Services	
Key Problem Areas	Issues
Health Status	High mortality, especially in adult men High morbidity Unhealthy lifestyles and environment
Policy-making/Management	Ineffective inter-sectoral coordination Low priority of health and good health care Lack of responsiveness to local needs Weak management, tracking and evaluation
Structure	Rigid over-centralized structure Overemphasis on institutional care Neglect of public health and primary care Distortions in public/private mix
Function	Lack of functional integration Ineffective, inefficient or low quality
Resources	Arbitrary statistical norms (physical and human) Imbalances with surpluses and shortages
Training and R&D	Narrow overspecialization and isolation Graduate education isolated from universities Research isolated from teaching
Financing	Non-competitive funding Under-financing compared with capitalization

Emergency medicine, as in most of the world, is a relatively new concept in the Newly Independent States. Typically, hospitals there do not have emergency departments similar to those in America. Instead, patients are sent to wards that deal with their primary medical condition (Lassey 1997:278). While a few residency programs are being developed in the NIS, there is, for example, no current emergency medicine residency training in Russia (Gaufberg⁶, 1999). Furthermore, the concept of “first responder systems” of police or fire fighters that provide temporary medical care or act as extensions of care during disasters, is new. Due to a host of factors including resource-constraints, lack of practical training and frequent practice of certain procedures (Field 1988:328), the knowledge and skills of EMS professionals in the region are sometimes lacking.

The current structure of EMS in the cities the Team visited consists of government-operated, free ambulance services complemented by smaller, private, fee-for service operations. In general, emergency medical service delivery is stratified. In response to an emergency request, a specialty care ambulance such as a cardiology, pediatric, resuscitation and basic care ambulance is dispatched, depending on the severity and nature of the emergency.

In addition to the typically untrained driver, two medical professionals staff the ambulances. One of these is commonly a physician, while the other is either a nurse or a feldsher (a practitioner with a training level between that of a nurse and a medical doctor). The physician examines the patient at the first point of contact, and a majority of these patients are treated in their homes. Some studies suggest that only 17-20% of the cases are transported to a hospital (Lassey 1997:278). Several EMS providers who responded to the Capstone survey estimated that they spent up to 80% of their time providing primary care.

Literature research and interviews indicate that the quality of care varies widely, with inferior equipment and facilities found in rural areas. The cities that the Team visited had several well-equipped high tech ambulances. However, most of these best-equipped ambulances were privately owned and several EMS training center graduates, all medical doctors, lamented that what the Team saw in the capital city was not representative of conditions in smaller cities or villages.

According to EMS center directors, standards for equipment and EMS personnel have been slow to evolve. “Unfortunately, long waits and poor quality are what citizens expect from EMS,” said one USAID representative. However, she added, “...this is changing somewhat.”

Methodology

During 1999, AIHA developed an overall evaluation framework to document the various questions and issues related to its evaluation strategy. In line with this strategy, AIHA recruited a Team of four graduate students from New York University's Robert F. Wagner School of Public Service in October 1999 to conduct an evaluation of the EMS Initiative. Initiatives differ from partnerships in that they are focus areas that cut across many partnerships. From the onset, site visits were planned as part of the evaluation process and three centers were chosen by AIHA for site visits. These three centers represented three out of the four regions in the NIS.

The Team and AIHA's evaluation staff discussed possible evaluation topics. The lack of baseline data eliminated the option of conducting a well-founded impact evaluation. The focus of the evaluation was developed after the AIHA Annual Conference with input from AIHA staff and the EMS training center directors who attended the conference. (Appendix E—Scope of Work) The evaluation is primarily qualitative and utilizes key stakeholder perspectives to identify criteria and indicators that facilitate future quantitative evaluations.

The evaluation focused on the following questions:

1. What are the key determinants and barriers, internal and external, to long-term success of the centers?
2. How does AIHA and the EMS centers it supports act as agents of change in these communities?
3. Which measurable performance indicators⁷ can be used to evaluate EMS centers?

The evaluation team began its work in October 1999, conducting an extensive review of partnership documents, medical journal articles, and website materials. One month later, the Team facilitated a focus group session with EMS center directors at AIHA's Annual Partnership Conference to solicit their input. The directors were divided into four groups and asked to respond to one of two questions, either “What are the three most important factors that lead to success in the centers?” or “What are the three greatest barriers to success your center has faced?” Their replies are attached (Appendix B).

In December, the team developed its primary assessment tool, a broad-based survey that was administered to multiple stakeholders in the study—center staff, government health officials, trainees, US partners and AIHA staff (Appendix E-Scope of Work). The 93-item survey was prepared using insights gleaned from research, interviews, and input from directors at the AIHA conference session. It was constructed with multiple choice and open-ended questions that among other asked respondents to prioritize factors affecting the success of the centers. The survey was written in English and translated into Russian. Due to time constraints, the survey was not piloted before the site visits, but reviewed by faculty advisors, AIHA evaluation staff and by Russian language speakers for accuracy of wording and concepts. In addition, the team developed a clinically oriented survey for current and former trainees. This survey measured satisfaction, examining whether the subjects and skills taught in the basic 80-hour curriculum were indeed relevant in service delivery (Appendix D). The clinical questionnaire incorporated an earlier survey that had been developed by the Donetsk, Ukraine-Orlando, Florida EMS Partnership.

Prior to the site visits the Team surveyed and spoke with several American EMS partners. The members then traveled to corresponding training centers and AIHA regional offices in the NIS. It administered 110 surveys (see Figure 1) and conducted a total of 26 interviews abroad, capturing perspectives of USAID representatives, national and local health officials, AIHA representatives, and EMS center staff. Furthermore, the Team facilitated six focus group discussions to solicit the opinions of current and previous trainees as well as center staff.

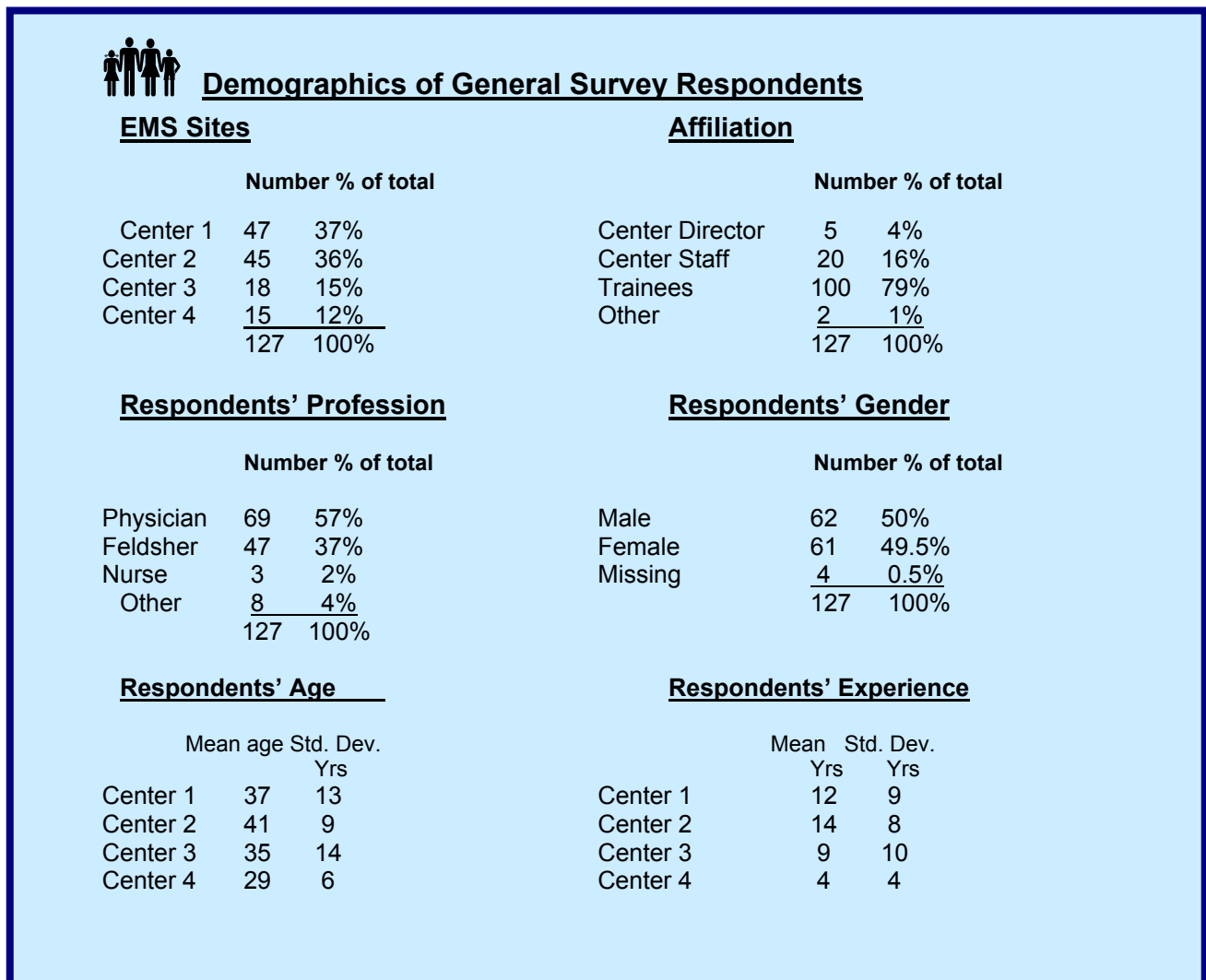
Interviews with key stakeholders such as those involved in planning, implementing, and funding of EMS centers provided valuable insight into the operation, approaches and attitudes at the centers. In addition, the evaluation team benefited from the insight of two representatives from AIHA⁸. The EMS background of one of these representatives as well as his understanding of the language, culture, and health care issues in the region provided the Team with invaluable information.

Upon return from the NIS, the evaluation team then transcribed interviews, analyzed survey results utilizing *SPSS*[®] software, and considered both qualitative and quantitative data sources. In February, an AIHA regional representative administered 16 of the broad-based surveys to

stakeholders at an additional EMS training center in the Caucasus therefore covering the fourth NIS region.

The evaluation team adapted a US Agency for International Development (USAID) results oriented model as a framework to better analyze results and discuss conclusions. Further explanations of the model are discussed in the next section: *Conceptual Framework*. (For illustration of original model, see Appendix F).

Figure 2.



Limitations

General

While the Team collected and reviewed information from all the AIHA-supported EMS training centers, they only visited three sites—one in the western NIS, one in the Russian Federation, and one in the Central Asian region—during a period of 14 days. Two of these centers were well-established while one had been in operation for less than a year. However, due to differences in operational circumstances, the stage of development of each center, the socio-economic and political conditions and varying expectation and goals, the findings of this study are not necessarily generalizable for all AIHA-supported EMS centers in the NIS.

Other considerations include:

Survey Instruments

The results obtained from both surveys were computed using descriptive statistics and cross tabulations. The survey results are considered as supplementary information to other qualitative findings. Many factors may have influenced the validity and reliability of the survey results. Firstly, the selection of the sample for trainees was based essentially on availability, i.e. the trainees present at the center and graduates encountered during visits to delivery sites. Few nurses were available for surveying during the site visits and their perspective therefore were not adequately represented in the survey results. Despite attempts at creating a neutral environment, objectivity may have been compromised by the occasional presence of center staff during the administration of the surveys. Additionally, due to language or cultural barriers, a few of the questions might have contained concepts and approaches that may have been unfamiliar to some survey respondents. Several reviews of language by native speakers with EMS experience, however, were used to minimize this problem.

Observation

Observations provided valuable insight into the operation, approaches and attitudes present at EMS centers. This method, though, is highly subjective and influenced by the background, knowledge, attitudes and limited timeframe of the observers.

Interviews

Key stakeholders such as program participants and those involved in the planning, implementing, and funding of the EMS Initiative are crucial sources of information. They provide a unique perspective, but may also have a potential bias. It is conceivable that program staff felt they were being judged, thus limiting their candor and the accuracy of information provided. In addition, all interviews were scheduled either by the AIHA regional offices or the EMS training centers themselves, thereby potentially creating a selection bias.

Focus Groups

Within the focus groups, the most charismatic, forceful, or talkative individuals sometimes dominated discussions although attempts were made to involve all participants. While the facilitator tried to create an environment where all perspectives were valued and all participants were able to speak freely and candidly, this goal was not always achieved.

Conceptual Framework-USAID Results Model

The Team used an adaptation of a Results Framework developed in 1995⁹ by USAID's Center of Population, Health and Nutrition (Africa Bureau, Office of Sustainable Development) to analyze and present its findings (See adapted version of model Figure 2). The results framework structure depicts the anticipated causal relationships from activities to intermediate results, from intermediate results to the strategic objectives, and, ultimately, from the strategic objective to the achievement of a broad program goal.

In the framework, changes in demand, access, quality and sustainability (process components) directly contribute to a program's ability to change behaviors and practices. These changed behaviors are assumed to lead to improved health care delivery, ultimately resulting in improved health status of a target population. Sets of indicators related to each component are then developed to measure its performance. While the Results Framework was originally designed for family planning and health programs, the long-term objectives for the training is the same: to impact the health status of a target population. Transferred to an EMS training center scenario, the program aims to impact health status of the people receiving emergency care by changing the behavior and practices of EMS providers and first responders such as police and fire fighters.

The Team developed an adopted version of the model tailored to EMS training. The lowest level of the model is the process level and encompasses inputs and activities of the program. This level is divided into demand, access, quality and sustainability components. The key findings of the study, the determinants of and barriers to success, fall under one or more of the above-mentioned sections. It should be noted that there is a great deal of potential overlap among indicators of the various components.

The second level of the model addresses program outcomes i.e. changes in practices or behaviors. In this case, program outcomes refer to changing the behavior or practices of EMS providers. Because changed practices of EMS workers affect health systems and EMS care delivery before they influence the overall health of the population, an intermediate impact level was added to the model.

The highest level of the framework, "Health Impact," illustrates that a large-scale EMS training program with system-wide impact can potentially contribute to improving the health status of the population served.

The authors of the USAID model "encourage each operating unit, [in this case a training center] to determine what lies within its own manageable interest to affect". The model is therefore meant to be a wide lens or a management tool through which the EMS training centers can analyze their goals, objectives and activities as well as monitor their performance.

Figure 3

Adapted USAID Conceptual Framework

■ Focus of study

Higher Level
Health Impact

Improved Health Status

Intermediate Level
Systems Impact

Improved EMS and First Responder Systems

Second Level
Outcomes

Changed EMS Practices

Third Level

Process

Access/Availability

Commodities and Facilities

Human Resources

Equity

Quality

Provider Performance

Systems Performance

Demand

Knowledge

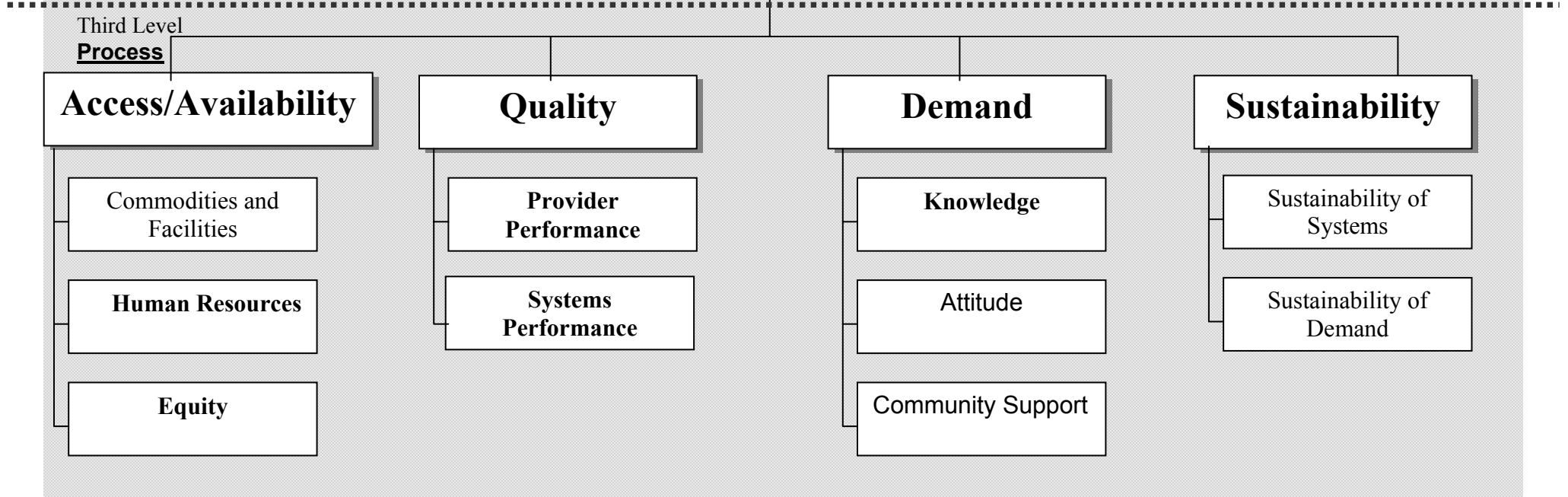
Attitude

Community Support

Sustainability

Sustainability of Systems

Sustainability of Demand



III. KEY FINDINGS

This section describes the key findings of the Capstone study, presented in the context of USAID’s Results Framework. The mainstay of this report, the determinants of and barriers to long-term success, fall under the Third Level. To reflect this emphasis, the Third Level of the model is presented first, while the highest level—impact—is presented last.

Success, for the purpose of this evaluation, is defined as the implementation of a quality training program that meets identified needs in the community it serves. Specifically, a successful EMS training center is integrated into the overall structure of the community’s health and education systems, enhances current EMS practices, and thereby improves the delivery of emergency care.

Third Level: PROCESS—INPUTS AND ACTIVITIES

Access—Availability

Access relates to the ability of the target population to overcome obstacles in obtaining desired goods and services. The target population, in this evaluation, refers to trainees, EMS providers, and first responders. The goods and services are the training programs offered by the centers. According to the model, access depends on three key issues—access to and availability of facilities, access to and availability of human resources, and the equitable distribution of the program among the targeted population.

Location

The geographic placement of the training center is a crucial element of access and availability. Most centers are located in highly populated, highly accessible capital cities. A majority of these centers are affiliated with hospitals, universities and post-graduate centers of medical schools, thus enhancing access to potential trainees and instructors. For those centers that target the first responder population of police, fire fighters and in some cases flight attendants or miners, being located in large cities or disaster or accident-prone areas is vital. In addition, locating a center in the capital city provides EMS training centers with increased access to policy makers and national authorities.

Individual centers have tried to improve access by developing satellite centers or taking the training program on the road, a less expensive option. At one center, instructors have literally brought classes “to the door” of local authorities and first responders by traveling with the center’s equipment and mannequins to remote regions. This option eliminates travel and lodging expenses in the capital city for trainees. The same center provides EMS training at service delivery sites without significantly interrupting work schedules. The director of one service delivery center claims that it would have been impossible to train his staff in any other way.

Economic Constraints

While the centers visited seem optimally located, access to the training programs is limited by severe financial and economic restraints that prevent the EMS centers from expanding to adequately meet the needs of the community. In most cases, individuals cannot afford to pay for the program themselves and frequently, the lack of resources prevents EMS providers and first responders from taking advantage of the training services. On some occasions, various government agencies and private industries subsidize or sponsor training. Interviews in the NIS revealed that when the employer or the government pays for courses, demand for services tends to exceed available funding. The centers must then weigh the value of offering the service for free to EMS providers or receiving revenues for training first responders. At one site, a center received funding for providing EMS training to flight attendants, while medical students and other medical personnel had to be turned away due to lack of funds. Such resource dilemmas limit access necessary for fair distribution of EMS training services.

Quality

In this evaluation, quality refers to factors of the training program that further objectives of the center. Provider and system performance, training equipment, quality of teachers, curriculum, partnership input, and professional exchange opportunities affect the perception of quality.

“We were here when physicians with great enthusiasm studied the methods. I was impressed when older, experienced doctors were down on the floor working with the mannequins and their eyes were shining very brightly. That moment is when we understood the teaching methods, this particular approach to providing hands on experiences, of letting people work with the mannequins, was good.”

Vice Rector of an academic institute associated with one center

Training Equipment and Practical Approach

Instructors at the training center utilize the latest in multimedia technology and learning methodology. The study revealed that the training equipment and hands-on approach to teaching is greatly appreciated in the NIS, a geographic region of the world where the study of theory is emphasized over practical training. When asked to use a scale of 0 to 5 to rate the relevance of training equipment, teaching methods, and hands-on-approach as they affect the success of the center, (with 0 representing “not relevant” and 5 representing “very relevant”), the respondents’ mean score was 4.9 for all three factors.

When the Team asked one center director what he would do if he were forced to choose one of three AIHA inputs: equipment, educational visits to the US, or US partner visits, he selected equipment. He proceeded to state that while all three inputs were extremely valuable, access to training equipment was the most essential to the program.

Another center developed an efficient system and clear guidelines to help instructors deliver a consistent product to trainees. PowerPoint presentation frames were sequenced and numbered so that the material presented was standardized for each class. Accompanying slides and lecture notes were catalogued accordingly so that trainees could easily access the information after the lecture. Standardizing teaching tools was also a way to reduce the effect of high instructor turnover and minimize inconsistencies in the delivery of information. Despite a standardized format, interviews and discussions revealed that the practical teaching approach encouraged participatory learning, which the instructors enjoyed as much as the trainees.

Quality of Teachers

A majority of the stakeholders interviewed and/or surveyed placed a high value on the quality of training center instructors. Forty-seven percent of trainee respondents, 60 % of center staff and 50 % of center directors listed “high-quality teaching” as one of the three most important factors of success of EMS training centers. When asked to use a scale of 0 to 5 to rate the relevance of the education of instructors to the success of the center (with 0 representing “not relevant” and 5 representing “very relevant”), the mean score was 4.9 for both trainees and center staff.

Criteria for instructor selection varies from center to center, yet all centers benefit from AIHA’s “train the trainer” approach. Some centers select the best available specialists in relevant

medical disciplines while others choose anesthesiologists with training in reanimation and intensive care. A majority of the center's staff have participated in "train the trainer" sessions in the United States or at established EMS training centers in the NIS region.

At one center, having highly trained staff posed a problem. The credentials and experience of its instructors raised their market value, causing some to leave for higher wages at private companies. While the center director could not raise salaries, she created part-time positions and offered benefits such as an in-house gym to increase retention. The instructors were extremely satisfied. They liked the stimulating work environment, and the part-time status allowed them to earn additional wages elsewhere.

Curriculum

The Capstone study found that the standardized yet flexible curriculum was one of the key factors of success for the EMS Initiative. When asked to use a scale of 0 to 5 to rate the relevance of the curriculum to the success of the center (with 0 representing "not relevant" and 5 representing "very relevant"), the mean score was 4.3 for trainees and 4.1 for center staff.

Many center leaders viewed the curriculum as an effective, comprehensive tool that meets the needs of various customer groups. To date, several centers have developed their own adapted versions based on the standard curriculum. The new courses were tailored to meet the diverse needs of trainees whose experiences range from senior health professionals to flight attendants with minimal medical knowledge.

At one highly successful center, the director and staff were extremely responsive to trainees' interests. Through feedback from trainees, the staff developed new curriculum components to address personal safety issues and the legal aspects of health.

AIHA's efforts to encourage national and regional standardization of EMS training requirements are likely to enhance the positive long-term influence these programs have on emergency medicine service delivery and the health systems in the NIS. As illustrated by the words of one instructor in the NIS, "We are able to train medical professionals in new approaches and in the re-organization of EMS services occurring in our country."

“I think that we would never have achieved the same level of popularity and quality if it were not for the American partners. The close contacts, the discussions about practical skills and theory, and the exchange of experiences. This [exchange] is very useful, not only for us, but for the American partners too, so this is a two way process. As a result, our centers offer some innovative approaches for providing EMS care. The question has never even arisen as to whether the partnerships are useful or not. They are vital.”

EMS Training Center Director

Partnership Inputs

Based on survey results, observations and interviews, the Capstone study concluded that partnership inputs contribute to the long-term success of the centers. However, there are varying degrees of commitment and resource contributions among the American partner institutions. Their US partners disappointed staff at one center in the apparent lack of interest. In interviews some NIS staff relayed that some US counterparts were most visible during the initial phases of the program's development, but and subsequently reduced their involvement.

Some US partners attribute their diminishing commitment to their own lack of human and material resources needed to sustain a close relationship. The leaders of another center greatly appreciated the input they had already received, but did not seem to expect more assistance. The third center visited was in constant contact with their American partners.

Centers with actively involved US partners felt strongly that the relationship contributed greatly to their ongoing success. The difference was tangible in terms of information sharing and enthusiasm as well as more concrete contributions of supplies and equipment.

Forum for Exchange

When asked to name the three most important factors in the success of the EMS training centers, 25% of trainees cited the exchange of experiences with American and NIS partners as a crucial component. Instructors and staff also discussed the importance of sharing experiences, information, techniques and ideas across medical disciplines. Of the instructors interviewed who had participated in US training all rated this experience as immensely valuable. Those who had participated in training at other EMS centers in the region thought they had been provided with a unique opportunity to learn from and share information with their colleagues in other NIS

countries, something they had rarely done since the dismantling of the Soviet Union. Being exposed to different EMS systems and collaborating with colleagues motivated and inspired current staff. This opportunity to interact with others also attracted new and motivated staff to the centers, thereby improving the overall quality of the program.

Sustainability

Sustainability is a broad, crosscutting issue that can be applied to all levels of a results framework. In the context of this evaluation, it refers to the establishment and preservation of EMS training programs. It encompasses two comprehensive components: sustainability of systems and sustainability of demand. The sustainability of systems includes both internal and external factors. It addresses concerns such as financial sustainability, institutional capacity, and the influence of an enabling environment. These factors can be measured through developments in public policy-making, capacity building, and the generation of resources and other support for improvement of center activities and emergency medical services in the region. Sustainability of demand relates to the ability to pay and attitudes among stakeholders, discussed further under the section on *Demand*. The issue of sustainability becomes tantamount when considering AIHA's stated objective of strengthening local capacity to provide basic emergency care and emergency medical response during mass-casualty disasters.

Leadership

The Capstone study revealed that strong, visionary leadership is a vital component in the success of EMS training centers. The ability of some leaders to launch innovative marketing and programmatic initiatives, to adapt the curriculum to the needs of the participants and to develop new ways to sustain the center and monitor its progress are critical in ensuring the centers' sustainability. Although financial constraints are undoubtedly the greatest obstacle, center staff found innovative ways to use their meager resources. For example, one center developed less expensive versions of foreign EMS equipment and another established a potential source of revenue by obtaining government support for the development of a medical kit that will be required at all EMS and first responder locations.

The ability of center leaders to foster a team spirit and a commitment to their vision was also important. Most striking was some leaders' ability to convert pessimism into pride and a sense of

"ownership" among its staff, instructors and trainees. One training center did this particularly well. Photos of trainees engaged in their sessions, EMS badges and emblems, evidence of an active partnership and international certificates were prominently displayed in the center. Moreover, interviews with center staff revealed their commitment, motivation and sense of common purpose.

Financial Resources

Clearly, financial resources are key to the operation of the center. The Team requested financial statements, but unfortunately, did not receive such documentation. In an interview with an AIHA regional staff member the team was told that the centers were well aware of the cost per person but did not always maintain operational budgets.

Fifty percent of EMS center staff listed financing as one of the three most important factors of success. Through interviews and focus group discussions with EMS directors at the Annual Partnership Conference, a general consensus emerged. All agreed that financial constraints hampered the centers' ability to meet training needs in the EMS community; prevented them from updating and purchasing new equipment and limited the hiring and retention of qualified staff. In addition, the lack of funding reduced the centers' ability to offer free courses to EMS providers who could not afford to pay. Moreover, severe financial constraints restricted the centers' capacity to expand services to locations without access to similar types of training.

Enabling Environment—Government

According to USAID's Results Framework, an enabling environment produces sound policy, assures coordination among stakeholders to promote efficient and effective use of resources, and ensures community participation and empowerment.¹¹ The Team surmises that such an enabling environment helps produce public awareness and bolsters the sustainability of the EMS training centers.

Clearly, the political situation in each country affects the development and support for health and education policies related to EMS. Such policies and associated regulations may, in turn, contribute to improving or deteriorating services and altering attitudes towards EMS training. Some centers are faced with high turnover of EMS-related government officials, forcing staff to

constantly educate and petition for the support of new individuals. Attitudes towards EMS training also affect the ability of centers to garner financial support from both the public and private sectors. EMS training center leaders must continuously promote the value of their services and overcome the limitations of complex and rigid systems. The EMS directors' focus group discussion at AIHA's Annual Conference validated this point, citing working within the current health and legal systems as one of the greatest barriers to success.

Integration into local educational and health systems

The Team concluded that to ensure the sustainability of EMS training centers, they must be fully integrated into the overall structure of their community's health and education systems. Strong institutional affiliations are believed to increase access for medical professionals, enhance quality and improve the sustainability of the center.

Survey results, interviews with center staff and directors, and focus group discussions revealed that issues such as professional credentialing or licensing, improving the educational process, and obtaining legal status for the centers were key success factors. When asked to rate the importance of the center's affiliation with a university on a scale of 0 to 5, (with 0 representing "not relevant" and 5 representing "very relevant"), the mean score of trainees was 4.6 and the mean score of staff was somewhat lower at 3.5. This lower score may reflect a concern voiced by some center staff that the program might then become too theoretical. Both groups rated affiliation with a hospital higher, with trainee mean scores at 4.7 and staff mean scores at 4.3.

The ability of center leaders to develop and cultivate institutional ties to academic and health institutions as well as local and national government agencies was clearly demonstrated at one of the centers the Team visited. In less than one year, the center had pushed for the approval of EMS related laws and obtained several government contracts to provide training for state employees in the police, fire, and transportation departments. Moreover, the center had convinced government agencies to require all police stations, fire departments, and state owned ambulances be equipped with emergency kits developed by the center.

Demand Among Potential Paying Customers

Many centers are taking steps to improve their financial viability by broadening their target markets. Since government funding is limited, centers are reaching out to private companies for

funding and developing curricula to meet their needs. One center has very purposefully solicited their trainees for topics that are of interest to them. During the site visit courses on the legal aspects of medicine were being developed for paying students. Other centers are collaborating with private industries such as pharmaceutical companies to produce and sell EMS related goods that will eventually help pay for the training of the centers' target population i.e. EMS providers. One particularly enterprising center partnered with a publishing house. In exchange for advertisements in medical journals, the center agreed to review and recommend some of the publisher's textbooks and journals to its trainees. Trainees who purchase from the publishing house receive a substantial discount. At another site, the training center is producing a medical supply bag that it hopes to sell to ambulances, training centers, airline and railroad companies.

Partnership Model

The Capstone study revealed that AIHA's partnership approach, one that heavily involves local and national authorities and requires local investments, promotes a sense of project ownership at the centers. Such commitment plays a vital role in the centers' sustainability and success.

Demand

Demand for health programs can be measured through knowledge, practices and most importantly: attitudes. In the EMS training center framework, widespread knowledge of the program is a necessary prerequisite for demand. However, knowledge alone is an insufficient indicator. A target population with a positive attitude toward the training program and noticeable changes in practice may also stimulate demand.

Unique Program

While financial constraints limit effective marketing activities, several factors play a role in increasing demand for EMS training. Positive perceptions about the program are related to its distinctive attributes. A key attribute is the training equipment, in particular the mannequins. Because the equipment is sophisticated and different from what is currently being used in the region, it distinguishes the AIHA-sponsored EMS center from other centers and attracts new trainees. One senior staff member relayed that early on, several established physicians had been resistant to enrolling in the training programs. It was not until they heard about the "fancy"

equipment from junior physicians who had completed the program that they were compelled to attend the training.

Perceived Value of Training Program

The high caliber of instructors also contributes to the increasing demand for training. Survey results revealed that learning from well-informed experts is important in the minds of trainees. In all three sites visited, the positive reputations of the instructors preceded them. AIHA's "training of trainers" program and the sponsored exchanges do much to enhance instructors' reputations. It not only expands their knowledge base, but increases their credibility in the eyes of the trainees.

Affiliation with an American Institution

The centers' affiliation with an American organization also has aided in increasing demand for services. Certificates emblazoned with "American International Health Alliance" and its insignia are held in high esteem, symbolizing higher standards of learning, greater technical skills, and an association with international experts. A Vice-Rector of a Post-Graduate Medical Institute stated, "We try to emphasize the international aspect of such certificates because when a young man returns to his region and shows this certificate, people understand it to be not only a regional certificate, but a connection to America. Our graduates are extremely proud [of the certificate]."

Figure 4.

<u>Listing of Factors for Success</u>	
☑ SURVEY QUESTION: <i>What do you feel are the three most important factors for success of the EMS Training Centers? (Answers written in by respondents)</i>	
FINDINGS:	% of Respondents Listing the Category
Trainees (55% Response Rate) n=55 (of 100)	47% High Quality Teaching 43% Training Equipment/Literature 38% Practical Application to Work 25% Exchange of Experiences 16% Financing
Instructors/Staff (100% Response Rate) n=20	65% Training Equipment/Literature 60% High Quality Teaching 50% Financing 20% Practical Application to Work 20% Modern Methods of Teaching
Directors (100% Response Rate) n=5	60% High Quality Teaching 60% Modern Methods of Teaching 40% Financing 20% Training Equipment/Literature

BARRIERS TO SUCCESS

Financial Constraints

While deficiencies in any of the above mentioned determinants of success might constitute a barrier, information gained from different points of inquiry repeatedly revealed that the lack of financial resources is the greatest barrier to success. General consensus pointed to as the most fundamental barrier limiting access, quality, demand and sustainability.

One of the more significant sources of financing for most centers is fee-for-services generated from paying customers. Many sites have been successful in attracting private companies, government agencies and individual clients. While this source of income is important in overcoming financial constraints, it also limits the access to training for medical personnel who want be trained but cannot afford it. As mentioned earlier, most of the health institutions do not have enough available resources to pay for their employees to attend the training.

Resource constraints also prevent the centers from expanding their services to new locations, particularly to regions that have no access to similar types of training. Most EMS training centers are located in urban areas where EMS services are more sophisticated than in rural areas.

Limited funding restricts the centers from increasing their instructors' salaries. This situation has affected staff retention at one center and may in the long run impact the quality of the program. While some centers have proven their ability to retain staff through solid leadership, some highly trained instructors were lured away by more attractive offers from other institutions.

Resistance to Change and Passivist Attitudes

Several, if not all centers have had to deal with a resistance to change and skepticism from key individuals and institutions. A chronic lack of resources has oftentimes led to despondency and passivity. According to the Vice Rector of a post-graduate medical institution affiliated with one of the EMS centers, financial constraints are not the key barrier. Instead, he claims that resistance to change and conservative attitudes are equally important. "When we do the explaining to local authorities they are skeptical and say, it's expensive. We say we will bring the skills and knowledge right to your door. Local authorities are always grateful and write excellent reviews."

Socio-Economic and Political Conditions

Factors such as socio-economic and political conditions are of course beyond the control of the centers. In much of the NIS, economic instability influences the centers' budgets as the centers' finances are dependent on government funding. The Team was told firsthand how the exchange value of local currency affects government health and educational budgets. Directors relayed how fluctuations in the exchange rates often reduce the resources made available to health care providers. The health and educational institutions that EMS centers rely on for potential trainees, space and staff salaries also suffer from the grim economic situation in much of the region.

The political instability in some parts of the former Soviet Union affects health and educational policies, which in turn, may contribute to lukewarm attitudes toward EMS training. Some centers are faced with high turnover rates of government health officials, forcing them to constantly persuade new individuals to support EMS services. While the centers can work to diversify their funding base, the economic and political instability of the region is likely to hamper their efforts.

Secondary Level: OUTCOMES

In USAID's model, the Secondary Level refers to the direct outcome of its programs. As stated previously, the primary objective of the EMS Initiative is to strengthen capacity among EMS providers and first responders to provide effective care during medical emergencies and mass-casualty disasters. Behavior changes originating from EMS training form the initial outcome of the Initiative and, as such, become the secondary level of the model. Due to various constraints, the evaluation team was not able to verify behavior or substantiate attitudinal changes, nor was it able to truly examine the causal relationship between the training and behavior changes. The information below represents the perspectives of various stakeholders garnered through surveys and interviews on what they believed to be the main outcomes from the EMS training program.

Behavior Changes of Trainees

The primary outcomes expected from the training program are those that affect the individual trainees' ability to deliver effective emergency care. The EMS training imparts many new and improved skills to trainees, many of whom were experienced EMS professionals. According to one instructor, "A lot of practitioners come with 15 years experience and they still learn things."

The first survey question posed was, "In your opinion has the EMS training center improved the quality of EMS services in your community?" The response from all groups surveyed was overwhelmingly positive with more than 99 % answering yes to that question. Survey questions followed with an inquiry into the ways in which training has changed EMS provider behavior. (See Figure 5.) When asked to compare EMS providers who received training at the EMS training center with those who had not, 94% of trainees felt that EMS graduates were better qualified to deliver emergency services, 96% believed that they delivered better care in emergency situations and 98% claimed that they were more knowledgeable about emergency medical techniques.

Directors of dispatch centers said that they had seen substantial improvements in emergency care practices among those that participated in EMS training. They were so impressed with training outcomes that they wanted every employee to receive training. However, current financial constraints prevented them from paying for training of all of the EMS staff. In response, EMS

training center graduates at one service delivery site were sharing their newly acquired skills with colleagues who were not able to attend the training.

In the clinically-oriented survey developed for EMS graduates (See Appendix D), they were asked whether skills taught in the curriculum were new concepts, improved concepts, or concepts unfamiliar to them. The response was varied. Surprisingly, in one training center, a significant number of trainees stated that much of what was offered, including CPR skills was new material. In other cities, especially among recent medical school graduates the curriculum was not new. What was new according to one prominent instructor was the opportunity to practice the necessary hands-on skills. Accordingly, one focus group of medical students agreed that they thought the EMS training was invaluable for the tactical and practical approaches they were learning. Nonetheless, they claimed they would still have wanted more depth of theory.

Figure 5.

<input checked="" type="checkbox"/> GENERAL SURVEY QUESTIONS (See entire survey in Appendix B)		FINDINGS
<i><u>In your opinion, has the EMS Training Center improved the quality of EMS services in your community?</u></i>		Yes 99-100% all groups
<i><u>If you answered “yes,” do you think these changes in the EMS services have improved the overall quality of health care in your community?</u></i>		Yes 94-100% all groups
<i><u>If you answered “yes”, place a ✓ in which areas you think the EMS Training Center has improved the quality of health care?</u></i>		
<u>Category Listed</u>	<u>Percentage of respondents who checked (✓) category</u>	
	<u>Trainee</u> n=102	<u>Staff</u> n=20
	<u>Director</u> n=5	
Trainees are using new techniques	89%	89%
Trainees are using better technology	70%	72%
Community has greater access to health care	24%	39%
Faster response time to medical emergencies	34%	39%
Increased public awareness of EMS issues	54%	72%
Decreased morbidity and mortality rates	22%	11%
Better coordination among EMS workers	39%	50%
Better coordination between EMS workers	30%	22%

Figure 6.

CLINICAL SURVEY QUESTIONS (See entire survey Appendix D)
Question 29: Were the procedures taught in the course new or improved techniques from prior practice?

Total n =71
Center #1 n =21, Center #2 n =43, Center #3 n =7

FINDINGS

PROCEDURE	CENTER #	% NEW	% IMPROVED	% NO CHANGE
CPR	1	5	50	45
	2	9	59	32
	3	78	11	11
Intubation	1	14	45	41
	2	11	66	23
	3	67	33	0
Infusion therapy	1	5	43	52
	2	9	58	33
	3	25	50	25
Immobilization	1	36	54	9
	2	30	73	14
	3	67	22	11
Splinting	1	27	59	14
	2	17	67	17
	3	56	44	0
Defibrillation	1	5	41	54
	2	14	43	43
	3	56	33	11

Figure 7.

CLINICAL SURVEY QUESTIONS (See entire survey Appendix D)
Question # 30: Have you preformed any of the procedures taught in the course?

Total n =71
Center #1 n =21, Center #2 n =43, Center #3 n =7

FINDINGS

PROCEDURE	CENTER #	% YES	% NO OPPORTUNITY	% NO EQUIPMENT
CPR	1	86	0	14
	2	81	7	11
	3	29	71	0
Intubation	1	62	24	14
	2	67	19	14
	3	29	71	0
Infusion therapy	1	91	5	5
	2	76	12	12
	3	57	43	0
Immobilization	1	91	5	5
	2	86	2	12
	3	50	50	0
Splinting	1	90	5	5
	2	82	9	9
	3	38	62	0
Defibrillation	1	60	35	5
	2	51	32	17
	3	14	86	0

"I think what was valuable about this program is that it was not a methodology or a project that was introduced and adapted to [the region]. AIHA partnerships had hospitals paired with hospitals. Then, they were given a free hand to determine what is important, and what they want to achieve, how they want to get people involved, trained, how to get follow-up. From the beginning, this program was very responsive to the needs of the health providers of the population that they have to work with. That's why I would say it's been so spontaneous and dynamic. We managed to do a lot of things that probably were not planned, but just evolved gradually."

USAID Regional Coordinator

Attitude Changes

While the trainees were consistently impressed with the skills and approaches learned, external stakeholders were often even more impressed with the trainees' and EMS staff attitudinal changes. Directors and staff of the training centers spoke enthusiastically about this enhanced attitude. They felt that the hands-on, participatory approach strengthens the relationships among doctors, nurses and fieldshers. The EMS training program is often a rare opportunity to intermingle at an equal level and receive much the same training. Such interaction enhances communication and creates a sense of shared purpose.

In addition to enthusiasm and excitement about new learning, survey respondents recognized that enhanced professionalism was an outcome of the training program as well. The survey revealed that 94% of the respondents felt that EMS providers who had received the training "act more professionally in emergency situations" than others who had not undergone the experience.

Intermediate Impact: IMPROVED HEALTH SYSTEMS

EMS centers in the NIS are training an increasingly large number of people. Concurrently, the network of training centers is also expanding. Over time, these trainees and the efforts of EMS centers to change policies, legislation, standards and attitudes will have the potential to affect the various health systems throughout the region. The Team did not attempt to measure the impact of the training centers on these systems. However, some postulations based on document research, survey results, AIHA and center reports, observations and interviews are mentioned below.

Emergency Medical Service Systems

The Team found that EMS centers are contributing to improvements in emergency service delivery by increasing knowledge about EMS, enabling EMS providers, and influencing policy makers to support EMS-related legislation. As noted previously, survey respondents felt that EMS training centers have led to improved quality of EMS and health care in their community. Ninety-nine percent of survey respondents reported that they believed the EMS training centers had improved the quality of emergency medical services and the same percentage of respondents felt that the center had improved the overall quality of health care in the country. Centers and satellite centers have been established to expand training and increase access to EMS information. Additionally, one center has facilitated a residency program in emergency medicine, thus setting a precedent in the NIS for medical leaders who are more specialized in the field.

Data collection and enhanced dispatch capacity is emphasized by one center where a team of paramedics was trained in computer programming for dispatch services and database management. To further these aims, the US partner provided training and donated equipment. This technology, if successful, can be carried over to other centers for teaching and advocating in the future.

As the EMS training centers become an integral part of their respective health systems, their reputation and often, their sphere of influence, is likely to grow. The study found that EMS centers are improving the EMS system by influencing policy makers and by promoting standardization. For example, through the efforts of one EMS training center, regional politicians passed regulations requiring all EMS feldshers to attend training at the center. At another site, the EMS center influenced policy that now requires the presence of cervical collars and long

backboards in ambulances throughout the country. This statement was verified in the clinical survey. Answers indicated that the city's EMS providers now had access to the above-mentioned equipment.

First Responder Systems

Police and fire department personnel are often the first to arrive on the scene of an emergency. However, formalized first responder systems like the ones in the US are new or unknown in the region. One of the primary objectives of the EMS Initiative is to develop and extend the abilities of these first responders to provide the necessary medical care until EMS professionals arrive on the scene. This non-medical assistance system has been received with considerable enthusiasm. One US partner relayed that at their partner center in the NIS, the director also had medical jurisdiction over several small cities and successfully initiated a pilot first responder system to be used as a model for other cities in the region.

All the centers visited offered courses to extend the network of medically trained personnel able to respond appropriately in a medical emergency. In addition to police and fire fighters, other possible first responders are also being encouraged to complete an abbreviated basic curriculum, usually between 40 to 48 hours in duration. These include flight attendants, miners, railroad workers and nuclear facilities engineers.

In one of the countries visited, center staff are advocating for a law that would require automobile drivers to attend training in first aid as a prerequisite for their drivers license. At the same site, all first responder vehicles, including those of the police and fire department, will be mandated to have emergency medical kits, designed by the EMS training center, on board their vehicles. In addition to improving the ability of the first responders to provide care in emergency situations, developing the medical kit will become a source of additional revenue for the center.

Disaster Preparedness

Several EMS training centers have taken a very active role in disaster planning and policy development by hosting and participating in conferences. Boston University School of Medicine has spearheaded the development of the radiation disaster preparedness program in collaboration with the International Atomic Energy Association and AIHA. Most, if not all, centers have

addressed disaster planning by adding a disaster section into the basic curriculum. Interviewees repeatedly indicated a need for additional training in this area.

Several sessions of the 1999 AIHA Annual Conference in Washington DC were devoted to the topic of Disaster Preparedness for the EMS Initiative. Center directors and staff were informed of the most current advances applicable to the countries of the region. Guest speakers including those from the Oakridge Tennessee International Radiation Emergency Assistance Center and Training Site, the Pan American Health Organization, the University of Madison-Wisconsin and The World Association for Disaster and Emergency Medicine lectured on related subjects, and offered networking possibilities for center staff.

Reflecting the proliferation of large-scale disasters around the world and the concerns of many bi-and multi-lateral agencies, disaster planning and preparedness is a high priority at AIHA and at several of the EMS centers in general. The network of EMS centers has become a vehicle for educating professionals as well as citizens in disaster response. This initiative is thereby strengthening a growing global disaster network.

Other Health Care Providers

When affiliated with large hospitals and/or state-run academic institutions, the EMS centers have the potential of affecting other health professionals. For example, by exposing primary care professionals to the advanced equipment and techniques of the training program, these centers can have a direct effect on primary care delivery by broadening the knowledge and skills of professionals involved in emergency and near emergency situations.

At one center, the EMS curriculum has been adopted by the Institute of Continuing Education for Physicians as the core curriculum for the advanced training of feldshers. This course is used for accreditation and certification of feldshers countrywide. Moreover, the basic EMS training course conducted at the Center has been added to the Medical School Curriculum for all 6th year medical students. At yet another center in Central Asia, the EMS training center developed a curriculum for hospital physicians in receiving departments to improve the coordination of care between ambulance teams and in-hospital personnel.

General Population

Survey results revealed that 67% of respondents believed that the EMS training centers had increased public awareness of EMS and disaster relief issues. An American partner, when interviewed, suggested that public awareness of safety and emergency concerns is an area that should receive more attention. Some centers are already reaching out to the public. The staff at one center has begun an outreach program to teach first aid and CPR to secondary school students. At another EMS training center, staff developed and presented two practical skills lessons on national television and the director of the center appeared several times on national television to discuss its activities, goals and objectives.

For any health-related program, the ultimate goal is improved health status of the target population. The EMS training centers are no exception. If the EMS providers have an impact on the quality of service delivery they provide, improvements would potentially impact population health indicators. These indicators measuring the highest-level impact would include rates such as mortality, morbidity and trauma outcome figures.

Program organizers, funders, and researchers alike look for concrete evidence that “numbers” are affected. EMS studies often include a discussion of mortality, morbidity and injury indices. From the onset of this evaluation, however, measuring impact in health indicators was considered far beyond the scope of this study. The Team also notes that since these are training and not service delivery centers, there are a host of other variables beyond the training of providers that influence mortality and morbidity rates of patients receiving emergency care.

Determining the impact of EMS on health outcomes has proven difficult even in the United States. A 1995 study conducted by the National Highway Traffic Safety Agency revealed that uniform data collection and reporting has made little progress in America. The study identifies three main obstacles: 1) EMS systems are largely under local control and few local administrators or medical directors have a perspective or concern beyond the needs of their own subsystem; 2) limited financial and personnel resources and research expertise; and 3) lack of a lead federal agency to direct a national consensus project (Spate 1995: 525). Most of these factors are even larger obstacles in the NIS.

Not surprisingly, due to the current limited scope of the centers, over 80% of survey recipients felt that mortality and morbidity rates have not yet noticeably improved as a direct result of training from the centers. During data analysis, this question was considered invalid because no differentiation was made between pre-hospital and general mortality and morbidity rates.

Data collection and analysis is the first step in demonstrating any impact change. The Team observed that the EMS delivery sites are collecting data that is comparatively similar to their Western counterparts. In fact, some sites use modern computer programs. However, expending the funds, expertise, and labor needed to compute changes in mortality and morbidity in pre-

hospital settings may be premature at this stage. Such efforts would call for system-wide standardization and coordination of data collection and analysis.

As training centers continue to expand their services, impact government policies, and produce and disseminate information about EMS, their impact on health outcomes will become increasingly measurable.

IV. PERFORMANCE MEASUREMENT INDICATORS

Monitoring and evaluating program performance requires the tracking of results over time. To answer the third evaluation question: "Which measurable performance indicators may be used to evaluate EMS centers?" the Team generated a list of performance indicators to illustrate possible measurements that might be collected. (See Appendix A)

V. RECOMMENDATIONS

Many of these recommendations are based on comments and suggestions from the various stakeholders both in the United States and overseas who were interviewed.

1.Data Collection and Performance Measurement

Effective data collection and analysis are prerequisites for a successful evaluation, particularly when it comes to measuring outcomes and impact. It is also vital that all stakeholders understand the value of data collection, assessments, and evaluation. An evaluation should be perceived as an opportunity for improving implementation and not as a futile time-consuming endeavor or a judgment on performance.

- 1.1** A needs assessment, which includes data collection and documentation on how an EMS training program would fit into the health and education system, should serve as a basis for developing objectives, mission and planning activities. While the assessment itself should be specific to the area, uniformity in the structure of the assessment tool for would help comparison between regions and centers. The area needs should be assessed as early as possible and updated on a regular basis.
- 1.2** To facilitate performance measurement, EMS training centers need first to develop specific, measurable, realistic and time-bound program objectives. Program activities should be linked to expected program outcomes, and these outcomes should, in turn, be linked to program objectives. Below are some examples of measurable objectives:
 - a. At the conclusion of the 80-hour course, 90% of participants will demonstrate a pre/post gain of 25%.
 - b. Within a period of 12 months the EMS training center will have provided 80-hour training courses for 100 EMS providers and 40-hour courses for 100 first responders.
 - c. By year 2002, the EMS training center will have increased their overall funding by 20% with 50% of revenues coming from private entities and 50% from government entities.
- 1.3** Like their counterparts around the world, EMS dispatch and service centers in the NIS are already collecting substantial data. However, data from multiple sources is not

always integrated or analyzed to its full potential. Consequently, AIHA and the EMS training centers may consider providing training on data collection and analysis, first for center staff and subsequently, as a component of the curriculum. The EMS directors' working group could take the lead in establishing dialogue on methodologies, minimum data sets, and other related topics. In the long-term, EMS training centers could be instrumental in promoting standardized data collection and regular analysis in the countries they operate. This, in turn, would help EMS training centers demonstrate the impact their programs have on emergency medical service delivery.

- 1.4 Most, if not all, EMS training centers conduct pre and post tests. However, the study found that few adequately measure whether trainees are indeed using the skills they learned on the job. The Donetsk-Orlando EMS partnership has begun administering post tests to program graduates 6-12 months after the completion of their training to measure behavior changes. The Team suggests that knowledge retention tests, both theoretical and practical, be given at regular intervals. Refresher or advanced courses for previous graduates may also be effective, possibly at EMS service sites, so that graduates may practice their skills in appropriate surroundings. This requires that the centers gather and update information on previous graduates through the use of a database.

2. Funding and Expansion of Services

All of the centers that the team visited expressed a desire to provide increased access to their training by expanding services and /or developing satellite centers. This included creating centers in high-risk areas such as exclusionary zones, highly industrial regions and conflict zones. The principal impediment for doing so was resource constraints. In some cases, the centers were not able to meet demand within the EMS community because individual institutions or potential trainees were not able to pay for services.

- 2.1 Sending out mobile training teams appears to be a cost-effective method of increasing access to training prior to or in lieu of creating satellite centers. However, to enhance the centers' ability to provide this service, the centers need a second set of mannequins and other relevant training material. This would allow them to increase the number of EMS providers and first responders who receive training as well as boost revenue by offering training to proprietary companies in other regions. In addition, mobile training courses generate greater exposure and provide EMS training center staff with opportunities to determine training needs in communities beyond their current catchment area.
- 2.2 Given that AIHA might not be able to provide resources to improve access and expand services, AIHA regional centers should consider initiating or increasing training in strategic planning, marketing, fundraising, and grant writing. Facilitation of meetings with other international donors or providing information about potential international donors would also be helpful. To lower equipment costs and enhance the local economy, AIHA could help find external funders to assist in the development of locally produced EMS equipment and supplies. EMS centers could begin to work closely with local, for-profit companies or

government agencies to market ideas such as cardboard neck braces and EMS supply bags. In addition, AIHA could facilitate contact with organizations that donate equipment.

- 2.3 The centers should consider using volunteers such as medical students to train non-medical populations or provide other services in exchange for free or subsidized EMS training. This would add to the labor force at centers and increase access for those without the means to pay.

3. Resource Sharing and Cross-Partnership Capacity Building

To maximize the use of resources, facilitate EMS reform on a broader, more comprehensive scale, AIHA should continue to encourage resource and information sharing among EMS centers and across partnerships.

- 3.1 At the 1999 AIHA Washington DC conference, an EMS Initiative Group of directors was formed. This council could serve many functions such as standardizing testing for certification, sharing methods and innovations, organizing conferences in the NIS regions, curriculum review, and addressing various EMS issues.
- 3.2 The team recommends that in addition to the mobilization and strengthening of the EMS Initiative Group, AIHA might add an EMS component to the AIHA website that already exists. This site could offer access to valuable document such as the various curricula developed, PowerPoint training material, pre and post tests, proposal writing budget and evaluation guidelines, information about potential donors, relevant reports, indicators and minimum data sets. It might offer chat rooms and topic related online training as well as regular discussion of issues relevant to EMS. This would also be an opportunity to share lessons learned.
- 3.3 AIHA might also facilitate regular EMS meetings held at the various EMS centers, providing each center with an opportunity to showcase accomplishments and learn from others.
- 3.4 The Team urges AIHA to continue encouraging information and resource sharing across initiatives. For example, many EMS providers who responded to the Capstone survey estimated that they spent up to 80% of their time providing primary care. Hence, topics related to primary care could be added to the standard EMS curriculum and the EMS training facilities could be used to teach the primary care curricula. This could help fund the EMS training centers and provide opportunities for cross training. This enhanced cooperation could lead to a pooling of resources and a sharing of lessons learned.
- 3.5 To promote long-term commitment and relationships between NIS and US partners, AIHA might consider providing introductory courses for new US partners that help them prepare for their overseas experiences. Seasoned US partners and other overseas development experts could share their experiences and provide valuable information that would minimize mistakes and misconceptions. They may also suggest how and where US partners can seek external funding to sustain the partnerships. A working group of US partners might also be valuable.

4. Program Recommendations

Many of the EMS training centers have developed interesting additions to the standardized curriculum while others suggested that their trainees wanted additional training in topics not currently covered.

- 4.1** Survey respondents suggested that topics such as pediatrics, emergency obstetrics, infectious disease and primary care could enhance the current curriculum. Other areas for development may include EMS systems management and data collection and analysis.
- 4.2** Survey results indicated that the training had minimal effect on teamwork and coordination. Subsequently, it is recommended that the curriculum might be examined to strengthen the teamwork and communication component
- 4.3** A new curriculum piloted in Armenia was developed to extend EMS pre-hospital advances to in-hospital care. While the Team was not able to visit the center that offers the curriculum, it recommends that the subject be taught at other EMS centers This may enhance teamwork and coordination.
- 4.4** Since resource constraints pose such a large problem in the region, additional emphasis should be placed on how to deal with shortages of supplies as well as finding or developing local or less costly substitutes to equipment.

VI. BIBLIOGRAPHY

- Aghababian, Richard V., et al. "EMS Training Curriculum for NIS Regional Training Centers." Boston U, 1999.
- Babbie, Earl. The Practice of Social Research. Belmont: Wadsworth, Inc., 1997.
- Bader, G and Catherine Rossi. Focus Groups: A Step-By-Step Guide. San Diego. CA: The Bader Group, 1997.
- Clark, T. "Documentation as Evaluation: Capturing Context, Process, Obstacles, and Success." Evaluation Practice Vol. 9 (Feb 1988).
- A Leadership Guide to Quality Improvement for Emergency Medical Services (EMS) Systems. 1997. Department of Transportation National Highway Traffic Safety Administration. 25 November 1999. <<http://www.nhtsa.dot.gov/people/injury/ems/leaderguide/>>
- Field, M. The International Handbook of Health-Care Systems. Westport, CT: Greenwood Press, 1988: 324-338.
- Gaufberg, S.V. "Russia." 15 February 2000 <<http://www.emedicine.com>>
- Holliman, James C., et al. "Guidelines for Evaluation of International Emergency Medical Assistance and Development Projects." Annals of Emergency Medicine (December 1997): 811-814.
- Kayser, Laura, Arsen Koubataev, and Elena Zabolotskaya. "Overview of the Financial Environment of the CEE/NIS Health Care Sector." CommonHealth Magazine (Spring 1995): 4-7.
- Lassey, M., W. Lassey and M. Jinks. Health Care Systems Around the World. Upper Saddle River, NJ: Prentice Hall, 1997.
- "Russia." Library of Congress. Federal Research Division, Country Studies, Area Handbook Series, 15 February 2000 <<http://lcweb2.loc.gov/frd/cs/rutoc.html>>
- National Traffic Safety Administration, *Uniform Pre-Hospital Emergency Medical Services (EMS)*, August 1993.
- "High Level Performance Indicators and Clinical Indicators" United Kingdom Department of Health, Crown Publishing. 1999.
<<http://www.doh.gov.uk/indicat.htm>>
- Preker, A. and R. Feachem. "Market Mechanisms and the Health Sector in Central and Eastern Europe". World Bank Technical Paper, Number 293. Washington DC, 1995.

Rossi, P., and H. Freeman. Evaluation: A Systematic Approach, Volume 5. Newbury Park, CA: Sage Publications, 1993.

USAID, Health and Family Planning Indicators: "A Tool for Results Frameworks"
AFR/SD, HHRAA Project, Washington, DC (September 1996) 29 pp.
<<http://www.info.usaid.gov/regions/afr/hhrraa/docs.htm>>

USAID, ""Preparing an Evaluation Scope of Work", #3 (PN-ABY-207), Washington, DC, CDIE, 1996.

USAID, "Selecting Performance Indicators ", #6 (PN-ABY-214), Washington, DC, CDIE, 1996.

Appendix A: List of Performance Measurement Indicators

LEVEL AND CATEGORIES INDICATORS

Third Level: Process

A. Access/Availability

I. Location

1. # of EMS staff at delivery sites within a given distance from the center
2. # of new EMS satellite centers established per year
3. # of off-site trainings conducted per year

II. Economic and financial constraints

4. % of total number of EMS providers without access to training programs due to financial constraints
5. % of total number of police and firefighters without access to training programs due to financial constraints

B. Quality

I. Training Equipment/Practical Approach

1. Regular inventory of equipment denoting dates of purchase and condition
2. % of curricula by type devoted to hands on training
Systematic feedback from trainees and instructors on value of practical approaches
3. vs. theory
4. Presence of a system that regularly assesses staff and client training needs

II. Quality of Teachers

5. # of instructors by training and background
6. % of present staff that participated in training of trainers courses in the US
7. % of present staff that participated in training of trainers courses in the region
8. Systematic feedback from trainees on quality of instructors

III. Curriculum

9. # of different type of curricula
Presence of annual review of curricula based on systematic feedback from
10. instructors and trainees

IV. Forum of Exchange

11. Number and methods of information exchange with US and other EMS centers
formal opportunity exists in training course for exchange of experiences, ideas and information

V. Partnership Input

12. Use of a scale to rate partnership input

C. Sustainability

I. Leadership and Management

1. Presence of Mission and Vision Statements
Presence of specific, measurable, realistic and time-bound program objectives
2. reviewed annually
3. Presence of a strategic plan
4. Are data and information used in planning and operations?
Presence of a system that periodically reviews the logistical needs and resources of
5. the institution
6. Implementation of innovative approaches and programs

7. Ties to various stakeholders continuously being developed or strengthened
8. Participation of directors and staff in professional development activities
9. Development of non-monetary incentives to help retain staff

II. Financial Resources

9. % of trainees funded by government
10. % of trainees funded by private companies
11. % of trainees paying out of pocket
12. % of trainees receiving training for free
13. Staff turnover/retention rate
14. Presence of short and long-term operational budgets
 - Presence of an accounting system that regularly provides income/revenue data and cash flow analysis
 - Presence of an information system that provides reliable information on current and
15. previous trainees
 - and training services
 - Presence of a regular system for assessing the needs and preferences of clients
16. and for adjusting
 - services in response to identified changes in needs
17. At least one employee is responsible for fundraising
18. Presence of a grant management system

III. Enabling Environment-Government

- Existence of government exemptions, waivers, and other financial support for
- 19. training
- 20. Presence of national policies that supports EMS program objectives
 - Use a scale to measure the degree of public and private support provided for EMS
- 21. related policies
 - Presence of a legal/regulatory framework for EMS including standards, requirements
- 22. and certifications
- 23. Presence of strategies to increase public awareness of EMS-related issues

IV. Integration into Education/Health Systems

- Use a scale to rate degree of collaboration with or integration into post-graduate
- 25. institution
- 26. Use a scale to rate degree of collaboration with or integration into health institution
- 27. # of EMS center staff who are faculty at medical school of post-graduate institution
 - Use scale to rate efforts to determine & meet training needs at relevant health and/or
- 28. education institutions

V. Demand Among Potential Paying Trainees

- Presence of ongoing marketing efforts to reach private companies and paying
- 29. customers
- 30. # of potential private companies paying for services
- 31. # of individuals potentially willing to pay out of pocket for services

VI. Partnership Model

32. Use a scale to rate efforts of US partner
33. Quantify inputs of US partner

LIST OF INDICATORS—CONTINUED

LEVEL AND CATEGORIES

INDICATORS

Third Level: Process

D. Demand

I. Unique Program

1. # of competitors offering similar training program
Determine impact on demand of center's efforts of marketing unique characteristics to target audience
2. target audience

II. Perceived Value

3. courses
Systematic feedback from trainees on perceived value of program prior to attending
4. target audience
Determine impact on demand of center's efforts of marketing value of program to target audience

III. US Affiliation

5. audience
Determine impact on demand of center's efforts of marketing US affiliation to target audience

Second Level: Outcome

A. Changed Practice

1. Average % gain in pre/post testing
2. Average results of practical and field tests
3. Average % retention of knowledge rate 6-24 months post graduation testing

B. Changed Attitudes trainees/staff

- Examples of staff/trainee attitude changes and motivation i.e. journal articles, innovation etc.
1. innovation etc.

Intermediate Impact Level: Improved EMS delivery

A. EMS System Changes

1. Evidence that EMS system has changed as a result of center activities
2. Evidence of EMS policy changes as a result of center activities
3. Evidence of EMS legislation changes as a result of center activities
4. % of EMS Providers trained by city/region/country according to prescribed standards
5. Decrease in average response times
6. Decrease in average on-scene time
7. Decrease in average transport time
8. Percentage of ambulance equipped according to prescribed standards
9. Level of patient / stakeholder satisfaction
10. Instances of replication of center activities that increases # of people trained

B. First Responder Systems Changes

1. % of first responders trained by city/region/country according to prescribed standards

C. Disaster Planning-Preparedness Changes

1. Evidence of policy changes in disaster planning and preparedness as a result of
2. Presence of regular disaster drills
3. Presence of disaster coordination unit that EMS training centers play a role in
4. Presence of early-warning systems and coordination with relevant international

5. # of relevant professionals trained in disaster response/preparedness by
According to prescribed standards

D. Greater Health System

I. Non-EMS health care providers

- # of non-EMS health professionals trained in EMS by city/region/country according to
1. prescribe standards

II. General Population

- Use a scale to rate increased awareness of EMS among the general population due to
2. center activities

Higher Impact Level: Improved Health Status

- Rate of pre-hospital morbidity per specific designation or diagnosis i.e. trauma over
1. time
 2. Rate of pre-hospital mortality per specific designation or diagnosis over time
 3. Rate of mortality of EMS admission within 24 hours of hospital admission over time

Appendix B: Translation of the Results of November AIHA Conference

Group Exercise Listing Qualities, Barriers, and Steps to Overcome Barriers that lead to a Successful EMS Center.

Group One

Success qualities:

1. Adequate number of students
2. Basic program
3. Preparation of teachers
4. Resources of center
5. Relevant classroom theory to actual practice.

Barriers:

1. Working within the current system of health care, and the legal status of center.
2. No ability to purchase new equipment.
3. No resources to continue teaching new students.
4. Lack of motivation in students.

Steps to attempt to overcome barriers:

1. Create graduate certificates that increase legal status of the centers.
2. Offer tuition free courses.

Group Two

Success qualities:

1. Financing
2. Licensure
3. Pre/post testing
4. List of students in each category
 - A) Medical
 - B) Non-medical
5. Developing new centers
6. Adequate number of new students.

Barriers:

1. Socio-economic situation
2. Current legal system
3. Low level of education of the population and absence of stimuli for successful completion of study.

Group Three

Success qualities:

1. Clearly defined mission of the center stating its value in the system with pertinent statistical data to prove, including economic data.
2. Improved quality of the educational process, including a legal status as incentive for obtaining graduate certificates.

Barriers:

1. Absence of interest from the government, which leads to absence of legal status of center and graduates which leads to lack of financing.
2. Lack of students due to out dated methodology and equipment, which leads to devaluation of the certificates.

Group Four

Barriers:

1. Social-economic situation.
2. Influence of the current/prior health system in place which will take at least 5-10 years to change.

Steps needed to overcome these barriers:

1. Analysis of results
2. Exchange of experiences
3. Adequate testing
4. Financing.
5. Information/advertising

Appendix C: General Survey

American International Health Alliance

Survey of Emergency Medical Services
Training Centers

January-March 2000

**Administered by the Capstone Evaluation Team of
Robert F. Wagner School of Public Service
New York University**

Dear Respondent,

Thank you for participating in this survey. As you may know, your EMS training center is part of an American International Health Alliance (AIHA) assisted initiative. The purpose of this survey is to help AIHA and future partners develop effective, successful EMS training centers. AIHA, in cooperation with the Wagner School of Public Service at New York University (NYU) and the EMS Training Centers have carefully planned this study. A six-member team from NYU and AIHA will be conducting site visits, interviews, and focus group discussions as well as administering surveys over the next few months.

We need your assistance. Specifically, we would like your input about the Center to help us determine factors that contribute to success as well as those factors that hamper effectiveness. *Your* comments will to help improve the existing training center and help to establish new successful centers.

Our objective is to gather information about the EMS Training Centers. This is not a test, and therefore there are no “right or wrong” answers. We encourage you to be candid.

We are conducting this same survey at other EMS centers. Please be assured that all responses will be kept confidential. Your identity, along with the identity of the center, will not to be disclosed.

We will share our results with all interested participants this spring. Again, thank you for your participation.

Sincerely,

Capstone Team

Wagner School of Public Service, New York University
and American International Health Alliance

PART 1: COMMUNITY IMPACT OF THE EMS TRAINING CENTER

The first few questions focus on the impact of the EMS Training Center on the community. Please place a (X) in the box that applies.

1. In your opinion, has the EMS Training Center improved the quality of EMS services in your community?

- Yes
 No (If no, skip to Question #4)
 Don't Know

2. If you answered "yes," do you think these changes in the EMS services have improved the overall quality of health care in your community?

- Yes
 No (If no, skip to Question #4)
 Don't Know

3. If you answered "yes" in which areas do you think the EMS Training Center has improved the quality of health care? (*Circle all that apply*)

- Trainees are using new techniques
 Trainees are using better technology
 Community has greater access to health care
 Faster response time to medical emergencies
 Increased public awareness of EMS and disaster relief issues
 Decreased morbidity and mortality rates
 Better coordination among EMS workers
 Better coordination between EMS workers and other hospital units
 Other _____


4. In your judgement, approximately what percentage of the regional population has access to EMS services? _____

5. How did you first hear about the EMS Training Center? (*Please specify:*)

6. Various methods have been used to recruit trainees. What methods are you personally aware of that your center has used? *(Circle all that apply)*

- Brochures
- Newspaper advertisement
- Television commercials
- Word-of-mouth from graduates
- Solicitations through workplaces
- Other, please specify: _____

7. How familiar do you feel people in your community are with the EMS Training Center?

- Very Familiar
 - Somewhat Familiar
 - Not Familiar
 - Don't Know
- 

PART 2: PERCEPTIONS ABOUT SKILLS OF GRADUATES

A goal of a training program is to train EMS professionals in effective EMS practices and strategies. Responses from the next group of question will help us to understand perceptions about graduates of the EMS training program. Please indicate your level of agreement by circling your response.

When comparing EMS professionals who received training and graduated from this EMS Training Center with those who did not receive training and graduate from this center, **graduates of this training center are:**

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. ...better qualified to deliver emergency services	SA	A	N	D	SD
2. ...are more knowledgeable about emergency medical techniques	SA	A	N	D	SD
3. ...work better in team environments	SA	A	N	D	SD
4. ...better skilled in areas of emergency medicine	SA	A	N	D	SD
5. ...deliver better care in emergency situations	SA	A	N	D	SD
6. ...coordinate better with health facilities	SA	A	N	D	SD
7. ...act more professionally in emergency situations	SA	A	N	D	SD

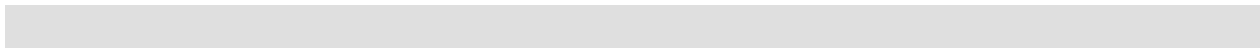


PART 3: FACTORS THAT INFLUENCE SUCCESS OF EMS TRAINING PROGRAMS

The success of any project is affected both by internal and external factors, including inputs by the American International Health Alliance (AIHA). On a scale of 0 (Not Important to success) to 5 (Very Important to success), rate the relevance of the following factors as they relate to the success of the EMS Training Center by circling your response. If you are unsure or don't know, then please circle this response.

<i>Factor</i>	Not Important					Very Important	Don't Know
<u>Internal Factors</u>	0	1	2	3	4	5	DK
1. Training equipment	0	1	2	3	4	5	DK
2. Education level of instructors	0	1	2	3	4	5	DK
3. Teaching methods of instructors	0	1	2	3	4	5	DK
4. Numbers of people trained per year	0	1	2	3	4	5	DK
5. Curriculum is applicable to actual job	0	1	2	3	4	5	DK
6. Curriculum uses hands-on techniques	0	1	2	3	4	5	DK
7. Testing of students	0	1	2	3	4	5	DK
8. Certification of students	0	1	2	3	4	5	DK
9. Motivation of students	0	1	2	3	4	5	DK
10. Educational materials	0	1	2	3	4	5	DK
11. Well-defined goals of Training Center	0	1	2	3	4	5	DK
12. Sufficient funding	0	1	2	3	4	5	DK
13. Ability to attract new students	0	1	2	3	4	5	DK
14. Clinical skills of center leaders	0	1	2	3	4	5	DK
15. Administrative skills of center leaders	0	1	2	3	4	5	DK
16. Center's ability to foster collaborative decision-making	0	1	2	3	4	5	DK
17. Center's ability to respond positively to changes in the external environment	0	1	2	3	4	5	DK
18. Center's ability to respond positively to changes in the internal environment	0	1	2	3	4	5	DK

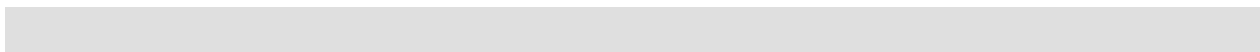
<i>Factor</i>							Not Important	Very Important	Don't Know
<u>Internal Factors</u> Continued...									
19. Center's ability to develop new programs	0	1	2	3	4	5			DK
20. Center's ability to make government alliances	0	1	2	3	4	5			DK
21. Center's ability to adapt to new ideas	0	1	2	3	4	5			DK
<u>External Factors</u>									
22. Local economy	0	1	2	3	4	5			DK
23. Local government	0	1	2	3	4	5			DK
24. National government	0	1	2	3	4	5			DK
25. Community support	0	1	2	3	4	5			DK
26. Center's affiliation with university	0	1	2	3	4	5			DK
27. Centers affiliation with hospital	0	1	2	3	4	5			DK
28. Local news media	0	1	2	3	4	5			DK
29. Client company that is state-run	0	1	2	3	4	5			DK
30. Client company that is private	0	1	2	3	4	5			DK
31. Current health care system	0	1	2	3	4	5			DK
32. Prior health care system	0	1	2	3	4	5			DK
<u>Inputs by AIHA</u>									
33. AIHA's Standard Curriculum	0	1	2	3	4	5			DK
34. Visits to your center by Partners from the United States	0	1	2	3	4	5			DK
35. EMS training center staff visit Partners in the United States	0	1	2	3	4	5			DK
36. AIHA organized conferences	0	1	2	3	4	5			DK
37. Training Equipment	0	1	2	3	4	5			DK
38. Learning Resource Center	0	1	2	3	4	5			DK



PART 4. LEADERSHIP CHARACTERISTICS AT CENTER.

For the next group of questions, please indicate whether these characteristics apply to the leader(s) of your Center by circling your response.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Unsure
1. Center leaders have clinical skills	SA	A	N	D	SD	Unsure
2. Center leaders work well with government authorities	SA	A	N	D	SD	Unsure
3. Center leaders seek input from external specialists	SA	A	N	D	SD	Unsure
4. Center leaders are responsive to changes in the external environment	SA	A	N	D	SD	Unsure
5. Center leaders are responsive to needs from within the EMS Training Center	SA	A	N	D	SD	Unsure
6. Center leaders develop new programs based on changing needs of the community	SA	A	N	D	SD	Unsure
7. Center leaders encourage new ideas	SA	A	N	D	SD	Unsure
8. Center leaders are effective at integrating the EMS Center into the larger health care system	SA	A	N	D	SD	Unsure



PART 5. MEASURING THE IMPORTANCE OF EMS TRAINING PROGRAMS

There are many ways to measure the impact of the EMS Training Center within the community. What methods do you feel are important? Please rate the relevance of the following methods in measuring the effectiveness of EMS Training Centers on a scale of 0 (Not Important) to 5 (Very Important). If you don't know or don't have an opinion, then please circle DK.

Method	Not Important						Very Important	Don't Know
	0	1	2	3	4	5		
1. Comparing morbidity and mortality rates before and after EMS training centers were established	0	1	2	3	4	5	DK	
2. Analyzing data from local EMS delivery centers and hospitals such as "run time" and "response time"	0	1	2	3	4	5	DK	
3. Comparing pre-test and post-test training scores of trainees	0	1	2	3	4	5	DK	
4. Interviewing graduates several months after training about applicability of training to real-world practice	0	1	2	3	4	5	DK	
5. Surveying hospitals, health centers, and other employers of EMS graduates about perceived quality of training	0	1	2	3	4	5	DK	
6. Surveying patients of EMS graduates about their satisfaction with care received	0	1	2	3	4	5	DK	
7. Administering national EMS certification exams	0	1	2	3	4	5	DK	

8. Do you currently work in a facility that provides emergency medical services?

Yes

No

9. If yes, what data does your facility collect? *(Please check all that apply).*

I am not affiliated with a facility that provides emergency medical service.

Patient information (name, age, etc)

Medical data (history, medications, allergies)

Chief complaint

Treatment provided

Ambulance run time data

Outcome of ambulance call (Was the patient treated, transferred, or deceased?)

Follow-up data

Other _____

PART 6: THE USE OF TECHNOLOGY AT EMS TRAINING CENTERS

1. How often have you used services provided by the Learning Resource Center at your EMS Training Center over the last year?

- Never
- 1-5 Times
- 6-10 Times
- 11-15 Times
- More than 15 times


2. Have you ever participated in training workshops offered by the Learning Resource Center?

- Yes, how many? _____
- No

3. Which Learning Resource Center service do you find most helpful? *Check all answers that apply*

- Access to medical documents and journals
- Internet access to research clinical information
- Internet access to research training materials
- Internet access to contact other AIHA hospitals
- Internet access for email
- Other (please specify) _____

PART 7: SUGGESTIONS FOR IMPROVEMENT

1. *How could the EMS Training Center be improved?*
 2. *Are there services or programs not currently provided by the EMS Training Center that you think might prove helpful?*
 3. *How can AIHA be more helpful to the EMS Training Centers?*
 4. *What do you feel are the three most important factors for success of EMS Training Centers?*
- 

PART 8: PERSONAL INFORMATION

Please circle the appropriate response for each of the following questions. This information will help us to interpret the results. Again, all information is confidential.

1. What is your affiliation with the Emergency Medical Training Center?

- Center director
- Center instructor/staff
- Trainee
- Funder
- Government personnel
- Other, please specify: _____

2. What is your profession?

- Medical Doctor, please specify specialty _____
- Nurse
- Feldsher
- Other, please specify: _____

3. What is your gender?

- Male
- Female

4. What is your age? _____ years old

5. How many years have you been involved with the EMS training center? _____ years

6. How many courses have you taken with the EMS training center? _____ courses

7. How many years have you been involved in emergency medical services? _____ years

Appendix D: Clinical Questionnaire

GRADUATE TRAINEE QUESTIONS RELATED TO CLINICAL TOPICS

Aspects of Curriculum Please rate each facet of the current curriculum:

whether it was/is an essential topic to be taught (Needed)

(Scale: extremely essential 5-not useful 1)

whether the sessions were/are successful in providing the information (Learned)

(Scale: extremely successful 5-unsuccessful 1):

<u>Topic</u>	<u>Needed</u>	<u>Learned</u>
1. Cardiopulmonary Resuscitation and Airway Maintenance	_____	_____
2. Trauma theory	_____	_____
3. Trauma practice	_____	_____
4. Medical History and Physical Assessment	_____	_____
5. Triage Priorities	_____	_____
6. Extrication Techniques	_____	_____
7. Skeletal Injuries and Splinting Techniques	_____	_____
8. Respiratory Emergencies	_____	_____
9. Head and Spinal Injury	_____	_____
10. Burn Victims	_____	_____
11. Pediatric	_____	_____
12. Unconscious Patient	_____	_____
13. Communications and Dispatch	_____	_____
14. Pharmacology, Drug Abuse and Poisoning	_____	_____
15. Infection Control/Communicable Diseases	_____	_____
16. Disaster Management	_____	_____
17. Anaphylaxis	_____	_____
18. Obstetrical Emergencies	_____	_____
19. Neonatal Resuscitation	_____	_____
20. Psychiatric Emergencies	_____	_____
21. Hazardous Material Response	_____	_____
22. Environmental Emergencies	_____	_____
23. Problem Solving Techniques	_____	_____
24. Democratic Management	_____	_____
25. Level of Satisfaction with Basic Curriculum-	Yes	No
I am satisfied with the basic curriculum theory content.	_____	_____
I am satisfied with the basic curriculum practice content.	_____	_____
Knowledge of theory is adequately tested during course.	_____	_____
Knowledge of practice is adequately tested during course.	_____	_____
Audiovisual materials are well designed and helpful.	_____	_____
Training equipment is helpful for learning purposes.	_____	_____
26. Level of Satisfaction with Center Elements-	Yes	No
I am satisfied with the ability of the trainers.	_____	_____
I am satisfied with the methods of training.	_____	_____
The practical sessions were very helpful.	_____	_____

The center staff is very professional. _____

The knowledge learned will aid my practice greatly. _____

The skills learned will aid my practice greatly. _____

I now have an improved attitude due to the course. _____

I will now be better qualified for my job. _____

I will now be better paid in my job. _____

I will now be more recognized in my profession. _____

This course is essential to doing my job well. _____

26. Other elements that may be helpful to the EMS Training Center's ability to successfully implement the curriculum components.

	Very Helpful	Not Helpful	Already Helpful	Being Used
Standards Development	_____	_____	_____	_____
Protocols	_____	_____	_____	_____
Minimum Data Base	_____	_____	_____	_____
Licensing	_____	_____	_____	_____
Certification	_____	_____	_____	_____
Disaster Drills	_____	_____	_____	_____
Alterations in Basic Curriculum	_____	_____	_____	_____
Improved Dispatch System	_____	_____	_____	_____

In every country many citizens call an ambulance for various non-emergent treatment. This is a valuable service to the people of the area. The rate that a population requests this type consultation may vary considerably.

27. In your estimation, what percentage of the work in EMS services where you have been employed, would be categorized as emergency care? _____

What percentage of the work in EMS services where you have been employed would be categorized as primary care? _____

28. How long ago did you graduate? _____ ago

Were you working in Emergency Medical Services before you took the course?
 No _____ Yes _____ #Years _____

29. Were the procedures taught in the course new or improved techniques from prior practice?

<u>Procedure</u>	<u>New to me</u>	<u>Improved</u>	<u>No change</u>
CPR	_____	_____	_____
Intubation	_____	_____	_____
Infusion therapy	_____	_____	_____
Immobilization	_____	_____	_____

Splinting _____

Defibrillation _____

30. **Have you performed any of the procedures taught in the course?**

Yes No situation Occasion but no equipment

CPR _____

Intubation _____

Infusion therapy _____

Immobilization _____

Splinting _____

Defibrillation _____

Appendix D: Additional Survey Findings

FACTORS THAT INFLUENCE SUCCESS OF EMS TRAINING PROGRAMS

The success of any project is affected both by internal and external factors, including inputs by AIHA. The following factors are listed with mean scores of most important to success (5) to least important to success (0) according to both trainee and staff respondents. *The figure in () represents the mean score.*

Trainees (n= 100)

INTERNAL FACTORS

Training equipment (4.9)
Curriculum uses hands-on techniques (4.9)
Education level of instructors (4.9)
Teaching methods of instructors (4.9)
Clinical skills of center leaders (4.9)
Curriculum is applicable to actual job (4.8)
Educational materials (4.8)
Center's ability to adapt to new ideas (4.8)
Well-defined goals of Training Center (4.8)
Sufficient funding (4.7)
Center's ability to develop new programs (4.7)
Testing of students (4.7)
Ability to attract new students (4.5)
Ability to foster collaborative decision-making (4.5)
Administrative skills of center leaders (4.4)
Motivation of students (4.4)
Center's ability to respond positively to changes in the internal environment (4.3)
Center's ability to respond positively to changes in the external environment (4.2)
Certification of students (4.1)

EXTERNAL FACTORS

Numbers of people trained per year (3.9)
Center's ability to make government alliances (3.5)
Centers affiliation with hospital (4.7)
Center's affiliation with university (4.6)
Local economy (4.4)
Current health care system (4.4)
Local government (4.2)
Local news media (4.2)
Community support (4.0)
Client company that is private (3.9)
Client company that is state-run (3.8)
National government (3.7)
Prior health care system (2.5)

INPUTS BY AIHA

Training Equipment (4.8)
Learning Resource Center (4.7)
Visits to center by US Partners (4.5)
AIHA organized conferences (4.4)

Staff-Directors and Instructors (n=25)

INTERNAL FACTORS

Training equipment (5.0)
Curriculum uses hands-on techniques (5.0)
Education level of instructors (4.9)
Sufficient funding (4.9)
Teaching methods of instructors (4.8)
Curriculum is applicable to actual job (4.8)
Educational materials (4.8)
Center's ability to develop new programs (4.7)
Clinical skills of center leaders (4.6)
Administrative skills of center leaders (4.6)
Center's ability to adapt to new ideas (4.6)
Well-defined goals of Training Center (4.5)
Ability to attract new students (4.5)
Testing of students (4.3)
Ability to foster collaborative decision-making (4.3)
Ability to make government alliances (4.2)
Certification of students (4.1)
Center's ability to respond positively to changes in the external environment (4.1)
Center's ability to respond to changes in the environment (4.1)

Motivation of students (3.9)
Numbers of people trained per year (3.6)
Local economy (4.6)
Local government (4.5)
Current health care system (4.5)
Community support (4.3)
Centers affiliation with hospital (4.3)
Client company that is private (4.3)
National government (4.1)
Local news media (4.1)
Client company that is state-run (4.1)
Center's affiliation with university (3.5)
Prior health care system (3.1)

Training Equipment (4.9)
Learning Resource Center (4.7)
EMS training center staff visit US Partners (4.5)
Visits to center by US Partners (4.4)

COMMUNITY IMPACT OF THE EMS TRAINING CENTER

How familiar do you feel people in your community are with the EMS Training Center?

PERCENTAGES FOR THE FOUR CENTERS POLLED

	Center 1	Center 2	Center 3	Center 4	Mean %
<i>Very Familiar</i>	4%	4%	20%	0%	6%
<i>Somewhat Familiar</i>	62%	52%	67%	72%	61%
<i>Not Familiar</i>	41%	48%	6%	11%	22%
<i>Don't Know</i>	11%	14%	7%	17%	12%

PERCEPTIONS ABOUT SKILLS OF GRADUATES

When comparing EMS professionals who received training and graduated from this EMS Training Center with those who did not receive training and graduate from this center, *graduates of this training center are:*

		<i>Strongly Agree</i>	<i>Agree</i>	<i>Neutral</i>	<i>Disagree</i>
Better qualified to deliver emergency services	<i>Trainee</i>	35%	59%	5%	
	<i>Staff</i>	35%	65%		
More knowledgeable on emergency techniques	<i>Trainee</i>	35%	63%	3%	
	<i>Staff</i>		58%		
Work better in team environments	<i>Trainee</i>	11%	47%	38%	5%
	<i>Staff</i>	24%	41%	35%	
Better skilled in areas of emergency medicine	<i>Trainee</i>	31%	60%	10%	5%
	<i>Staff</i>	22%	67%	6%	
Deliver better care in emergency situations	<i>Trainee</i>	34%	62%	4%	
	<i>Staff</i>	33%	67%		
Coordinate better with health facilities	<i>Trainee</i>	12%	50%	34%	3%
	<i>Staff</i>	11%	50%	28%	6%
Act more professionally in emergency situations	<i>Trainee</i>	30%	64%	7%	
	<i>Staff</i>	39%	50%	11%	

Appendix E: Initial Scope of Work

Emergency Medical Services Training Centers in NIS:

Preliminary Project Outline

I. PROJECT SUMMARY

- Client:** American International Health Alliance, Inc.
- Consultant Team:** Robert Bannon, Julie Ting, Susan Fleming and Björg Pálsdóttir
- Purpose:** To begin a process of evaluation of AIHA's EMS Training Centers by identifying criteria and developing measurable indicators, when possible, of factors leading to successful program implementation. In addition, the team aims to draw inferences from differences observed in the relative success levels of these Centers in order to strengthen AIHA's input.
- Audience:** AIHA in Washington and at regional centers and EMS Center in NIS/CEE
- Objectives:**
- Identify key external and internal determinants and barriers to success from various stakeholder perspectives
 - Determine how AIHA's input can enhance the centers' performance
 - Determine whether EMS Centers have changed behavior of trainees
 - Determine data currently collected, or available at EMS Centers that helps evaluate impact on public health, describe collection methodology and suggest what and how other data should be collected
- Outputs:**
1. Evaluation Report
 2. Presentation
 3. Potential article for submission to journals and periodicals
 4. List of indicators
 5. Surveys and Interview questions
- Locations:** New York, Washington D.C., Tashkent, Uzbekistan, Moscow, Russia, Kiev, Ukraine
- Duration:** October 1999 to April 2000 (Travel Time: January 14-January 26)
- Inputs needed from AIHA Prior to site-visit:**
- A minimum of two translators at each site, depending on meeting setup
 - Translation of all survey and interview questions (preliminary survey and interview questions attached. **Final versions available in January.**
 - AIHA regional staff helps adapt survey and interview questions to local conditions and frame in a way that reduces misunderstanding.
 - Meetings sent up with key stakeholders, when possible translated material made available before hand.

II. BACKGROUND

Background and Justification

The political and economic collapse of the former Soviet Union has left emergency medical response and health systems in a continued state of need. In 1994, the American International Health Alliance (AIHA) responded to requests for external technical assistance by applying a partnership model to an EMS initiative.

Successful EMS Training Centers have been operating in the region for nearly six years. To aid in the establishment of additional centers in the region in next few years, this is a crucial time to reflect on achievements and lessons-learned. The evaluation will focus on the internal and external determinants and barriers to success of the EMS initiatives and make recommendations based on comments from the EMS centers themselves as to how AIHA and the centers can better contribute to successful implementation.

III. PROJECT DESCRIPTION

Methodology

The team will incorporate input from project stakeholders in the US and in host-countries into the design of assessment tools and evaluations criteria. A mix of document analysis, surveys, focus groups and individual interviews will be utilized to take advantage of the different information each method elicits. (See intervention model page 6)

We expect the above mix of methods will:

- help participants understand the reasons for the evaluation and prepare them for participation
- deepens our understanding of what we are studying
- provides a stronger external validity of the methods used
- offers an opportunity to provide alternative information sources with which improve likelihood that documentation findings will be useful

Stakeholder Assessment

Stakeholder Methodology—From whom and how information will be gathered

1. Funders

USAID	Website Interview with representative in Host Countries and US Follow up on reported policy Documents at AIHA
-------	--

Stakeholder Methodology—From whom and how information will be gathered

Governments

Interview with representative in Host Countries
Documents if available

Private funders

Interview with representative in Host Countries
Documents if available

2. AIHA

Website
Conference Materials
Questions elicited in meetings
Survey key people
Site Visit-Interviews/Observation

3. Providers

Center Staff-Directors**

Exercise conducted at Conference
Site Visit-Interviews/Observation/Survey

Center Staff**

Site Visit-Interviews/Observation/Survey

Center Staff-Trainers**

Site Visit-Interviews/Observation/Survey
US Partner Interview/Survey

4. Customers

Students Site Visit-Observation/Interviews/Donetsk Survey**
Center Reports
Demographic and Student Data Bases

Paying Customers

Satisfaction Survey**

5. Community

Patients Site Visit-Survey of Satisfaction, Interviews, Focus Groups**
Observation
Data Base

Hospitals and Other Health Organizations**

Site Visit-Survey Key People
Observations and Interviews

**Surveys being developed

Data Collection

Information we have already access to:

Written material on EMS Centers provided by AIHA Washington, information gathered at November Partnership conference, material available on AIHA website,

Information we will gather during site-visit

Survey, focus group and interview responses, all relevant documentation, including pre-and post test questions, written goals and objectives, internal planning and evaluation tools at centers and public health data in the region

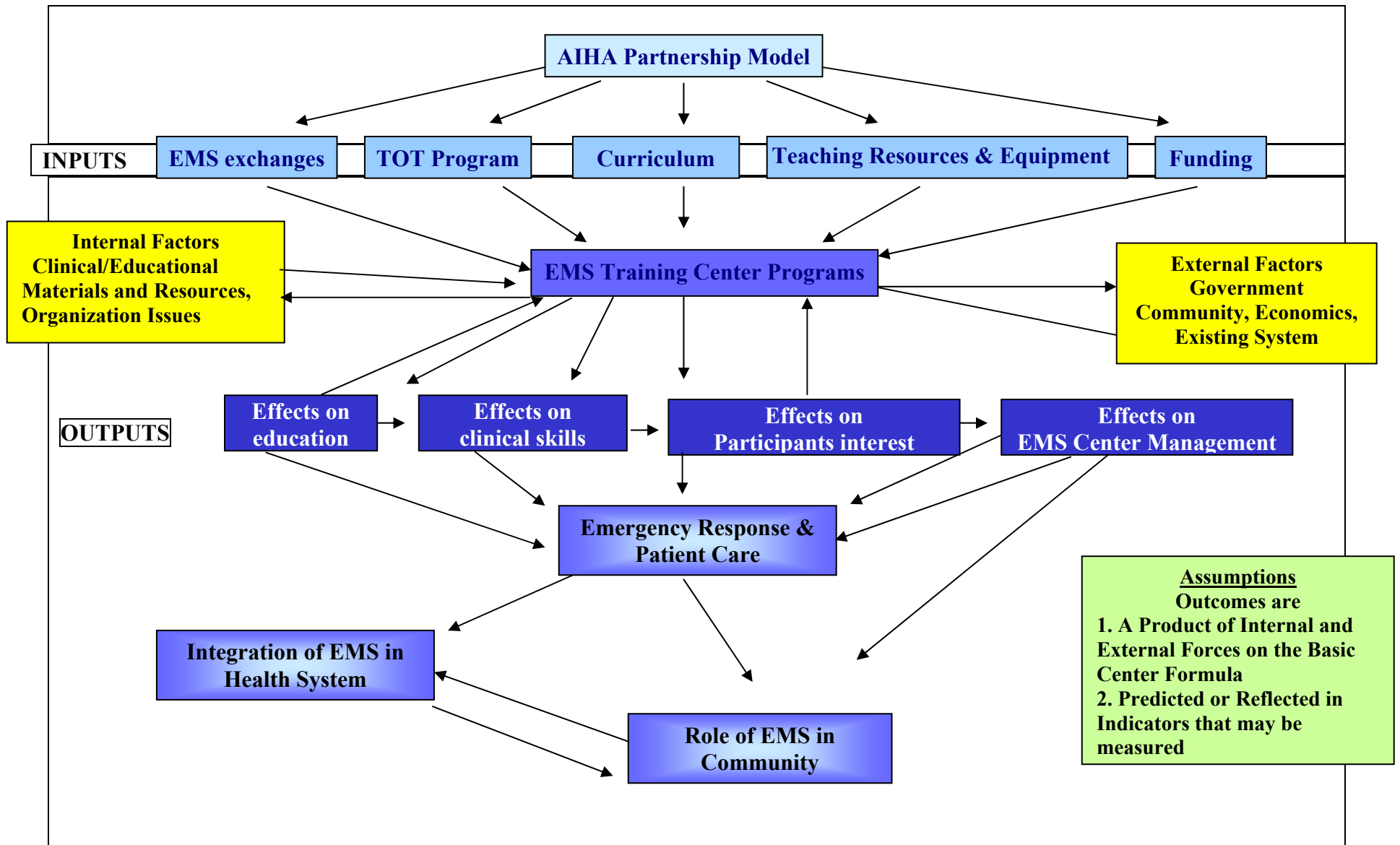
Information we will gather upon return from site visit

Information not available during site visit, if possible surveys of centers not visited, interviews and surveys of U.S. partners and relevant literature on EMS and management

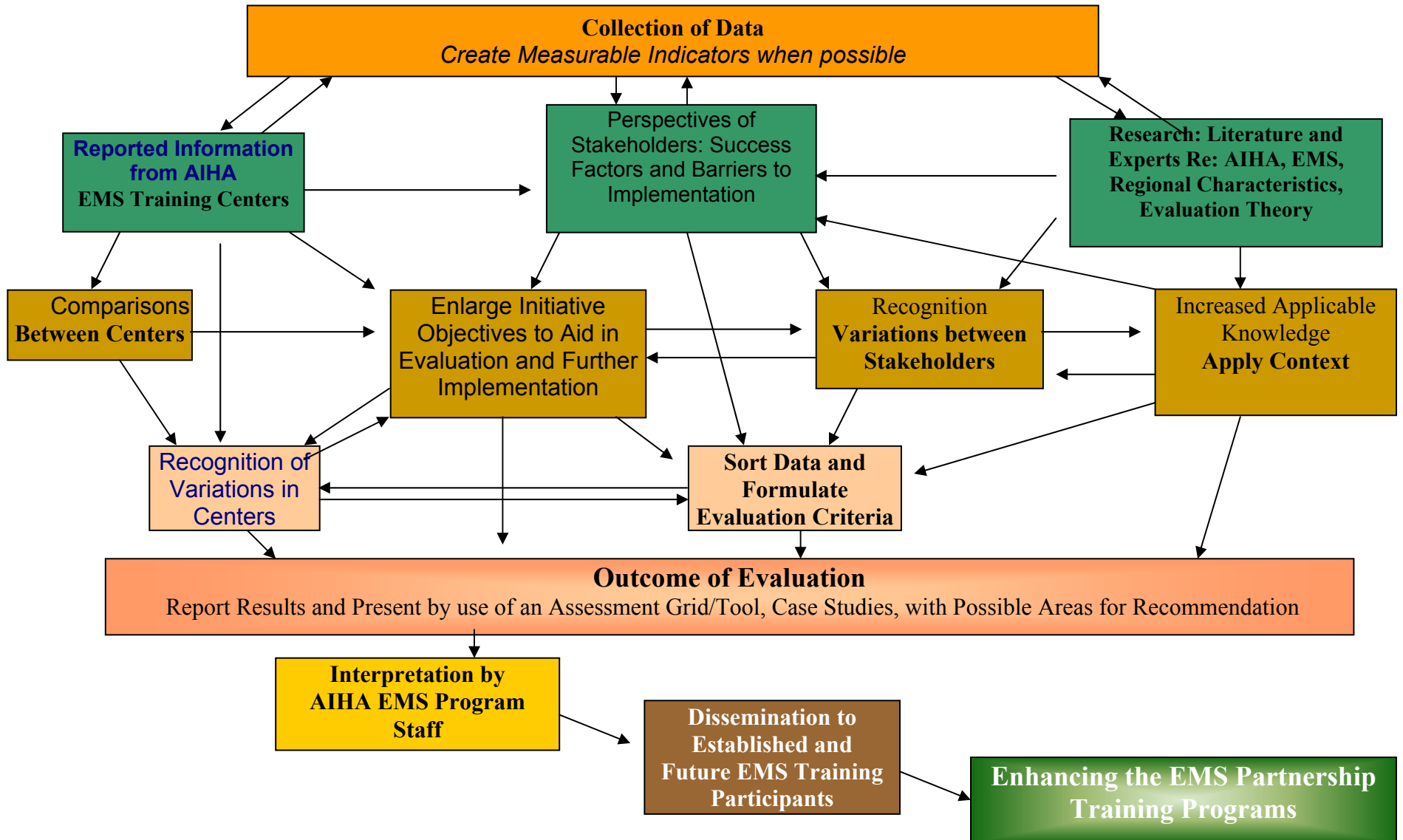
Potential Risks and Constraints

- Time constraints, particularly on field visits
- Lack of access to baseline and follow up quantitative data
- Insufficient or inaccurate quantitative and qualitative information
- Language and cultural barriers
- Resistance to sharing negative information
- Safety issues and its impact on willingness to share information
- Turnover of staff since programs were initiated
- Access to stakeholders

Basic Conceptual Model of AIHA EMS Partnership Initiative

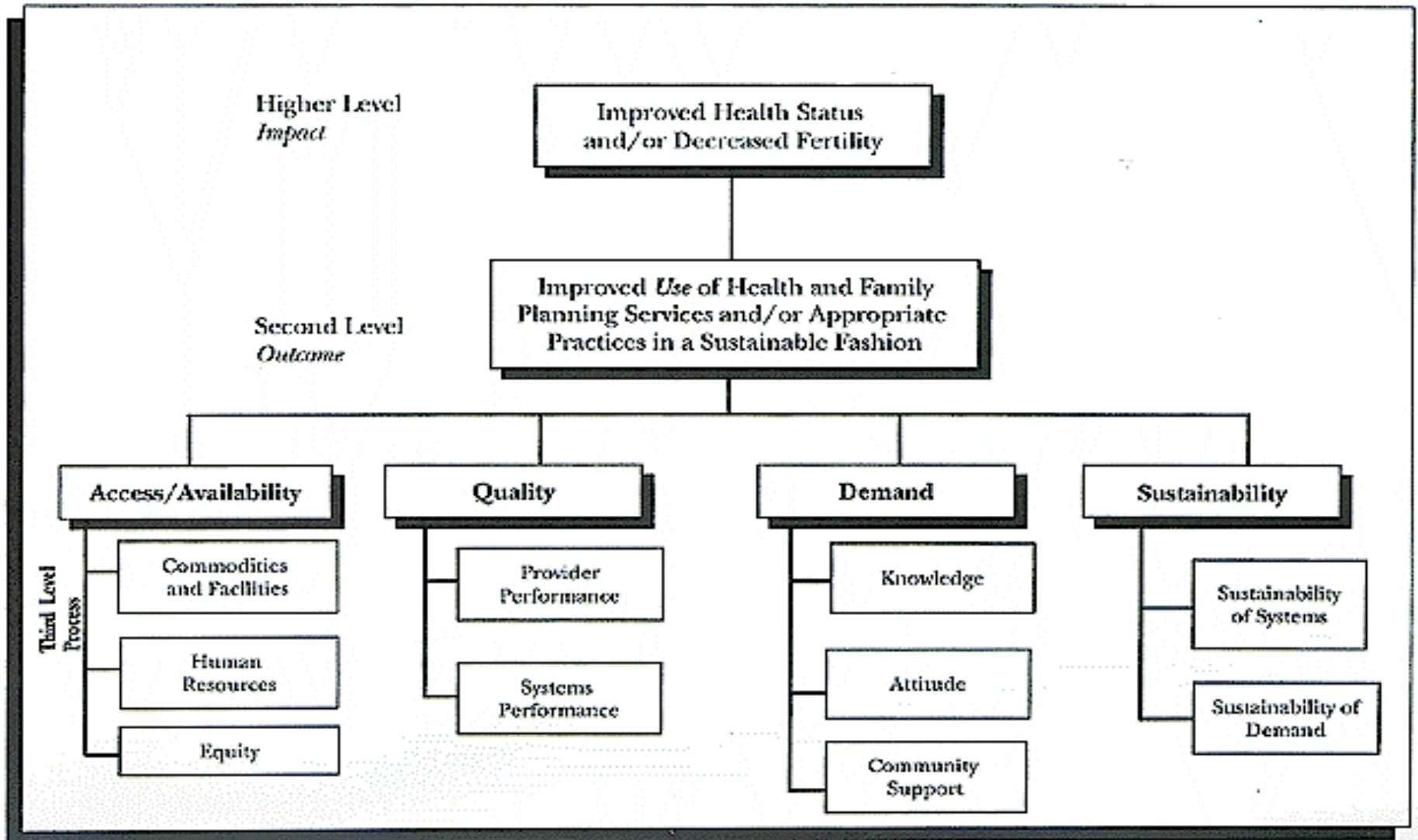


Conceptual Model of AIHA-EMS Training Center Initiative Evaluation



Appendix F: U.S. Agency for International Development Results Framework Model

Figure 1. PHN Results Framework Model



¹ EMS program description found on <http://www.aiha.com/english/programs/ems/index.htm>

² Based on various sources including:

Department of Transportation National Highway Traffic Safety Administration. 1997. *A Leadership Guide to Quality Improvement for Emergency Medical Services (EMS) Systems*.

NHS Executive High Level Performance Indicators and Clinical Indicators. 1999, United Kingdom Department of Health, Crown Publishing.

National Traffic Safety Administration, *Uniform Pre-Hospital Emergency Medical Services (EMS)*, August 1993, discussion with various EMS experts and Teams own suggestions.

⁵ Library of Congress, Federal Research Division, Country Studies, Area Handbook Series, Russia < <http://lcweb2.loc.gov/frd/cs/rutoc.html>>

⁶ S.V. Gaufberg, *Russia*. <<http://www.emedicine.com>> Accessed 2-15-00.

⁷ Based on various sources including:

Department of Transportation National Highway Traffic Safety Administration. 1997. *A Leadership Guide to Quality Improvement for Emergency Medical Services (EMS) Systems*.

NHS Executive High Level Performance Indicators and Clinical Indicators. 1999, United Kingdom Department of Health, Crown Publishing.

National Traffic Safety Administration, *Uniform Pre-Hospital Emergency Medical Services (EMS)*, August 1993, discussion with various EMS experts and Teams own suggestions.

⁸, Dr. Terry Richardson, Program Officer for Evaluation in Washington, and Dr. Jeyhoun Mamedov, Program Coordinator from Azerbaijan

⁹ USAID, Health and Family Planning Indicators: "A Tool for Results Frameworks" AFR/SD, HHRAA Project, Washington, DC (September 1996) 29 pp. <<http://www.info.usaid.gov/regions/afr/hhrraa/docs.htm>>