Training on Pharmaceutical and Medical Commodities Supply Chain Management in Humanitarian Response Settings

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Systems for Improved Access to Pharmaceuticals and Services

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About SIAPS

The goal of the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program is to ensure the availability of quality pharmaceutical products and effective pharmaceutical services to achieve desired health outcomes. Toward this end, the SIAPS result areas include improving governance, building capacity for pharmaceutical management and services, addressing information needed for decision-making in the pharmaceutical sector, strengthening financing strategies and mechanisms to improve access to medicines, and increasing quality pharmaceutical services.

Recommended Citation

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Key Words

Humanitarian logistics, pharmaceutical management, supply chain management, humanitarian response to disaster

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ACRONYMS

ADS	Automated Directive System
EML	essential medicines list
FAO	Food and Agriculture Organization
FEFO	first-to-expire, first out
IFRC	International Federation for Red Cross
IRC	International Rescue Committee
IMC	International Medical Corps
IOM	International Organization for Migration
LMIS	logistics management information systems
NGO	nongovernmental organization
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
OFDA	Office of US Foreign Disaster Assistance
OIG	Office of the Inspector General
PUI	Première Urgence Internationale
SCM	supply chain management
SIAPS	Systems for Improved Access to Pharmaceuticals and Services
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	US Agency for International Development
WHO	World Health Organization

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INTRODUCTION

Background

The Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program received funding from USAID/OFDA to develop training materials and facilitate the Humanitarian Pharmaceutical and Medical Commodities Supply Chain Management training for USAID/OFDA's partners in Jordan, Syria, Iraq, and Turkey. OFDA works closely with humanitarian aid partners to provide relief to people affected by rapid-onset disasters. Since March 2012, OFDA has funded international and regional nongovernmental organizations (NGOs) and development partners operating out of Jordan, Turkey, Iraq, Yemen, and Libya to procure and supply pharmaceuticals and medical commodities as part of humanitarian aid for victims of the Syrian conflict.

Based on OFDA guiding principles, pharmaceuticals include essential medicines, vaccines, biological products, medical field diagnostic kits, and oral rehydration salts. These are restricted goods that must meet certain conditions before being approved for purchase using US Government funds. OFDA must be assured by its grantees that pharmaceuticals and medical commodities purchased with OFDA funds are safe, effective, and provided by duly certified vendors who adhere to internationally accepted standards (e.g., good distribution, manufacturing, and storage practices). However, most NGOs and partners who work with OFDA face significant challenges in pharmaceutical procurement and supply chain management (SCM) as well as difficulties complying with OFDA policies, procedures, and funding/donation requirements. OFDA seeks to ensure excellence in its operations and programs and continues to push for significant changes to establish a humanitarian aid system that is more nimble, effective, and accountable.

To accomplish this, OFDA requested technical assistance from SIAPS to develop training materials and facilitate two rounds of training for staff of its collaborating humanitarian aid partners and local and international NGOs. This training will help to ensure that appropriate procurement and SCM is implemented for the delivery of quality-assured pharmaceuticals and medical commodities to conflict-affected, internal, and cross-border displaced people. The objectives of the training program were to build the capacity of humanitarian aid partner staff on humanitarian SCM for the effective delivery of pharmaceuticals and medical commodities.

Scope of Work

After OFDA's request was received, SIAPS prepared a concept note on the scope, approach, and content of the training, which was submitted to OFDA (annex A). On the basis of the note, the OFDA and SIAPS teams held a series of planning meetings to agree on SIAPS' scope of work and deliverables, the training target audience and venue, and the training agenda.

The summary scope of work for the training workshop on pharmaceutical and medical commodities supply chain was as follows:

- Make logistical arrangements for trainings. Gashaw Shiferaw and Olena Vlasyuk arrived in Jordan on April 30 and May 1, 2017, respectively, to finalize training preparations, including printing training materials and organizing the training venue. The rest of the training team—Emmanuel Nfor, Mohan Joshi, and Alan George—arrived in Jordan on May 4, 2017.

- Conduct a debriefing meeting with the OFDA team regarding final training materials, training schedules, and partners' reception at the beginning of the training.

- Facilitate two one-week training workshops on humanitarian pharmaceutical and medical commodities supply chain management.

TRAINING WORKSHOP ON HUMANITARIAN PHARMACEUTICAL AND MEDICAL COMMODITIES SUPPLY CHAIN MANAGEMENT

Purpose of the Training

The purpose of the training was to strengthen the pharmaceutical and medical commodities procurement and supply chain operations of OFDA partners working in Syria, Jordan, Iraq, Turkey, and Yemen for improved humanitarian responses to disasters/emergencies.

Preparation for the Training Workshop

Following the request by OFDA, SIAPS staff conducted a series of meetings with OFDA and developed a concept note that laid out the training goals, purpose, objectives, activities, intended trainees, and deliverables (annex A).

To ensure that the training aligned with the needs of the target trainees, SIAPS conducted a training needs assessment. Needs assessment questionnaires were developed, agreed upon by OFDA, and shared with 89 individuals from 16 OFDA partner organizations. However, only five individuals completed the training needs assessment. The agenda, goals, and objectives of the training were finalized after considering the collected responses and information from a series of discussions with OFDA.

A five-day training program was designed to address all components of pharmaceutical and medical commodities SCM and rational medicine use, with an emphasis on responding to different phases of humanitarian disaster situations. The title of the training workshop was "**USAID/OFDA Regional Pharmaceuticals and Medical Products Supply Chain Management Training**". A training team comprising different areas of expertise within in SCM and rational medicine use was established to develop the training materials. An activity coordinator was assigned to coordinate the training team during the development of the materials. The team then developed an activity plan with clear roles and responsibilities. A desk review was conducted that covered SCM during emergency/humanitarian response as well as supply chain and pharmaceutical management practices and resources in the private and public sectors that are amenable to humanitarian situations. The training team prepared training materials, including PowerPoint presentations and handouts, practical examples, learning exercises, and case studies.

While the training materials were being developed, workshop logistics were also being coordinated. The requirements for training venue, accommodations, printing of training materials, and workshop materials were identified and procured. Two members of the training team (Gashaw Shiferaw and Olena Vlasyuk) traveled to Jordan one week before the training to finalize logistical arrangements. Meetings were held with OFDA prior to each workshop to review progress, discuss any challenges, and finalize planned activities. Activities and timelines were realigned based on new developments and priorities.

Goals and Objectives of the Training

The goal of the training was to build the capacity of USAID/OFDA partner organizations working in the Middle East to effectively manage pharmaceuticals and other health commodities in the context of humanitarian assistance.

The objective of the training workshop was to give participants the knowledge and skills to:

- Define key health commodity SCM functions
- Apply basic principles and skills for ensuring SCM functions during emergency humanitarian assistance, including selection, quantification and procurement, warehousing and distribution, logistics management information system (LMIS), supply chain performance monitoring, and reverse logistics
- Demonstrate skills in setting up appropriate distribution and inventory control systems
- Define and apply data requirements to effectively run supply chain systems
- Demonstrate the capacity to minimize wastage, including product transfers to other organizations, and disposal of pharmaceutical waste according to standard requirements
- Describe the problem of irrational use of pharmaceuticals and strategies to improve the use of pharmaceuticals and other health commodities, including the importance of coordination
- Describe OFDA requirements regarding procurement and disposition of pharmaceuticals and medical commodities and be familiar with OFDA proposal guidelines
- Interpret and apply OFDA pharmaceutical policies

Target Audience

The target audience for the training workshop was supply chain and program staff working for OFDA partner organizations in the Middle East (Jordan, Turkey, Iraq, Yemen, Lebanon, and Syria) in humanitarian response to crises caused by regional conflicts in Syria, Iraq, and Yemen.

Training Content and Methodology

The training comprised all functions of SCM and rational medicine use adjusted to humanitarian disaster response settings and to OFDA requirements, policies, and procedures. A total of 26 sessions were presented. Training materials were shared with participants on the first day of the training. To facilitate effective training and to meet learning objectives, various training and adult learning methodologies were employed. The following methodologies were used during the training.

Lectures: This method, supported by PowerPoint slides, was used to create a general understanding of each session and to allow interaction with participants. Each lecture consisted of the title of the session, presentation outline, purpose and objectives, and technical content of the session and included discussion questions, individual and group exercises, and summaries that prepared participants for the next topic. During each lecture, participants were provided with handouts.

Figure 1. Emmanuel Nfor (left) and Mohan Joshi (right) lecture to participants

Group discussion, exercises, and other activities: This method was used to increase learning opportunities through experience sharing among participants, group and individual exercises, group activities, and entertaining a variety of viewpoints among participants. After group discussions or exercises, each group was given time to reflect on the outcome of their work. At the end of each individual or group presentation, a panel of discussants was given a chance to reflect on the presentation and exchange ideas. Case studies and exercises were designed to emulate participants' practical work situations. This helped participants to collectively make decisions.

Figure 2. Participants working on their exercise in a group (left) and presenting the group's work (right)

Plenary sessions: Plenary sessions were used as part of the training to give more time and a platform for participants to ask questions and get clarification. This method was used for sessions on quantification, procurement, OFDA pharmaceutical waste management procedures, and the importance of coordination for rational medicine use. In addition, a general plenary session was held at the end of the five-day training workshop to review training goals, objectives, and participants' expectations. During this session, facilitators discussed with participants whether the goals and objectives of the training were achieved. In addition, participants' expectations were reviewed, and participants reflected on whether those expectations had been met.

Facilitators' daily appraisal meetings: The SIAPS and OFDA teams held an appraisal meeting at the end of each day of training. During these meetings, lessons learned and recommendations for improving the next day's training were discussed and agreed upon.

Introduction to the Training Workshop

The training workshop was designed to achieve the goals and objectives described above. Two consecutive five-day workshops were organized. A reception was held the night before the technical content of each of the two workshops began. During the reception, participants were welcomed and all participants and facilitators introduced themselves and described their professional responsibilities and the organization they represented. In addition, participants were asked about their expectations for the workshop and shared their organizations' experience in SCM during a humanitarian response to a crisis. The next day, the workshop opened and OFDA and SIAPS officials gave remarks. The training goals, objectives, and schedule were presented by Emmanuel Nfor (annex B).

Figure 3. Kathleen Downs, USAID/OFDA, (left) and Emmanuel Nfor, SIAPS, (right) gave opening remarks

The following were some of the expectations mentioned by participants:

- Obtain better knowledge of OFDA regulations, guidelines, expectations, and operational requirements
- Understand how OFDA sees a supply chain compared to how partners see it
- Learn from others' experiences on how they comply with policies, common problems/obstacles, and best practices
- Learn about rational medicine use
- Learn about best practices for supply chain performance measurement
- Learn about SCM for cross-border operations
- Learn from others' experiences with understanding policies and working with nonprequalified vendors
- Learn how to facilitate communication with OFDA regarding operational requirements for pharmaceutical and medical commodities
- Learn more about practical experiences of SCM

- Get a refresher on LMIS best practices, including how to provide better support to beneficiaries using an LMIS
- Learn more efficient ways of SCM while complying with regulations
- Learn about good storage practices and how to minimize waste
- Become familiar with storage requirements
- Learn more about essential medicines lists (EMLs)
- Receive guidance on how to resolve challenges and bring solutions to the field
- Share knowledge and gain information that will allow for better team management
- Monitor and oversee program implementations/ideas
- Understand the limitations for purchasing certain medicines using OFDA funds

Training Activities

This section of the report contains a description of the activities that took place during the training workshop.

Day One

On day one, after the pretest was administered, the technical training activities started. Topics covered on day one were:

OFDA Operational Requirements, Policies, and Proposal Guidelines: This session was presented by OFDA. The purpose was for participants to become familiar with the USAID/OFDA pharmaceutical and medical commodity subsector. Participants were expected to understand the OFDA pharmaceutical regulations; use the OFDA proposal guidelines, particularly the subsector dealing with pharmaceuticals, to submit acceptable descriptions in proposals; and effectively use the pharmaceutical annexes to submit acceptable documents when requesting funds for procurement. This session emphasized OFDA requirements, policies, and procedures related to pharmaceutical procurement and SCM as this was an area that nearly all participants expressed an interest in.

Introduction to Health Commodity Supply Chain Management: The purpose of this session was to introduce terminology and objectives related to pharmaceutical and medical commodity SCM so that participants and facilitators would be on the same page when SCM was discussed. Participants were expected to describe the objectives of humanitarian supply chains or logistics.

Selection of Medicines and Other Health Products and the Concept of Essential Medicines: The purpose of this session was to introduce the concept of medicine selection and demonstrate the value of a limited list of essential medicines in disaster management settings. Participants were expected to explain the basis and criteria used for medicine selection; explain the value of essential medicines and how they impact medicine supply and use; and outline the importance of the OFDA EML. Topics included the rationale and benefits of selecting a limited list of essential medicines; processes for selecting essential medicines and categorization for different levels of care; linkages between EMLs and standard treatment guidelines; why EMLs are especially critical during humanitarian emergencies; indicators to monitor the use of EMLs in disaster relief settings; and internationally recognized essential medicines/medical device lists (e.g., the World Health Organization's (WHO) model list, OFDA list, interagency lists). At the end of the session, a case study was shared with participants.

Quantification of Health Commodities: In this session, which included forecasting and supply planning, participants were introduced to the definition, processes, and applications of quantification; how to identify problems caused by poor quantification; and common challenges during quantification. In addition, there were discussions on different methods of forecasting, data requirements, assumption building, and how to choose appropriate methods of forecasting. This session was supplemented by examples and group exercises on forecasting and supply planning.

Day Two

Day two started with participants presenting their work from the day one exercises on quantification. Facilitators then walked participants through the exercises and clarified questions.

The following sessions were facilitated on day two:

Introduction to Health Commodity Procurement: The purpose of this session was to introduce the concepts of procurement as part of the overall supply chain before discussing procurement during humanitarian disaster situations. Also discussed in this session were the principles and different methods of procurement and challenges of poor procurement practices.

Procurement Transparency: Special agents from the Office of the Inspector General (OIG) presented findings from several investigations into procurement integrity during humanitarian crises in the Middle East. In this session, investigative priorities, including procurement fraud, bribery and kickbacks, diversion to armed groups, misconduct by USAID personnel, ring-type theft activity, and corruption targeting beneficiaries, were discussed. Investigated cases on procurement fraud, bribery, and kickbacks were presented. The most common fraud schemes found around health programs were:

- Poor quality/expired items
- Shorting of medical kits
- Ghost beneficiaries/staff at medical facilities
- Poor internal controls around supply chain processes
- Product substitution
- Theft and diversion of items
- Double billing donors or fake activities

The Procurement Cycle and Processes in Conventional and Disaster Relief: The purpose of this session was to clarify the sequence of the procurement cycle and identify minimum requirements to follow during humanitarian disaster relief operations. Output from each procurement process was presented. Also discussed in this session were the unique challenges related to the procurement process during humanitarian disaster relief and the contributing factors to and possible strategic interventions for the challenges. This session also highlighted that 65% of resources are spent on procurement of pharmaceuticals and other supplies, and that special attention needs to be given to managing such a large proportion of resources.

Procurement Planning: In this session, the importance of procurement planning was emphasized. A sample procurement planning template and procurement tracking system were shared and discussed.

Automated Directive System 312: The purpose of this session was to familiarize participants with the requirements of the USAID Automated Directives System (ADS), Section 312 (ADS 312). Topics discussed during this session included the definition and purpose of ADS 312, a list of restricted commodities, requirements for purchasing pharmaceuticals with USAID funding, and approval processes. In addition, a list of USAID/OFDA authorized sources for pharmaceuticals was shared.

Plenary Session on Quantification and Procurement Challenges: During this plenary session, participants shared common challenges that each organization encountered in the quantification and procurement of health commodities for humanitarian disaster relief and interventions they used to address those challenges. On quantification, the most common challenges highlighted were the availability of data on the anticipated target population to estimate demands and a lack of internal and external coordination. Participants also mentioned that to address such challenges, they communicate with host country governments and UN agencies. During the discussion, facilitators highlighted the importance of regularly reviewing quantification exercises to compare the forecast results with the actual data and making adjustments accordingly. Facilitators also emphasized the importance of coordination for quantification. Regarding procurement, the most common challenges raised by participants were the limited number of prequalified suppliers and long procurement lead times. Additional prequalified suppliers, revisions to long-term framework agreements, and improvements in relationship with suppliers were emphasized as intervention to address the challenges.

Receipt and Inspection, Good Storage Practices, and Distribution of Health Commodities: Minimum standards for receipt, inspection, and good storage and distribution practices for health commodities were discussed during this session. The session was supplemented by individual exercises and plenary discussions. It was also emphasized that during disaster relief situations, organizations need to maintain the quality, security, and integrity of health products in different kinds of storage facilities, such as schools and community centers.

Day Three

Day three was largely dedicated to **inventory management and LMIS**, including tools and records used to capture information about pharmaceuticals and health commodities. In these

sessions, different types of inventory management systems and their parameters were discussed. In addition, factors affecting the selection of the inventory management system and considerations during humanitarian responses were discussed. Facilitators emphasized the importance of setting up flexible/nimble inventory control holding policies based on maximums and minimums across all levels of an organization's supply chain. The importance of inventory records, different categories of inventory records, and important data points that should be captured were discussed. In particular, it was underscored that organizations need to improve end-to-end data visibility on pharmaceuticals and health commodities by tracking at different levels (from suppliers to beneficiaries). The sessions were supplemented by group activities focusing on how to set up inventory control systems and mapping LMIS data and processes, followed by group presentations.

Day Four

On day four, participants were trained on routine LMIS **data quality monitoring**, its capabilities, and how to ensure data quality throughout the process. Another session focused on basic supply chain reports. Best practices on innovative approaches for LMIS using current technologies were demonstrated. At the end of the LMIS data quality monitoring session, an activity was conducted on how to identify and address data quality issues. In addition, **pharmaceutical waste minimization, reverse logistics, disposition of pharmaceuticals, and OFDA requirements on pharmaceutical waste** were presented. A general discussion on challenges on pharmaceutical waste was facilitated by OFDA. The last session of the day was "The problem of **irrational use of medicines**". In this session, an overview of the global problems of irrational medicine use was presented. This session also discussed the extent and types of irrational medicine use, underlying factors, consequences, and potential reasons for the increase of irrational medicine use during humanitarian disasters.

Day Five

On the last day of the training workshop, s**trategies to improve the use of medicines** and the **importance of coordination in promoting rational medicine use in humanitarian emergencies** were discussed. Four strategies to improve medicine use were highlighted (educational, managerial, regulatory, and economic). Other sessions focused on WHO-recommended core intervention, rational medicine use indicators, and the United Nations High Commissioner for Refugees' emphases on the use of standard treatment guidelines. The above sessions were complemented by a plenary discussion on **challenges and possible solutions regarding rational medicine use during humanitarian emergencies**. Among other topics, this plenary session discussed the use of standard treatment guidelines, adherence to medications, and the use of medicines and technologies for chronic noncommunicable diseases in humanitarian response settings.

The technical sessions for the training workshop concluded with a general discussion session that looked at participants' expectations of SIAPS and USAID/OFDA. In this session, the training goals, objectives, and participant' expectations were reviewed. Participants confirmed that the training goals and objectives were achieved and their expectations were met.

During this discussion, participants were asked how they could use the knowledge and skills they acquired in the training workshop and what USAID/OFDA and SIAPS should expect from them after this training. Participants responded as follows:

- Share skills (on quantification, procurement, and supply management), experiences, and knowledge within their organization's team/staff members and among implementing partners working at different locations
- Ensure compliance with EMLs
- Coordinate program and supply chain staff
- Ensure that supply chain staff get involved in the early stage of proposal development
- Involve different stakeholders, including IT and program staff, when designing an LMIS
- Coordinate with prescribers and dispensers to ensure rational medicine use
- Establish inventory management policies at the facility and warehouse levels
- Conduct/facilitate accurate quantification exercises
- Build supply chain systems and strategize priorities during an emergency response; at the operational level, link programs with supply chain units (coordination within the project)
- Implement Enterprise Resource Planning, including inventory management software
- Use the knowledge and skills acquired in the workshop to develop procurement and SCM policies and procedures
- Review the existing supply chain system through focused group discussion with partners
- Collect and analyze data on rational medicine use and plan and implement improvements
- Build capacity within the organization to strengthen the existing system
- Identify existing challenges and provide solutions (locally, globally)
- Put systems, tools, and indicators in place for procurement and supply chain performance measurement
- Comply with OFDA requirements and make informed supply chain decisions
- Train health care workers and beneficiaries on rational medicine use

A post-test was administered to evaluate the knowledge and skills acquired during the training workshop using the same questions asked in the pretest (annex C). The results of the pre- and post-test analysis are presented below.

Pre- and Post-test Results and Analysis

General Observations

In the first round of the training, all 29 participants took both the pre- and post-tests; 11 participants (37.9%) were female. In the second round, not all of the 23 participants took both pre- and post-test: 22 took the pretest, 20 took the post-test, and 19 took both the pre- and post-tests. The percentage of female participants in the second round was 21.7% (n=5). The pre- and post-test results showed sizeable improvements in knowledge and skills in both trainings. Among first-round participants, 89.6% showed an average improvement of 28.9% in their post-test result, while 73.6% of participants in the second round demonstrated an average improvement of 20.5%.

Three participants in the first round and two in the second round earned the same scores on both tests. In addition, post-test results for three participants from the second round showed an average decline of 8.3% from the pretest. Figures 4 and 5 show the pre- and post-test scores by participant.

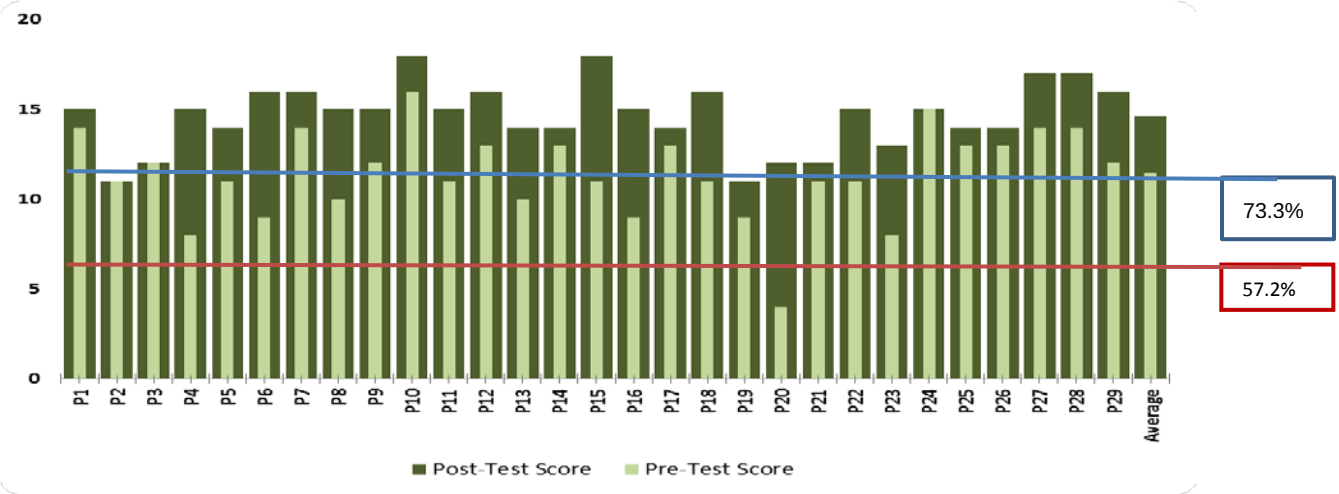

Figure 4. Pre- and post-test scores by participant (first round)

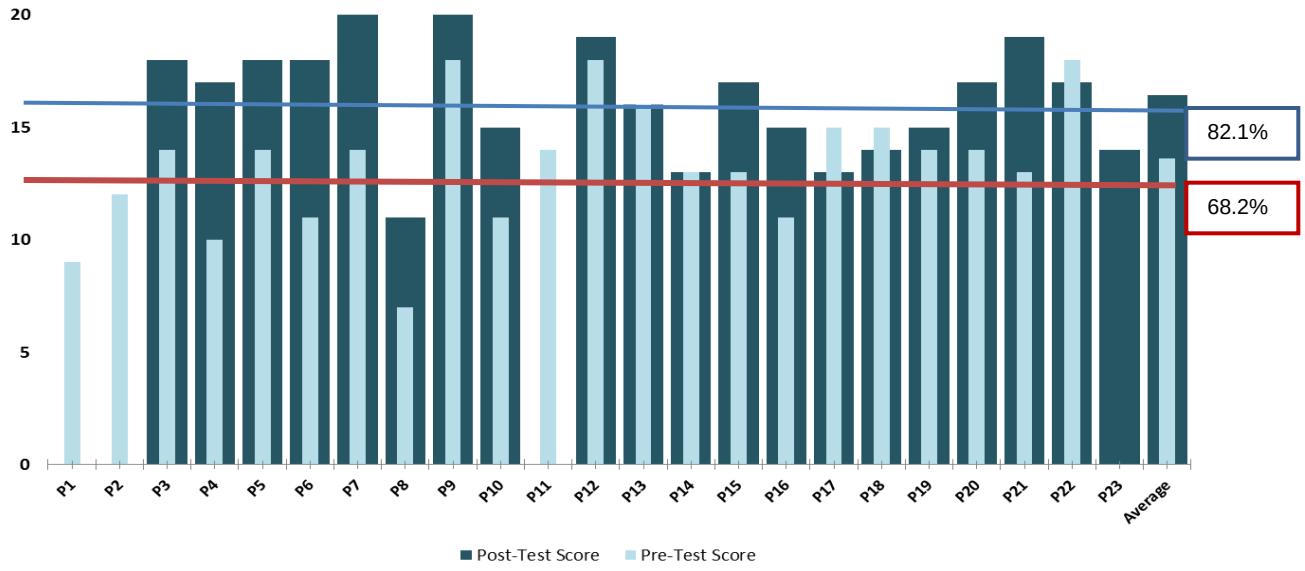

Figure 5. Pre- and post-test scores by participant (second round)

Note: Participants P1, P2, and P11 took only the pretest, while participant P23 took only the post-test.

Score Range

First round—Among all participants, the number scoring 60% or lower decreased from 18 (62.1%) on the pretest to five (17.2%) on the post-test; the number of participants scoring 61% or higher increased from 11 (37.9%) on the pretest to 24 (82.8%) on the post-test. No participant scored higher than 80% on the pretest; however, four participants (13.8%) scored 81% or higher on the post-test. The highest score achieved on the post-test was 90% by two female participants.

Second round—The number of participants scoring 60% or lower decreased from seven (31.8%) on the pretest to one (5.0%) on the post-test; the number scoring 61% or higher increased from 15 (68.2%) on the pretest to 19 (95%) on the post-test. The percentage of participants who scored 81% or higher increased from 13.6% (n=3) to 55% (n=11); four participants scored between 90% and 95%. The highest score on the post-test was 100% by two participants. Tables 1–4 show the number and percentage of participants with the range of scores and genders for both trainings.

Table 1. Summary Range of Scores from Pre- and Post-test (First Round)

Score Range	Pretest Results		Post-test Results	
Percentage	No of participants (n=29)	% of participants	No. of participants (n=29)	% of participants
0–20%	1	3%	0	0%
21–40%	2	7%	0	0%
41–60%	15	52%	5	17%
61–80%	11	38%	20	69%
81–100%	0	0%	4	14%

Table 2. Summary Range of Scores from Pre- and Post-test (Second Round)

Score Range	Pretest Results		Post-test Results	
Percentage	No. of participants (n=22)	% of participants	No. of participants (n=20)	% of participants
0–20%	0	0%	0	0%
21–40%	1	5%	0	0%
41–60%	6	27%	1	5%
61–80%	12	55%	8	40%
81–100%	3	14%	11	55%

Table 3. Summary Range of Scores from Pre- and Post-test by Gender (First Round)

Score Range	Pretest Results		Post-test Results	
Percentage	Male participants (n=18)	Female participants (n=11)	Male participants (n=18)	Female participants (n=11)
0–20%	6%	0%	0%	0%
21–40%	6%	9%	0%	0%
41–60%	67%	27%	28%	0%
61–80%	22%	64%	67%	73%
81–100%	0%	0%	6%	27%

Table 4. Summary Range of Scores from Pre- and Post-test by Gender (Second Round)

Score Range	Pretest Results		Post-test Results	
Percentage	Male participants (n=17)	Female participants (n=5)	Male participants (n=15)	Female participants (n=5)
0–20%	0%	0%	0%	0%
21–40%	6%	0%	0%	0%
41–60%	24%	40%	7%	0%
61–80%	53%	60%	33%	60%
81–100%	18%	0%	60%	40%

In the first round, all participants showed an improved response on 18 of 20 questions on the post-test. However, the number of participants who answered questions 5 and 20 correctly decreased on the post-test. The proportion of participants who answered question 5 correctly decreased from 69% on the pretest to 59% on the post-test, while for question 20, correct responses decreased from 79% to 72%. A marked increase in the correct post-test response was observed on questions 3 and 16 by 164% and 125%, respectively.

In the second round, a marked increase in the correct post-test response was observed on questions 14 and 6 by 120% and 395%, respectively. Questions 8, 18, 19, and 20 were most often answered correctly, with 90% of participants answering them correctly. Figures 6 and 7 show the percentage of participants who answered pre- and post-tests questions correctly and the changes of responses in first and second rounds of training.

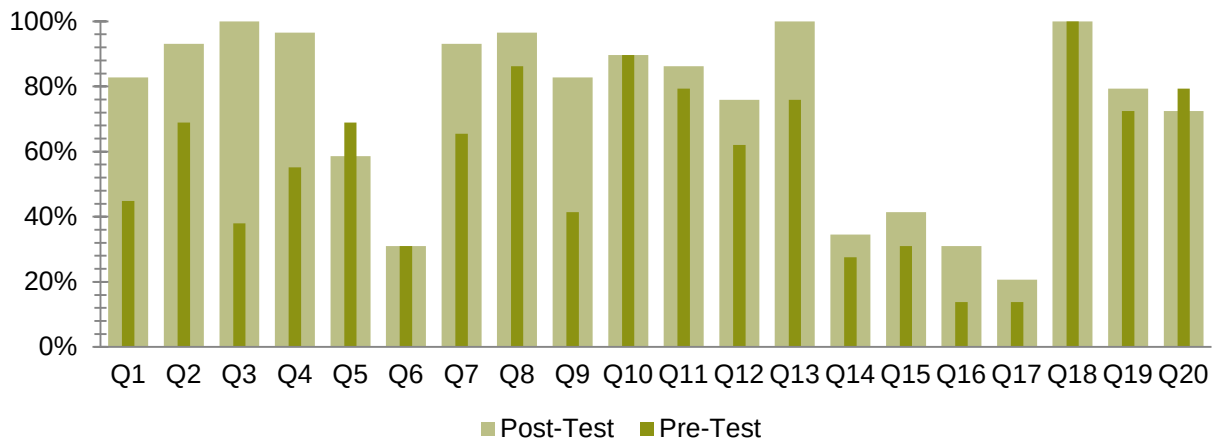

Figure 6. Percentage of participants who answered each question correctly (first round)

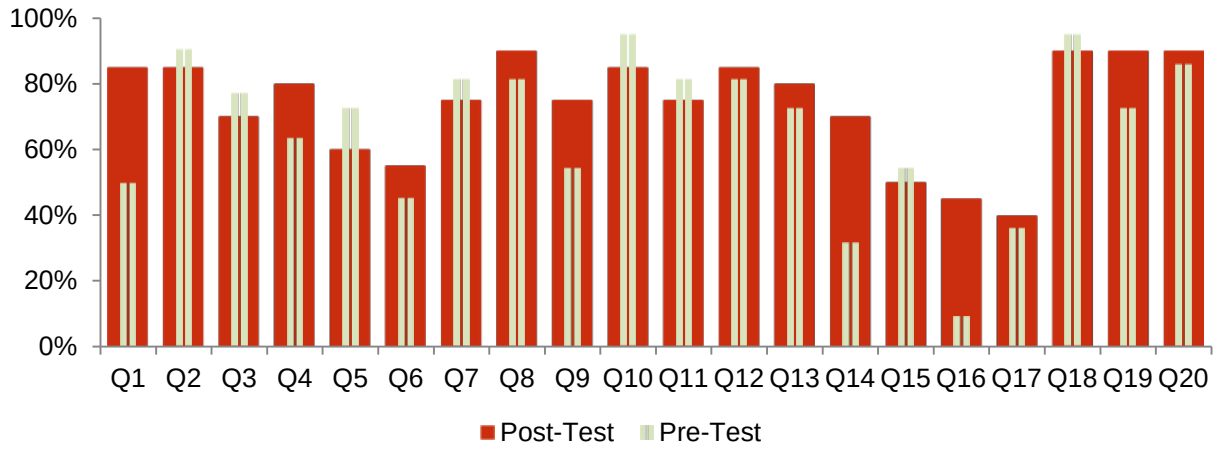

Figure 7. Percentage of participants who answered each question correctly (second round)

Participant Expectations

During the evening reception, participants were asked about their expectations for the training workshop (annex D). At the end of the workshop, facilitators displayed the goals, objectives, and expectations from participants to review whether the goals and objectives had been achieved and the expectations met. All participants responded that the goals, objectives, and expectations had been met. This was reinforced by their feedback in the course evaluation.

Training Workshop Evaluation

Evaluations were administered at the end of each workshop. In the first round, 82.7% of the 29 of participants responded that the training workshop met its set goals and objectives. This proportion increased to 90% of 20 participants during the second round. One participant in the second round mentioned that only 80% of the set goals and objectives of the training workshop had been met.

When asked if they would recommend the training course to their colleagues, 96.6% from the first round and 95% from the second round responded affirmatively. One participant (3.4%) from the first round would not recommend the training. This participant expected more specific training about the Middle East regional supply chain context.

Participants felt the following could be improved in future trainings:

- Increase the number of training days
- Provide more sessions on OFDA regulations and requirements
- Include case studies and practical exercises
- Include a site visit
- Target audiences according to their responsibility (programmatic vs. supply chain staff)
- Provide more clarification with additional examples and individual and group exercises
- Provide more training energizers

Participants also evaluated individual sessions on a scale of 1 (poor) to 5 (excellent). Figures 8 and 9 show the average scores for all the 27 sessions (annex E) in both rounds of training.

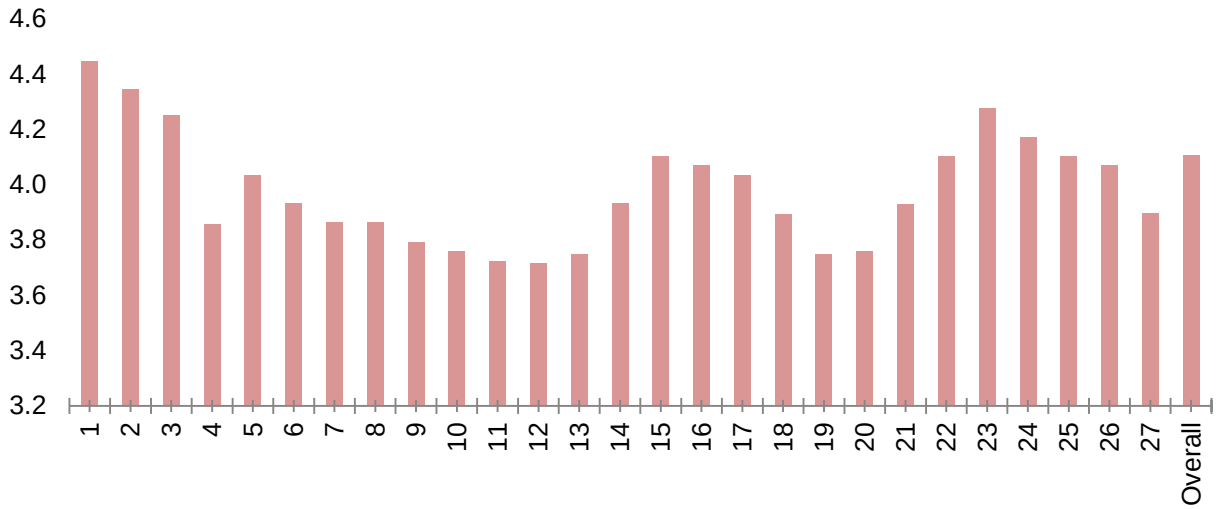

Figure 8. Average evaluation score of individual sessions by participant (first round)

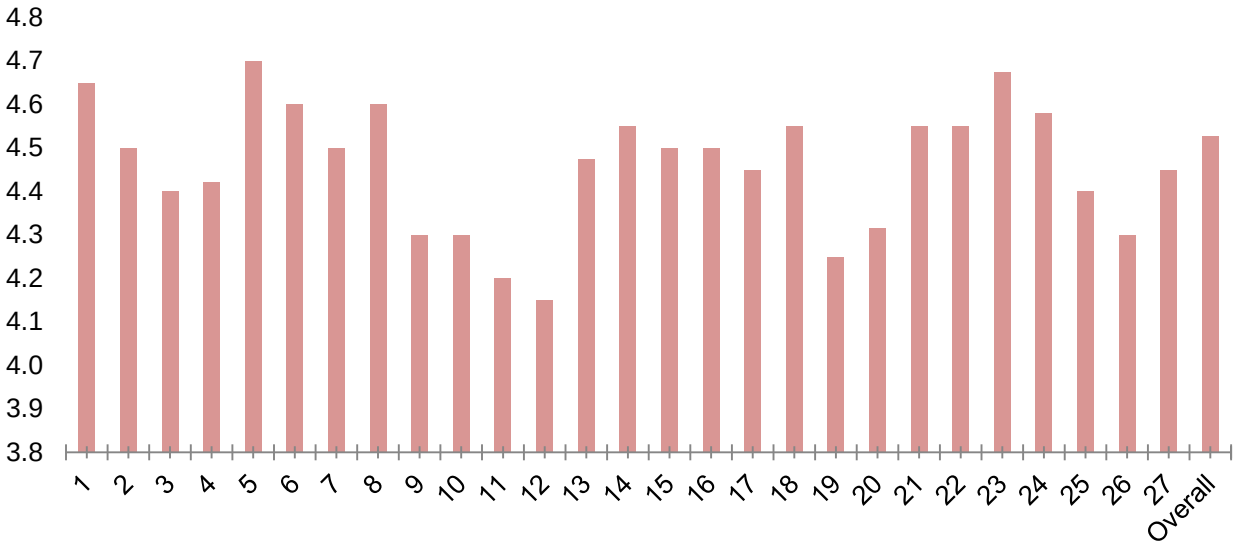

Figure 9. Average evaluation score of individual sessions by participant (second round)

Annex E includes a summary of workshop evaluations and additional comments.

CHALLENGES AND OPPORTUNITIES

- The response rate on the training needs assessment survey was low, with five of 16 organizations (31%) participating in the assessment.

- Addressing all components of the pharmaceutical SCM cycle in just five days of training resulted in the workshops being too intense for both trainers and participants.

- The target audience for the workshops on the invitation letter was not specific enough.

- During the workshops, participants discussed several challenges around data collection for forecasting and supply planning, including delayed and burdensome custom processes in country, insufficient coordination and poor communication with local stakeholders, and short funding and procurement cycles.

LESSON LEARNED

- For future workshops, consider adding more time for the training and including more practical sessions for participants.

- Communication with partner organizations about goals and objectives of the workshop as well as target audience requirements was a major challenge for both SIAPS and OFDA and needs to be addressed for future workshops.

- Experiences and participants' feedback from the first round helped to shape the second round sessions by translating SIAPS' development experience into the humanitarian disaster response context.

- Designing strategies, guidelines, and procedures on pharmaceutical and SCM systems is critical in responding to different phases of a humanitarian disaster.

- Coordination among humanitarian aid organizations was found to be helpful for sharing information and avoiding duplication.

RECOMMENDATIONS

- Partner organizations will benefit from support to develop a humanitarian pharmaceutical and supply chain strategy and guidelines for responding to disasters based on the four phases of disaster management.

- Facilitate another round of training for partners in Yemen and others who did not have the opportunity to participate in these workshops.

- USAID/OFDA partner organizations could operate more effectively if they designed their supply chain systems to better respond to disasters.

- It would be helpful to have a shared supply chain information repository for all OFDA partners working in disaster response in the Middle East for improved sharing of knowledge and challenges.

NEXT STEPS

- Incorporate feedback from the workshops to update the training materials.

- Develop training materials for humanitarian aid organization headquarters staff in Washington, DC, with a focus on senior managers, program managers, and procurement and supply chain officers, and ensure that partners make their staff available.

- Revamp the training needs assessment to align with target audiences and ensure that appropriate individuals respond to the needs assessment.

ANNEXES

ANNEX A. OFDA PARTNERS' TRAINING CONCEPT NOTE

Concept note

September 21, 2016

Pharmaceutical procurement and supply management training for USAID/OFDA humanitarian aid implementing partners

Background

The United States Agency for International Development's Office of Foreign Disaster Assistance (USAID/OFDA) works in close collaboration with humanitarian partners to provide relief to people affected by rapid onset disasters. It is in this light that USAID/OFDA, beginning in March 2012, has funded international and regional nongovernmental organizations (NGOs) and development partners operating out of Jordan and Turkey to procure and supply pharmaceuticals as part of humanitarian aid for victims of the Syrian conflict.

Based on USAID/OFDA guiding principles, pharmaceuticals include essential medicines, vaccines, biological products, Medical Field Diagnostic Kits, and oral rehydration salts. These are restricted goods that must meet certain conditions before being approved for purchase using US government funds. USAID/OFDA must be assured by its grantees that pharmaceuticals purchased with USAID/OFDA funds are safe, effective, and provided by duly certified vendors who adhere to internationally accepted standards: good distribution practices, good manufacturing practices, and good storage practices.

However, most of the NGOs and partners who work with USAID/OFDA face significant challenges in pharmaceutical procurement and supply management, as well as difficulties complying with USAID/OFDA policies and funding/donation guidelines. Therefore, USAID/OFDA seeks to ensure excellence in its operations and programs and continues to push for significant changes to establish a humanitarian system that is more nimble, effective, and accountable.

It is in this light that USAID/OFDA has requested technical assistance from the USAID | SIAPS Program to develop a curriculum and use it to train staff of its collaborating humanitarian aid partners and local and international NGOs in order to assure appropriate procurement and supply of quality pharmaceuticals to conflict-affected people in Syria.

Activity Purpose

The purpose of this activity is to ensure that knowledge and skills of supply chain personnel managing health products to internal and cross-border displaced people requiring humanitarian aid due to Syrian conflicts are adequate to ensure compliance with USAID regulations and permit the delivery of quality, safe, and effective pharmaceuticals for this target population.

Objectives

1. To strengthen pharmaceutical procurement and supply management and quality assurance capacity of USAID/OFDA humanitarian partners and NGOs.

Subobjectives:

a) Assess procurement and supply chain management, quality assurance, and appropriate use competencies for OFDA partners and NGOs that are responding to disaster caused by Syrian conflict.

b) Develop competency-based procurement and supply management curriculum based on findings from the assessment, ensuring specific capability needs of OFDA Partners and NGOs are addressed.

c) Facilitate two (or four?) training workshops, *subject to OFDA approval*, one (or two) in Jordan and the other (one or two) in Turkey using the developed curriculum.

d) Work with Quamed Project to ensure that competency assessment, curriculum development, and workshop materials address pharmaceutical quality assurance practices and appropriate use.

2. Improve partner and NGO compliance with OFDA funding proposal and procurement guidelines. SIAPS will work with OFDA to ensure that curriculum includes a section on funding proposal and procurement guidelines.

Intended audience

Representatives of USAID/OFDA Implementing Partners and International Organizations in Syria and Turkey, including: FAO, IOM, IFRC, OCHA, UNFPA, UNICEF, WHO, and NGO partners *(2015 USAID/OFDA annual report). However, final list of target audience will be completed with inputs from OFDA.*

Deliverables

a. Curriculum, including facilitator's and participant's guides, and accompanying PowerPoint slides for projection during training workshops
b. Trip report
c. Training report

Timeline: October 2016–June 2017

Technical Resources

- One SIAPS Senior Technical Advisor and one SIAPS Technical Advisor to support assessment, curriculum, and materials development

- Three SIAPS Principal Technical Advisors (limited LOE) to support planning and review of deliverables
- Two SIAPS Principal Technical Advisors, one Senior Technical Advisor, and one Project Support Associate to support delivery of workshops
- Two quality assurance consultants (from Quamed) to be engaged by SIAPS
- Two USAID/OFDA Technical Staff to support delivery of workshops (not funded by SIAPS)

Budgetary Assumptions

USAID/OFDA suggested that 50 participants be trained in one workshop in each country, Jordan and Turkey. However, SIAPS considers this number is too large, compromising effective transfer of competencies during a workshop. 25–30 is a more manageable workshop size, allowing better facilitator-participant interaction. Therefore, SIAPS proposes as an alternative to organize four workshops: two back-to-back workshops in each country, two of the workshops are assumed to be held in Istanbul and the other two in Amman.

Therefore, two budget scenarios have been developed (Scenario #1): two 50-participant workshops, one in Amman and the other in Istanbul, and (Scenario #2): four 25-participant workshops, two in Amman and two in Istanbul.

ANNEX B. GOALS, OBJECTIVES, AND AGENDA

TRAINING WORKSHOP GOALS, OBJECTIVES, AND AGENDA
……
THE USAID/OFDA REGIONAL PHARMACEUTICAL AND MEDICAL PRODUCTS SUPPLY CHAIN MANAGEMENT TRAINING WORKSHOPS ORGANIZED BY USAID | SIAPS PROGRAM FROM MAY 6–11 AND MAY 13–18, 2017
INTERCONTINENTAL HOTEL
AMMAN, JORDAN

GOAL AND OBJECTIVES

Goal:

The goal of this training is to build the capacity of USAID/OFDA partners working in the Middle East in the context of humanitarian assistance to effectively manage pharmaceuticals and other health commodities.

Objectives:

By the end of the workshop, participants will be able to:

1. Define key health commodity supply chain management functions

2. Apply basic principles and skills of different supply chain management functions during emergency humanitarian assistance: Selection, Quantification and Procurement, Warehousing and Distribution, logistics management information system (LMIS), and Supply Chain Performance monitoring

3. Demonstrate skills in setting up appropriate distribution and inventory control systems

4. Define and apply data requirements to effectively run supply chain systems

5. Demonstrate the capacity to minimize wastage, including product transfer to other organizations and disposal of pharmaceutical waste according to standard requirements

6. Give an overview of irrational use of pharmaceuticals and strategies to improve the use of pharmaceuticals and other health commodities, including the importance of coordination

7. Describe the OFDA requirements regarding pharmaceuticals and medical commodities, and be familiar with OFDA proposal guidelines

8. Interpret and apply OFDA pharmaceutical policies

WORKSHOP AGENDA

DAY 1		**Lead Facilitator/ Co-facilitator**
6:00–9:00	Evening reception Registration Welcome introduction and participant expectations Organizational experience in humanitarian logistics	Olena V./Emmanuel N.
DAY 2		**Lead Facilitator/ Co-facilitator**
8:30–9:15	Workshop opening Workshop goals and objectives Ground rules Icebreaker Housekeeping	OFDA and SIAPS official opening Emmanuel N./Olena V.
9:15–9:45	Pretest	Olena V.
9:45–10:30	Introduction to health commodity supply chain management	Emmanuel N./Gashaw S.
10:30–10:45	Coffee break	
10:45–11:45	Selection of medicines and other health products, and the concept of essential medicines	Mohan J./Emmanuel N.
11:45–12:45	OFDA operational requirements, pharmaceutical policies, and proposal guidelines	OFDA
12:45–1:45	Lunch break	
1:45–2:15	Introduction to health commodities quantification	Alan G./Gashaw S.
2:15–3:35	Forecasting—consumption: 2:15–3:15 Consumption exercise: 3:15–3:35	Alan G./Gashaw S
3:35–3:50	Coffee break	
3:50–4:00	Consumption answers	Alan G./Gashaw S.
4:00–5:30	Forecasting—morbidity: 4:00–4:45 Morbidity exercise: 4:45–5:15 Answers: 5:15–5:30	Gashaw S./Alan G.
5:30	End	
DAY 3		**Lead Facilitator/ Co-facilitator**
8:30–9:30	Supply planning of health commodities	Gashaw S./Alan G.
9:30–10:30	Introduction to health commodity procurement	Gashaw S./Emmanuel N.
10:30–10:45	Coffee break	
10:45–11:30	Procurement transparency	OIG
11:30–12:30	The procurement cycle and processes in conventional and humanitarian disaster relief	Emmanuel N./Gashaw S.
12:30–1:30	Lunch break	
1:30–2:30	Procurement planning	Gashaw S./Alan G.
2:30–3:00	Automated Directive System (ADS) 312	OFDA
3:00–3:30	Receipt and inspection	Alan G./Emmanuel N.
3:30–3:45	Coffee break	
3:45–4:30	Plenary discussions on quantification and procurement challenges and solutions	Alan G./Gashaw S./Participants
4:30–5:00	Introduction to health commodity distribution	Alan G./Gashaw S.

5:00–5:30	Good storage practices (including special storage requirements) and individual exercise	Emmanuel N./Alan G.
DAY 4		**Lead Facilitator/ Co-facilitator**
8:30–9:45	Inventory management systems	Gashaw S./Alan G.
9:45–10:45	Group exercise on setting up inventory control system	Alan G./Gashaw S.
10:45–11:00	Coffee break	
11:00–12:00	Group work presentation on inventory control system	Alan G./Gashaw S.
12:00–1:00	Inventory control records	Gashaw S./Alan G.
1:00–2:00	Lunch break	
2:00–3:00	Introduction to logistics management information system	Gashaw S./Mohan J.
3:00–3:45	Group exercise on mapping of LMIS and developing tools	Gashaw S./Mohan J.
3:45–4:00	Coffee break	
4:00–5:00	Group presentation on mapping LMIS	Gashaw S./Mohan J./Participants
DAY 5		**Lead Facilitator/ Co-facilitator**
8:30–9:15	Routine LMIS data quality monitoring	Gashaw S./Emmanuel N.
9:15–10:15	Supply chain reports and info use	Emmanuel N./Gashaw S.
10:15–10:30	Coffee break	
10:30–11:00	Best practices—demo on eLMIS	Gashaw S./Emmanuel N.
11:00–11:45	Pharmaceutical waste minimization and reverse logistics	Gashaw S./Alan G.
11:45–12:30	Disposition of pharmaceuticals and OFDA requirements	OFDA
12:30–1:30	Lunch break	
1:30–2:15	Discussion on challenges regarding pharmaceutical waste	OFDA/All
2:15–3:15	The problem of irrational use of medicines	Mohan J./Emmanuel N.
3:15–3:30	Coffee break	
3:30–4:30	Strategies to improve the use of medicines	Mohan J./Gashaw S.
DAY 6		**Lead Facilitator/ Co-facilitator**
8:30–9:30	The importance of coordination in promoting rational medicine use	Mohan J./Emmanuel N.
9:30–10:30	Plenary on challenges and possible solutions regarding rational medicine use during humanitarian emergency	Mohan J./All
10:30–10:45	Coffee break	
10:45–11:15	Post-test	All facilitators/Participants
11:15–12:30	General discussion—expectations after the training	OFDA/SIAPS
12:30–1:30	Lunch break	
1:30–2:00	Workshop evaluation	Olena V./Participants
2:00–2:15	Admin announcements	Olena V.
2:15–3:00	Post-test results Certification and closing remarks Group photo	USAID/OFDA/Partners/SIAPS
3:00	Coffee break and end of workshop	

ANNEX C. PRE- AND POST-TEST

a) Pre- and Post-Test Questionnaires

USAID/OFDA Pharmaceutical and Medical Commodities Supply Chain Management Training Workshop, May 6–18, 2017, Amman, Jordan

Name _____ Organization _____

Instruction: Read each question carefully and choose the best answer from the choices provided

1. All of the following are true EXCEPT:
   a) Essential medicines should be identified and listed using generic names
   b) Essential medicines concept does allow flexibility for the use of medicines outside the essential medicines list (EML) with proper justification
   c) The 2016 version of the OFDA EML contains five products that are restricted for only specific indication
   d) Essential medicines are selected on the basis of efficacy, safety, and comparative cost

2. Which of the following is CORRECT regarding buying medicines that are NOT on the OFDA EML?
   a) Need to request an exception with signed justification
   b) Need separate request for each pharmaceutical exception
   c) Including exceptions in the request may slow the review and approval process, and there is no guarantee of approval
   d) All of the above

3. The following are true about humanitarian logistics EXCEPT:
   a) Humanitarian logistics contribute to reducing the effects of widespread human, material, or environmental losses.
   b) The primary purpose of humanitarian logistics is to provide the framework for private-sector businesses and their suppliers to bring goods, services, and information to customers.
   c) The purpose of humanitarian logistics is to alleviate the suffering of vulnerable people through planning, implementing, and controlling the efficient, cost-effective flow and storage of goods and information, from the point of origin to the point of consumption.
   d) The function of humanitarian logistics encompasses a range of activities, including preparedness, planning, procurement, transport, warehousing, tracking and tracing, and customs clearance.

4. Which one of the following is not a step in the quantification process?
   a) Planning
   b) Forecasting
   c) Purchasing
   d) Supply planning

5. Which one of the following is a reason for making assumptions in quantification?
   a) To adjust for missing or incomplete information
   b) To estimate the effect of environmental factors
   c) To adjust for changes in standard treatment guidelines
   d) All of the above

6. Which of the following data points is not required for the consumption method of forecasting?
   a) List of health commodities with full specifications
   b) Dosage information
   c) Reliable records of consumption/issue
   d) Estimation of days out of stock

7. The morbidity method is the best method to forecast demand
   a) When reliable consumption data are available
   b) For new programs or for new products where consumption data are not available

8. Which of the following is a major component of logistics management information systems (LMIS)?
   a) Data b) Tools c) Processes d) All

9. Which of the following is NOT a dimension of data quality monitoring?
   a) Timeliness b) Completeness c) Stock reports d) Data accuracy

10. Which of the following is NOT true about pharmaceutical and medical commodity procurement?
   a) Procurement is an integral part of the supply chain
   b) Strategic objectives of good procurement can be achieved through better procurement unit organization, skilled manpower, adequate laws and regulations, and efficient management of processes and procedures
   c) By following the principles of good procurement practices it is not possible to increase effectiveness and efficiency of procurement and achieve objectives
   d) Both visible and invisible costs should be considered when determining total costs of procurement and value for money

11. All of the following with regard to procurement are correct EXCEPT:
   a) Procurement within humanitarian operations is not subjected to unique challenges
   b) Uncertainty, lack of demand visibility, and lack of alternatives are some of the procurement challenges during humanitarian situation
   c) Alternative speed of deliveries and changes in urgency could be requirements during the procurement process for humanitarian organizations
   d) Decisions regarding procurement strategies impact effectiveness and efficiency, e.g., local vs. global

12. All of the following are objectives of distribution EXCEPT:
   a) To contribute to a secure and continuous supply of medicines
   b) To procure the most cost-effective pharmaceuticals in the right quantities

c) To keep medicines in proper conditions
d) To rationalize the use of available transportation fleet(s) and other distribution mechanisms

13. FEFO:
a) Is a manner of managing products that prioritizes the use/distribution of products in the order in which they were received
b) Is a strategy for calculating resupply quantities
c) Is a manner of managing products that prioritizes the use/distribution of products closer to the expiration date
d) Is a strategy for simultaneous order picking in the warehouse

14. A push system of distribution is usually associated with:
a) Higher costs of carrying inventory
b) Lower costs of carrying inventory
c) Supply needs determined at lower levels
d) None of the above

15. One of the following is NOT true about reverse logistics and pharmaceutical waste:
a) Reverse logistics is the opposite of forward logistics
b) Multiple dynamics complicate the concept of reverse logistics
c) Moving usable and unusable products, recovering value, and reducing hazards are some of the activities in reverse logistics
d) Waste minimization reduces cost associated with reverse logistics

16. In a periodic review inventory control system, which one of the following parameters is the trigger for placing new orders
a) Minimum stock level
b) Review period
c) Maximum stock level
d) Desired stock level

17. Which of the following statements is NOT true about inventory management
a) Proper inventory management ensures that the right quantities of the right products are in stock at the right time and available to dispense to users as needed
b) The basic parameters to set up inventory control systems are consumption, stock on hand, and losses/adjustments
c) Inventory control systems set the rules for stock-keeping practices within a country, organization, warehouse, or clinic
d) Inventory management systems need to be flexible, especially in rapid onset humanitarian disasters

18. Which of the following records should be used to track information about products?
a) Stock keeping records
b) Transaction records
c) Consumption records
d) All of the above

19. All of the following are correct EXCEPT:

a) Public education about medicines is one of the core strategies of the World Health Organization to promote rational use of medicines
b) A single strategy to improve medicine use produces better results than a combination of strategies
c) Scheduling drugs into prescription-only and over-the-counter categories is an example of a regulatory strategy to improve medicine use
d) Strategies to improve medicine use are: educational, managerial, regulatory, and economic

20. Which of the following is a factor that contributes to poor medication adherence by patients?

a) Poor affordability on the part of the patient
b) Poor communication between health provider and patient
c) Adverse drug reactions
d) All of the above

b) Workshop Pre- and Post-test Results by Participant (First Round)

Participant Number	Pretest Score		Post-test Score		Change	
	20	%	20	%	#	%
P1	14.0	70%	15.0	75%	1.0	7%
P2	11.0	55%	11.0	55%	0.0	0%
P3	12.0	60%	12.0	60%	0.0	0%
P4	8.0	40%	15.0	75%	7.0	88%
P5	11.0	55%	14.0	70%	3.0	27%
P6	9.0	45%	16.0	80%	7.0	78%
P7	14.0	70%	16.0	80%	2.0	14%
P8	10.0	50%	15.0	75%	5.0	50%
P9	12.0	60%	15.0	75%	3.0	25%
P10	16.0	80%	18.0	90%	2.0	13%
P11	11.0	55%	15.0	75%	4.0	36%
P12	13.0	65%	16.0	80%	3.0	23%
P13	10.0	50%	14.0	70%	4.0	40%
P14	13.0	65%	14.0	70%	1.0	8%
P15	11.0	55%	18.0	90%	7.0	64%
P16	9.0	45%	15.0	75%	6.0	67%
P17	13.0	65%	14.0	70%	1.0	8%
P18	11.0	55%	16.0	80%	5.0	45%
P19	9.0	45%	11.0	55%	2.0	22%
P20	4.0	20%	12.0	60%	8.0	200%
P21	11.0	55%	12.0	60%	1.0	9%
P22	11.0	55%	15.0	75%	4.0	36%
P23	8.0	40%	13.0	65%	5.0	63%
P24	15.0	75%	15.0	75%	0.0	0%
P25	13.0	65%	14.0	70%	1.0	8%
P26	13.0	65%	14.0	70%	1.0	8%
P27	14.0	70%	17.0	85%	3.0	21%
P28	14.0	70%	17.0	85%	3.0	21%
P29	12.0	60%	16.0	80%	4.0	33%
Average	11.4	57.2%	14.7	73.3%	3.2	28.01%

c) Workshop Pre- and Post-test Results by Participant (Second Round)

Participant Number	Pretest Score		Post-test Score		Change	
	20	%	20	%	#	%
P1	9.0	45%				
P2	12.0	60%				
P3	14.0	70%	18.0	90%	4.0	29%
P4	10.0	50%	17.0	85%	7.0	70%
P5	14.0	70%	18.0	90%	4.0	29%
P6	11.0	55%	18.0	90%	7.0	64%
P7	14.0	70%	20.0	100%	6.0	43%
P8	7.0	35%	11.0	55%	4.0	57%
P9	18.0	90%	20.0	100%	2.0	11%
P10	11.0	55%	15.0	75%	4.0	36%
P11	14.0	70%				
P12	18.0	90%	19.0	95%	1.0	6%
P13	16.0	80%	16.0	80%	0.0	0%
P14	13.0	65%	13.0	65%	0.0	0%
P15	13.0	65%	17.0	85%	4.0	31%
P16	11.0	55%	15.0	75%	4.0	36%
P17	15.0	75%	13.0	65%	-2.0	-13%
P18	15.0	75%	14.0	70%	-1.0	-7%
P19	14.0	70%	15.0	75%	1.0	7%
P20	14.0	70%	17.0	85%	3.0	21%
P21	13.0	65%	19.0	95%	6.0	46%
P22	18.0	90%	17.0	85%	-1.0	-6%
P23			14.0	70%		
Average	13.6	68.2%	16.4	82.1%	2.8	20.5%

ANNEX D. PARTICIPANTS' EXPECTATIONS

First-round participants

1. Better knowledge of OFDA rules, regulations, guidelines, and operational requirements
2. Learn from others' experiences on how they are complying with policies, common problems/obstacles, and best practices
3. Learn about rational medicine use
4. Best practices on supply chain performance measurement
5. Learn more about supply chain management in cross borders
6. LMIS—get a refresher on LMIS best practices; how to provide better support to beneficiaries using LMIS
7. More efficient way of managing a supply chain while complying with regulations
8. How to minimize waste and maintain good storage practices
9. Become familiar with storage requirements
10. Learn more about EML
11. More guidance on how to resolve challenges and bring solutions to the field

Second-round participants

1. Better knowledge of OFDA rules, regulations, guidelines, and operational requirements
2. Understand how OFDA sees supply chain compared to partners
3. Learn from others' experiences on how they are complying with policies, common problems/obstacles, and best practices
4. Understanding of policies and working with nonprequalified vendors
5. Increase communication speed with OFDA regarding requirements
6. Share knowledge and get information that will allow for better team management
7. Learn more about practical experiences of SCM
8. Learn about what OFDA expects from its partners
9. Monitoring and oversight of program implementations/ideas
10. Understand why we cannot purchase certain medicines using OFDA funds

ANNEX E. TRAINING WORKSHOP EVALUATIONS

a) Evaluation questions

USAID/OFDA Pharmaceuticals and Medical Products Supply Chain Management Training Workshop

May 13–18, 2017

Session Evaluations

Thank you for attending the workshop. We'd like to hear your impression of the various aspects of the training so that we can continually improve the experience. It is VERY IMPORTANT that you complete the "overall rating of the sessions"

I. General:

1. Has this training workshop met its set goals and objectives? _____

   Comment (optional):
2. Would you recommend this course to your professional colleagues?
3. Which part of the training did you like the most?
4. What do you think should be improved?
5. General comment:

II. Please rate and comment on the following sessions:

(1=Poor 2=Fair 3=Average 4=Good 5=Excellent)

SESSION	RATING	COMMENTS
Session 1: Welcome, introductions, and expectations	Poor Excellent 1 2 3 4 5	
Session 2: Opening, goals, and objectives of the workshop	Poor Excellent 1 2 3 4 5	
Session 3: OFDA operational requirements, pharmaceutical policies, and proposal guidelines	Poor Excellent 1 2 3 4 5	
Session 4: Introduction to health commodity supply chain management	Poor Excellent 1 2 3 4 5	
Session 5: Selection of medicines and other health products, and the concept of essential medicines	Poor Excellent 1 2 3 4 5	
Session 6: Introduction to health commodity quantification	Poor Excellent 1 2 3 4 5	
Session 7: Forecasting of health commodities	Poor Excellent 1 2 3 4 5	
Session 8: Supply planning of health commodities	Poor Excellent	

	1 2 3 4 5
Session 9: Introduction to procurement	Poor Excellent 1 2 3 4 5
Session 10: The procurement cycle and processes in conventional and humanitarian disaster relief	Poor Excellent 1 2 3 4 5
Session 11: Procurement planning	Poor Excellent 1 2 3 4 5
Session 12: Automated Directives System (ADS) 312	Poor Excellent 1 2 3 4 5
Session 13: Receipt and inspection	Poor Excellent 1 2 3 4 5
Session 14: Introduction to distribution	Poor Excellent 1 2 3 4 5
Session 15: Good storage practices	Poor Excellent 1 2 3 4 5
Session 16: Inventory management	Poor Excellent 1 2 3 4 5
Session 17: Inventory control records	Poor Excellent 1 2 3 4 5
Session 18: Introduction to logistics management information systems	Poor Excellent 1 2 3 4 5
Session 19: Routine LMIS data quality monitoring	Poor Excellent 1 2 3 4 5
Session 20: Supply chain reports and information use	Poor Excellent 1 2 3 4 5
Session 21: Pharmaceutical waste minimization and reverse logistics	Poor Excellent 1 2 3 4 5
Session 22: Disposition of pharmaceuticals and OFDA requirements	Poor Excellent 1 2 3 4 5
Session 23: The problem of irrational use of medicines	Poor Excellent 1 2 3 4 5
Session 24: Strategies to improve the use of medicines	Poor Excellent 1 2 3 4 5
Session 25: Importance of coordination in promoting rational medicine use	Poor Excellent 1 2 3 4 5
Session 26: Plenary discussion on challenges and possible solutions regarding rational medicine use during humanitarian emergency	Poor Excellent 1 2 3 4 5
Session 27: What's expected from participants after this training—discussion session	Poor Excellent 1 2 3 4 5
Overall rating of the workshop:	Poor Excellent 1 2 3 4 5

b) Overall Evaluation Result

Question	Comments
1. Has this training workshop met its set goals and objectives?	• In the first round, of 29 participants, 82.7% answered positively to this question; another 10.3% felt the training objectives were partially met; one participant (3.4%) answered negatively; and another participant (3.4%) did not answer • In the second round, 95% of 20 participants considered that the objectives of the workshop were met; one participant said that 80% of the objectives were met
2. Would you recommend this course to your professional colleagues?	• In the first round, one participant (3.4%) mentioned that he/she would not recommend this training to colleagues. This participant expected more specific training about the Middle East regional supply chain context. • Among second-round participants, 95% responded that they would recommend this workshop to colleagues. One participant (5%) did not answer this question.

c) Individual Sessions (First Round)

Rating Scale from 1 to 5: 1=Poor; 2=Fair; 3=Good; 4=Very good; 5= Excellent

	Overall Rating of the Session					
Session	**1**	**2**	**3**	**4**	**5**	**Av. Rating**
Session 1: Welcome, introductions, and expectations	0	1	1	11	16	**4.4**
Session 2: Opening, goals, and objectives of the workshop	0	1	2	12	14	**4.3**
Session 3: OFDA operational requirements, pharmaceutical policies, and proposal guidelines	0	1	2	14	11	**4.3**
Session 4: Introduction to health commodity supply chain management	1	1	5	15	6	**3.9**
Session 5: Selection of medicines and other health products, and the concept of essential medicines	0	1	4	17	7	**4.0**
Session 6: Introduction to health commodity quantification	0	0	8	15	6	**3.9**
Session 7: Forecasting of health commodities	0	1	8	14	6	**3.9**
Session 8: Supply planning of health commodities	0	1	8	14	6	**3.9**
Session 9: Introduction to procurement	0	2	8	13	6	**3.8**
Session 10: The procurement cycle and processes in conventional and humanitarian disaster relief	0	3	7	13	6	**3.8**
Session 11: Procurement planning	0	2	9	13	5	**3.7**
Session 12: Automated Directives System (ADS) 312	0	1	10	13	4	**3.7**
Session 13: Receipt and inspection	1	0	8	15	4	**3.8**
Session 14: Introduction to distribution	1	0	7	13	8	**3.9**
Session 15: Good storage practices	1	0	4	14	10	**4.1**
Session 16: Inventory management	0	1	7	10	11	**4.1**
Session 17: Inventory control records	0	1	8	9	11	**4.0**
Session 18: Introduction to logistics management information systems	0	1	9	10	8	**3.9**
Session 19: Routine LMIS data quality monitoring	1	1	8	12	6	**3.8**
Session 20: Supply chain reports and information use	1	0	11	10	7	**3.8**
Session 21: Pharmaceutical waste minimization and reverse logistics	0	0	9	12	7	**3.9**
Session 22: Disposition of pharmaceuticals and OFDA requirements	0	0	7	12	10	**4.1**
Session 23: The problem of irrational use of medicines	0	0	5	11	13	**4.3**
Session 24: Strategies to improve the use of medicines	0	1	3	15	10	**4.2**
Session 25: Importance of coordination in promoting rational medicine use	0	1	4	15	9	**4.1**
Session 26: Plenary discussion on challenges and possible solutions regarding rational medicine use during humanitarian emergency	0	1	4	16	8	**4.1**
Session 27: What's expected from participants after this training—discussion session	1	1	4	17	6	**3.9**
Overall score	**0**	**1**	**4**	**14**	**9**	**4.1**

d) Individual Sessions (Second Round)

Rating Scale from 1 to 5: 1=Poor; 2=Fair; 3=Good; 4=Very good; 5= Excellent

Session	Overall Rating of the Session					
	1	**2**	**3**	**4**	**5**	**Av. Rating**
Session 1: Welcome, introductions, and expectations	0	0	0	7	12	**4.7**
Session 2: Opening, goals, and objectives of the workshop	0	0	0	10	9	**4.5**
Session 3: OFDA operational requirements, pharmaceutical policies, and proposal guidelines	0	0	0	12	7	**4.4**
Session 4: Introduction to health commodity supply chain management	0	0	2	7	10	**4.4**
Session 5: Selection of medicines and other health products, and the concept of essential medicines	0	0	0	6	13	**4.7**
Session 6: Introduction to health commodity quantification	0	0	3	2	14	**4.6**
Session 7: Forecasting of health commodities	0	0	3	4	12	**4.5**
Session 8: Supply planning of health commodities	0	0	0	8	11	**4.6**
Session 9: Introduction to procurement	0	0	1	12	6	**4.3**
Session 10: The procurement cycle and processes in conventional and humanitarian disaster relief	0	0	1	12	6	**4.3**
Session 11: Procurement planning	0	0	2	12	5	**4.2**
Session 12: Automated Directives System (ADS) 312	0	0	3	11	5	**4.2**
Session 13: Receipt and inspection	0	0	0	10	8	**4.5**
Session 14: Introduction to distribution	0	0	1	7	11	**4.6**
Session 15: Good storage practices	0	0	2	6	11	**4.5**
Session 16: Inventory management	0	0	0	10	9	**4.5**
Session 17: Inventory control records	0	0	1	9	9	**4.5**
Session 18: Introduction to logistics management information systems	0	0	0	9	10	**4.6**
Session 19: Routine LMIS data quality monitoring	0	0	2	11	6	**4.3**
Session 20: Supply chain reports and information use	0	0	1	11	7	**4.3**
Session 21: Pharmaceutical waste minimization and reverse logistics	0	0	1	6	12	**4.6**
Session 22: Disposition of pharmaceuticals and OFDA requirements	0	0	1	7	11	**4.6**
Session 23: The problem of irrational use of medicines	0	0	0	6	12	**4.7**
Session 24: Strategies to improve the use of medicines	0	0	0	8	10	**4.6**
Session 25: Importance of coordination in promoting rational medicine use	0	0	1	10	8	**4.4**
Session 26: Plenary discussion on challenges and possible solutions regarding rational medicine use during humanitarian emergency	0	0	2	10	7	**4.3**
Session 27: What's expected from participants after this training—discussion session	0	0	3	5	11	**4.5**
Overall score	**0**	**0**	**0**	**8**	**8**	**4.5**

e) Training workshop evaluation by sessions and by participants (first round)

Session	P 1	P 2	P 3	P 4	P 5	P 6	P 7	P 8	P 9	P 10	P 11	P 12	P 13	P 14	P 15	P 16	P 17	P 18	P 19	P 20	P 21	P 22	P 23	P 24	P 25	P 26	P 27	P 28	P 29	Average
1	4	5	5	5	4	5	4	4	5	4	5	4	5	5	5	3	5	5	4	5	4	5	4	4	5	4	2	5	5	4.4
2	4	5	5	5	4	5	4	5	4	5	5	4	5	4	5	3	5	5	4	5	4	5	4	4	4	4	3	2	5	4.3
3	4	5	5	5	5	4	4	2	5	4	4	5	4	4	4	3	5	4	5		5	4	4	4	4	4	3	5	5	4.3
4	4	5	5	4	4	4	4	1	4	4	4	4	4	3	4	3	5	4	3		3	5	5	4	4	3	2	4	5	3.9
5	3	5	5	4	4	4	4	2	4	5	5	4	5	3	4	4	4	4	4	5	4	5	4	4	3	4	4	4	3	4.0
6	4	3	4	4	5	5	3	4	4	4	4	4	4	4	4	3	4	5	4	5	3	5	3	4	3	3	4	3	5	3.9
7	3	4	5	4	4	5	3	3	5	4	4	4	4	4	4	3	4	4	3	5	3	5	2	4	4	3	4	3	5	3.9
8	3	5	5	4	4	4	3	2	5	4	4	4	4	4	4	3	4	4	3	5	3	5	4	4	4	3	3	3	5	3.9
9	4	5	5	4	3	5	3	2	4	3	5	4	4	4	4	3	4	4	4	5	3	5	4	4	3	3	2	3	4	3.8
10	4	5	5	4	4	5	3	2	4	3	5	4	4	4	4	3	3	4	4	5	2	5	4	4	3	3	2	3	4	3.8
11	3	5	5	4	4	4	3	2	5	3	4	4	4	5	3	3	4	4	4	5	3	4	4	4	3	3	2	3	4	3.7
12	4	4	5	4	3	5	4	3	4	4	4	3	3	4	3	3	3	4	4	5	2	4	3	3	3	4		5	4	3.7
13	3	5	5	4	3	4	3	4	5	4	4	4	4	4	4	3	3	4	3	5	3	4	4	4	4	4	1		3	3.8
14	3	5	5	4	4	4	3	3	4	4	5	4	5	4	4	3	4	5	3	5	3	5	5	4	4	4	1	4	3	3.9
15	3	5	5	4	4	4	3	3	4	4	4	4	5	5	4	3	5	5	4	5	4	5	5	4	5	4	1	4	4	4.1
16	3	5	5	4	4	5	3	3	4	5	4	4	5	5	4	3	5	4	4	5	3	5	5	4	5	3	2	3	4	4.1
17	3	5	5	5	4	5	3	2	4	5	4	4	5	5	4	3	4	4	3	5	3	5	5	4	5	3	4	3	3	4.0
18	4	3	5	5	4	5	3	2	5	4	5	3	4		3	3	4	4	4	5	4	5	4	5	4	3	3	3	3	3.9
19	4	3	5	5	4	5	3	1	4	3	5	3	4		3	3	4	3	4	5	4	4	4	5	4	3	4	2	4	3.8
20	3	5	5	4	4	5	3	1	4	4	5	4	4	4	3	3	5	3	4	5	3	4	3	5	4	3	3	3	3	3.8
21	3	5	5	4	3	4	3	3		3	4	4	5	5	4	3	3	4	4	5	4	5	4	4	5	4	4	3	3	3.9
22	3	5	5	5	3	5	3	4	3	3	4	4	5	5	4	3	3	4	4	5	4	4	4	4	5	4	4	5	5	4.1
23	4	5	5	5	3	5	4	4	4	4	5	4	5	5	4	3	3	5	4	5	3	5	4	4	5	4	5	3	5	4.3
24	4	5	4	5	4	4	4	2	4	4	5	4	5	5	4	3	5	4	4	5	3	5	4	4	4	5	4	3	5	4.2
25	4	5	4	5	4	4	4	3	3	4	5	4	5	5	4	4	4	4	4	5	4	5	3	4	4	5	3	2	5	4.1
26	4	4	4	5	4	5	5	4	5	4	5	3	5	5	4	4	4	4	4	5	3	4	4	4	3	4	3	2	4	4.1
27	4	4	5	5	4	5	4	3	4	4	5	4	3	5	4	4	4	4	3	5	4	4	4	4	3	4	1	2	4	3.9
Overall	4	5	5	5	4	5		2	4	4	5	4	5	5	4	3	4	4	4	5	3	5	4	4	4	4	3	3	4	4.1

f) Training workshop evaluation by sessions and by participants (second round)

Session	P 1	P 2	P 3	P 4	P 5	P 6	P 7	P 8	P 9	P 10	P 11	P 12	P 13	P 14	P 15	P 16	P 17	P 18	P 19	P 20	Ave
1	5	5	5	5	4	5	5	4	4	5	5	5	5	4	4	4	5	4	5	5	4.7
2	4	5	5	5	5	5	5	4	4	4	5	4	5	4	4	4	4	4	5	5	4.5
3	4	5	4	5	4	5	5	4	4	5	5	4	4	4	4	4	4	5	4	5	4.4
4	5	5	5	5	5	5	4	3	4	5	5	3	4	4	5	4	5	4	4		4.4
5	5	5	5	5	5	5	5	4	5	5	5	4	4	5	5	4	4	4	5	5	4.7
6	5	5	5	5	5	5	4	3	5	5	5	4	3	5	5	5	5	3	5	5	4.6
7	5	5	5	5	5	5	4	3	5	5	5	4	3	5	5	4	5	3	4	5	4.5
8	5	5	5	5	5	5	4	4	5	5	5	4	4	4	5	4	4	4	5	5	4.6
9	5	5	4	5	4	4	4	4	3	4	5	4	5	4	4	4	5	4	4	5	4.3
10	4	5	5	5	4	5	4	4	3	4	5	4	4	4	4	4	5	4	4	5	4.3
11	4	5	5	5	4	4	4	3	3	4	5	4	4	4	5	4	4	4	4	5	4.2
12	4	5	5	5	4	4	5	3	4	4	5	4	3	4	4	4	4	3	4	5	4.2
13	5	5	5	5	4	5	5	4	4	4	5	4.5	4	4	4	4	4	4	5	5	4.5
14	5	5	5	5	4	5	5	3	4	5	5	4	4	4	4	4	5	5	5	5	4.6
15	5	5	5	5	4	5	5	3	4	5	5	4	5	4	3	4	5	5	4	5	4.5
16	5	5	5	5	4	4	5	4	4	5	5	4	4	4	4	4	5	5	4	5	4.5
17	5	5	4	5	4	5	5	4	4	5	5	4	4	4	3	4	5	5	4	5	4.5
18	4	5	4	5	4	5	5	4	4	4	5	4	5	5	4	4	5	5	5	5	4.6
19	5	5	3	4	4	5	5	4	4	5	5	4	4	4	4	4	4	3	4	5	4.3
20	5	5	4	5	4	5	5	4	4	5	5	4	4	4	3	4	4	4	4		4.3
21	5	5	3	5	5	5	5	4	4	5	5	4	5	5	4	4	5	4	5	4	4.6
22	4	5	4	5	4	4	5	3	5	5	5	4	5	5	4	5	5	5	4	5	4.6
23	5	5	4	5	4	5	5	4	4	5	5	4.5	4	5	4	5	5	5	5	5	4.7
24	5	5	4	5	4	5		4	5	5	5	4	4	5	5	4	4	5	4	5	4.6
25	5	5	4	5	5	5	3	4	4	5	5	4	4	4	4	4	4	4	5	5	4.4
26	5	5	4	5	4	4	5	3	3	4	5	4	4	4	4	4	5	4	5	5	4.3
27	5	5	4	5	4	5	5	3	3	5	5	4	5	5	4	4	5	3	5	5	4.5
Overall	5	5	4	5	4.5	5	5	4	4	5	5	4		5	4	4	4.5	4	4	5	4.5

Annex F. List of Participants

First round

No.	Name	Contact	Organization
1	Gizem Arisan	gizem.arisan@care.org	Care International Turkey
2	Abdullah Husham	ahusham@internationalmedicalcorps.org	IMC
3	Dardan Myftari	dmyftari@internationalmedicalcorps.org	IMC
4	Feras Ajlouni Abrmo	XXXXX	IMC
5	Hiba Hijazi	hhijazi@internationalmedicalcorps.org	IMC
6	Zurab Eprikashvili	zeprikashvili@internationalmedicalcorps.org	IMC
7	Abdel Latif Ashour	XXXXX	IMC
8	Khan Aqa Aseel	kaseel@iom.int	IOM
9	Rand Al Saad	Rand.Alsaad@rescue.org	IRC
10	Ahmad Taylakh	Ahmed.Taylakh@rescue.org	IRC
11	Zahriyah Abu Shahab	Zahriyah.Abushehab@rescue.org	IRC
12	Sari Elhaj	Sari.Elhaj@rescue.org	IRC
13	Yousor Lukatah	Yousor.Lukatah@rescue.org	IRC
14	Reem Al Shami	Reem.AlShami@rescue.org	IRC
15	Heather Dunlop	healthco-medair@medair.org	Medair
16	Kristel Duroy	ira.dhk.pharmacist@pu-ami.org	PUI
17	Yousif Khaleed	ira.bgd.logadmin@pu-ami.org	PUI
18	Samer Ahmed	samer.ahmad@ri.org	Relief International
19	Bessie Ramos	bessie.ramos@ri.org	Relief International
20	Mohammed El Salous	msalous@syriareliefanddevelopment.org	SRDF
21	Feras Abu Zhra	feras.abuzhra@sams-usa.net	SAMS
22	Alaa Aljbawi	alaa.aljbawi@sams-usa.net	SAMS
23	Mohamad Ali Hamoud	ali.hammoud@sams-usa.net	SAMS
24	Johnny Abbas	jabbas@unfpa.org	UNFPA
25	Waleed Ghadban	wghadban@unicef.org	UNICEF
26	Farah Christina Nahat	nahatf@who.int	WHO
27	Sady Elbilbassy	elbilbassys@who.int	WHO
28	Goran Qaradaghi	goran_qaradaghi@wvi.org	World Vision Iraq
29	Ghassan Salloum	ghassan_salloum@wvi.org	World Vision Iraq

Second round

No.	Name	Contact	Organization
1	Carla Mendizabal	carla.mendizabal@ifrc.org	IFRC
2	Rami Al-Quran	XXXXX	IMC
3	Samer Abu Tah	XXXXX	IMC
4	Lina Omar Mohammed	lomer@InternationalMedicalCorps.org	IMC
5	Mahmoud Musleh	mmusleh@InternationalMedicalCorps.org	IMC
6	Mohammed Abdalgadir	mabdalgadir@internationalmedicalcorps.org	IMC
7	Neil Rodrigues	nrodrigues@InternationalMedicalCorps.org.uk	IMC
8	Rimal Kaoutari	XXXXX	IMC
9	Edris Valipour	ira.scm@pu-ami.org	PUI
10	Semih Izgi	semih.izgi@ri.org	Relief International
11	Suhaib Alajlan	suhaib.alajlan@ri.org	Relief International
12	Wardere Hassan	wardere.abdikarin@ri.org	Relief International

	Abdikarin		
13	Jalal Abdul Rahman	jabdulatef@immap.org	UNICEF
14	Olexander Babanin	babanino@who.int	WHO
15	Waad Adel Ahmed Ismail	ismailwa@who.int	WHO
16	Ines Morgan	imorgan@worldrelief.de	World Relief Germany
17	Abdelhadi Eltahir	Abdelhadi_eltahir@wvi.org	World Vision
18	Elie Diab	elie_diab@wvi.org	World Vision
19	Joel Thorpe	joel_thorpe@wvi.org	World Vision
20	Zaidoun Hijazeen	XXXXX	FAO
21	Mohammad Awad*	Mohammad.Awad@rescue.org	IRC
22	Nafis Khan*	Nafis.Khan@fao.org	FAO
23	Michele DiBenedetto*	Michele.DiBenedetto@fao.org	FAO

* These participants attended only a few days of the training at the beginning.