



USAID
FROM THE AMERICAN PEOPLE

CENTRAL ASIAN REPUBLICS

IMPROVING EFFICIENCY

A RAPID EVALUATION OF ARV PROCUREMENT, STORAGE,
DISTRIBUTION, AND DISPENSING IN KAZAKHSTAN

July 2012

This publication was produced for review by the United States Agency for International Development. It was prepared by consultant Pierre de Vasson and Dave Burrows of the AIDS Project Management Group, for the Quality Health Care Project in the Central Asian Republics.

Recommended Citation: de Vasson, Pierre and Burrows, Dave. July 2012. *Improving Efficiency: A Rapid Evaluation Of ARV Procurement, Storage, Distribution, And Dispensing In Kazakhstan*. Bethesda, MD. Quality Health Care Project in the Central Asian Republics, Abt Associates Inc.

Contract Information: The Quality Health Care Project is funded by the U.S. Agency for International Development under Contract No. AID-176-C-10-00001, beginning September 2010. The Quality Project is implemented by Abt Associates Inc. and its subcontractors AIDS Projects Management Group (APMG), Project HOPE, Scientific Technology and Language Institute (STLI), and Socium Consult.

Submitted to: Kairat Davletov
Project Management Specialist, Office of Health and Education
USAID Central Asia Regional Mission

DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development (USAID) or the United States Government.

CONTENTS

- ACKNOWLEDGMENTS 6**
- EXECUTIVE SUMMARY 11**
- 1. REQUIREMENT OF ZEROING YEAR END’S STOCK AND BUDGET – DETAILED FINDINGS AND ASSOCIATED RECOMMENDATIONS..... 12**
 - 1.1 Current situation.....12
 - 1.2 Resulting consequences.....12
 - 1.3 *Recommendations*12
- 2. Absence of PSM GUIDELINES, FORECASTING GUIDANCE, AND DESCRIPTIONS OF ROLES & RESPONSABILITIES – DETAILED FINDINGS AND ASSOCIATED RECOMMENDATIONS 13**
 - 2.1 Current situation.....13
 - 2.2 Resulting consequences.....13
 - 2.3 *Recommendations*13
- 3. DECENTRALIZED PSM AND UNSATISFACTORY CONTRACT WITH SOLE DISTRIBUTOR - DETAILED FINDINGS AND ASSOCIATED RECOMMENDATIONS... 14**
 - 3.1 Current situation.....14
 - 3.2 Resulting consequences.....14
 - 3.3 *Recommendations*14
- 4. State OF WAREHOUSES, QUASI-WAREHOUSES, STOREROOMS AND TRANSPORTATION- DETAILED FINDINGS AND ASSOCIATED RECOMMENDATIONS 15**
 - 4.1 Current situation.....15
 - 4.2 Resulting consequences.....15
 - 4.3 *Recommendations*15
- 5. COnvoluted AND InEFFICIENT DECENTRALIZED BUDGET APPROVAL PROCESS WITH MOH - DETAILED FINDINGS AND ASSOCIATED RECOMMENDATIONS..... 16**
 - 5.1 Current situation.....16
 - 5.2 Resulting consequences.....16
 - 5.3 *Recommendations*16
- ANNEX A: MISSION SHEDULE i**

ACKNOWLEDGMENTS

The Quality Project consultants would like to thank the local nurses, managers, department heads and directors who hosted us in their offices:

- In Almaty: Dr. Marat Tukeyev, General Director, Mr. Rafail Kipshakbayev, M&E Specialist at the Republican AIDS Center (RAC), and Dr. Gulzhakhan Akhmetova, Head of Treatment Department at the City AIDS Center,
- In Karaganda: Dr. B. Zh Sagimbayev, Director, and Dr. Mustaphina Gazizovna, Head of Department at the Karaganda *oblast* AIDS Center.

OBJECTIVES OF THE EVALUATION

- Conduct a rapid assessment of supply chain problems specific to *oblast*-level ARV procurement, distribution, and dispensing in Kazakhstan, including a policy review and possible policy recommendations.
- Provide a rapid evaluation of overall transportation and storage conditions.

LIMITATIONS

This evaluation does not represent Kazakhstan's diverse ARV PSM capabilities completely and should only be read as a rapid assessment.

We were unable to access the warehouses of the sole distributor *SK Pharmaceuticals* in Almaty and Karaganda. Therefore, we were unable to evaluate the conditions in these important up-stream steps of the overall supply chain.

ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ARV	Antiretroviral medicine
APMG	AIDS Project Management Group
GFATM	Global Fund to Fight AIDS, Tuberculosis, and Malaria
HIV	Human Immunodeficiency Virus
M&E	Monitoring and Evaluation
MOH	Ministry of Health
PSM	Procurement, logistics, and Supply Management
RAC	Republican AIDS Center
USAID	United States Agency for International Development
WHO	World Health Organization

EXECUTIVE SUMMARY

PSM specific to ARV:

Currently, procurement, logistics, and supply management (PSM) of antiretroviral drugs (ARVs) in Kazakhstan are experiencing organizational challenges resulting in multiple problems at the local level. If the organization of each of these areas is improved, local problems should be quickly resolved. If ARV Forecasting and Stock Management software is rolled out with adequate expertise, ample training and adequate equipment, Kazakhstan's AIDS centers could have a world-class ARV distribution system to be able to sufficiently respond to the HIV epidemic.

Firstly, Oblast AIDS Centers are verbally required to have stock and budget at zero at the end of each financial year. These rules directly impede stock management and lead to cumbersome negotiations and artificial gimmicks that limit data accuracy, weaken forecasting, increase work burden, and eventually disorganize PSM. Revoking these rules and ensuring that written protocols are updated would be the first step to increased efficiency and effectiveness.

A larger issue is that ARV PSM is decentralized to Oblast AIDS Centers that directly negotiate and contract with the ARV distributor *SK Pharmaceuticals*. At this level, there is little PSM expertise: Oblast AIDS Centers have literally no room for negotiation or improvement of prices or delivery. The fact that *SK Pharmaceuticals* is the only ARV procurement and distribution company in Kazakhstan further complicates the situation. Contracting with *SK Pharmaceuticals* is particularly unfavorable to Oblast AIDS Centers that are in a weaker position: those with smaller numbers of people living with HIV (PLHIV) or with smaller health budgets. Legal paragraphs are imprecise, yet allow little flexibility. This hinders AIDS Centers' work. It is recommended that a well-staffed RAC centralizes PSM and supply relationships, and contracts directly at a national level with *SK Pharmaceuticals* to increase the Centers' bargaining power.

In addition, budget forecasting and approval chain via Oblast Ministry of Health (MOH) and Department of Healthcare is convoluted, poorly equipped, and does not currently have written guidance or description of Roles and Responsibilities. This artificially inflates work burden, decreases accuracy, quickly outdates data, and eventually disorganizes PSM. The only solution found in other countries is to centralize ARV PSM and budget approval processes to the RAC (together with adequate staffing). The budget forecasting process should be reengineered, streamlined, and approved by the national MOH with written guidance and description of Roles and Responsibilities.

Another bottleneck is caused by the absence of scaled-up *ARV Forecasting and Stock Management software* across the country and lack of adequate training for staff using the software. This leads to uneven provision of HIV services, additional work burden and inadequate quantification, and makes it impossible to collect quality data. *ARV Forecasting and Stock Management software* should be rolled out together with training on national Guidelines.

ARV transportation and storage meet minimum international standards in several oblasts but neither is optimized to support HIV services. Adequate equipment for storeroom and training for staff are generally missing but highly needed to ensure stable levels of quality assurance. National *Guidelines for Management of Stock, Storage Room, Refrigerator, Freezer and Cabinet* – produced by the Quality Project for Kyrgyzstan – and associated tools could provide necessary guidance.

Medicine is distributed via a PUSH distribution system (what has been predetermined is distributed) as opposed to a PULL system (only what is needed is distributed then reconciled with budget). Implementing a PULL system will facilitate centralizing of necessary tasks, promote higher-level expertise, and reduce unnecessary staff burden. A PULL system would also increase data quality for budget forecasting and enable real M&E.

I. REQUIREMENT OF ZEROING YEAR END'S STOCK AND BUDGET – DETAILED FINDINGS AND ASSOCIATED RECOMMENDATIONS

I.1 CURRENT SITUATION

Currently, a rule exists requiring physical ARV inventory levels to be zero at the end of each year, and ARV budget lines must be completely used up by that time. When this rule is violated, the AIDS Center receives a financial penalty and loses the budget surplus for the next year.

None of the assessment's respondents were able to show us the text with this requirement in an official document of the Ministry of Health. It is therefore assumed that this requirement is unwritten and yet it is strictly observed by AIDS Centers. It is to be noted that one AIDS Center has successfully argued against this requirement in 2011, but these discussions were cumbersome, lengthy, and required a lot of energy.

I.2 RESULTING CONSEQUENCES

The consequences of this requirement are detrimental on several different levels: good practice of stock management, maintaining accurate data for precise monitoring and evaluation (M&E), future forecasting, and streamlined patient flow for quality care.

To completely use-up their ARV budget line, an AIDS Center must accept and receive the entire quantity of medicines that they have contracted for with *SK Pharmaceuticals*. This applies even when the forecast has been overestimated – which can be caused by a variety of unforeseeable factors such as weather conditions, natural disasters, shortage of HIV or CD4 test kits, adherence issues, etc, subsequently creating a stock surplus. Following the requirement of zero stock at year-end, the AIDS Center must flush out this stock surplus.

Several options are used to overcome these problems. First, January patients scheduled in January are met and prescribed in December or earlier. This leads to an artificial peak of patient visits and ARV prescriptions in November and December (and a low in January and February) that compromises data accuracy, weakens future forecasting, increases staff burden during these months, confuses patients and deteriorates ARV intake scheduling and care quality. Moreover, this creates a stockout of ARVs until the first delivery, which is sometimes as late as April or May.

A second method is to falsely record patient visits and ARV prescriptions in the books for December. Meanwhile, the actual visits and ARV prescriptions occur in January, and remaining stocks is hidden from auditors. This solution prevents a stock-out until the next ARV delivery, but leads to increased financial risk. Another method consists of accepting the penalty: when this is done, the budget dedicated to patient care is unfairly confiscated.

All in all, this requirement has a proven detrimental impact on stock management, forecasting and directly contradicts another (likewise unwritten) requirement to keep a buffer stock of three months supply of ARVs.

I.3 RECOMMENDATIONS

The above verbal policy may simplify accounting and maybe prevent medicines expiring, but its consequences are severely detrimental. The following is recommended as a matter of urgency:

- *Abandon the verbal requirement of zeroing stock and budget at the end of each year and the associated penalty*
- *Maintain a reasonable level of stock in accordance to future delivery of ARVs, including a buffer stock of two months*
- *Write these recommendations in a National Guidelines for ARV stock management (see following recommendations)*
- *Provide stock management training for nurses, pharmacists, and AIDS Center leadership including the*

2. ABSENCE OF PSM GUIDELINES, FORECASTING GUIDANCE, AND DESCRIPTIONS OF ROLES & RESPONSIBILITIES – DETAILED FINDINGS AND ASSOCIATED RECOMMENDATIONS

2.1 CURRENT SITUATION

Currently, ARV procurement, logistics, and supply management have few guiding documents or proper descriptions of Roles and Responsibilities. Lacking such guidelines and with little PSM expertise, AIDS Center staff outsource PSM steps to *SK Pharmaceuticals* with little negotiation power. It appears that the RAC does not provide any support to Oblast AIDS Centers in this area.

This assessment was unable to find any official document related to ARV PSM, forecasting methodology, process flow, and timelines, nor a description of Roles and Responsibilities between RAC, MOH and Oblast AIDS Centers. The process of forecasting appears to be rather informal and left to Oblast AIDS Centers. This can lead to a high level of variability and uncertainty.

The only guidance found was related to storage and transportation conditions and requirements for medications (not specific to ARVs): *Rules of Storage and Transport for Drugs, Medical Devices and Medical Equipment* from the 26th of November 2009, number 5921. Given the general lack of written guidance, it is understandable that unwritten policies have become the norm.

2.2 RESULTING CONSEQUENCES

As a result, AIDS Centers are confused. They need to develop their own methodology for quantification. This methodology can vary quite substantially, depending on staff expertise, the time allocated to computation, and the availability and quality of the data. Since there are no established Roles and Responsibilities, Oblast AIDS Centers have difficulties in receiving approval from the Oblast MOH Departments of Health Care. These centers are in a weak position when requesting approval, instead of being able to confidently request their needs to be met, using evidence. In addition, this process varies quite substantially from oblast to oblast. Third, staff are poorly supported. This inevitably leads to improvisation and solutions that may seem pragmatic but may be detrimental to good practice.

This situation should be partially resolved with the roll out of *ARV Forecasting and Stock Management Software*.

2.3 RECOMMENDATIONS

It is strongly recommended:

- *Roll out ARV Forecasting and Stock Management Software to improve data quality, standardize quantification, align forecasting process, and then unify timelines.*
- *Provide oblast AIDS Centers with an overall organizational chart, pragmatic step-by-step tasks, and detailed Roles and Responsibilities between RAC, MOH and Oblast AIDS Centers for 1) procurement, logistics, and supply management, and 2) forecasting process.*
- *Ensure the RAC plays the role of the centralized coordinator for the forecasting process and provides guidance and expertise in PSM.*
- *Develop, distribute and ensure implementation of national Guidelines for Stock, Storage, Refrigerator, and Freezer Management with associated tools. These documents will serve as a reference for good practice.*

3. DECENTRALIZED PSM AND CONTRACT WITH SOLE DISTRIBUTOR - DETAILED FINDINGS AND ASSOCIATED RECOMMENDATIONS

3.1 CURRENT SITUATION

ARV PSM in Kazakhstan is composed of several steps in sequence:

1. forecasting ARV quantity and specifications,
2. receiving approval from the Oblast MOH Department of Healthcare,
3. contracting with the distributor for specific ARV quantity, specifications and delivery dates,
4. receiving and storing ARVs, managing ARV stock, and
5. dispensing ARV medicines to patients.

The role of the RAC is solely to pay the distributor and consolidate ARV quantity and specifications at the national level for further discussion with the MOH. Other tasks are decentralized to Oblast AIDS Centers where PSM and forecasting expertise is low among nurses, pharmacists, and department heads.

SK Pharmaceuticals is the only authorized distributor of ARVs and other medicines and health equipment in Kazakhstan. *SK Pharmaceuticals'* role includes collecting quantification and specifications that have been confirmed by the MOH Department of Healthcare at the oblast level, then tender and award to successful manufacturers and distributors, and eventually deliver to AIDS Centers.

3.2 RESULTING CONSEQUENCES

The use of a sole contractor to work with multiple Oblast AIDS Centers that possess little PSM knowledge is inefficient and places great power in the company's hands. *SK Pharmaceuticals* negotiates directly with Oblast AIDS Centers. As a result, contract terms are often unfavorable to the Centers, which makes it even more difficult for staff to manage ARV stock adequately and provide good healthcare. For example, delivery dates in the contract are labeled by month rather than by day. Oblast AIDS Centers have difficulty finding out from *SK Pharmaceuticals* whether the delivery will happen at the beginning of the month or at the end. They face this uncertainty for up to thirty days and sometimes resort to asking other Oblast AIDS Centers for temporary stock relief.

The absence of PSM centralization at the RAC leaves little room for improvement. Sources interviewed during this assessment state that the limited product range from *SK Pharmaceuticals* hinders HIV treatment, that there has been a lack of response to complaints causing logistical challenges, and that the bureaucratic procedure system limits flexibility and increases work burden. Oblast AIDS Centers cannot deal with these issues with little bargaining power, limited PSM knowledge, and no dedicated experts.

3.3 RECOMMENDATIONS

It is recommended to:

- *Create a position and hire an ARV PSM manager at the RAC who will be responsible for contracting with the distributor, managing the supply relationship, centralizing complaints from Oblast AIDS Centers, facilitating quantification and delivery date computation, conducting training as needed and, generally coordinating and ensuring a streamlined supply chain*
- *Centralize to the RAC supervision of ARV contracting, logistics and distribution to oblast AIDS centers*
- *Develop, roll out and ensure implementation of national Guidelines for Stock, Storage, Refrigerator and Freezer Management with associated tools.*
- *Sign a contract between RAC and SK Pharmaceuticals, rebalancing and fine-tuning contract terms in favor of RAC and oblast AIDS Centers, to eventually benefit the patients.*

4. STATE OF WAREHOUSES, QUASI-WAREHOUSES, STOREROOMS AND TRANSPORTATION- DETAILED FINDINGS AND ASSOCIATED RECOMMENDATIONS

4.1 CURRENT SITUATION

This assessment involved visits to AIDS centers in two oblasts. The state of storing locations visited such as quasi-warehouses, storerooms and cabinets seems to meet most standards. Storerooms are adequately located within the health center. The visited AIDS Centers were sometimes equipped with professional refrigerators with some basic equipment (thermometers); storerooms were mostly clean, and sometimes equipped with shelves, and many were renovated and equipped with air-conditioners and fire extinguishers; consultation rooms were clean and had medicine cabinets.

Since a visit to *SK Pharmaceuticals* was not possible, this assessment cannot comment on the up-stream storage at the central and *oblast* levels and transportation in between.

4.2 RESULTING CONSEQUENCES

The two Oblast AIDS Centers assessed meet some minimum standards. However, best practice for good *Stock, Storage, Refrigerator, and Freezer Management* is currently not being implemented. Moreover, staff are not aware of these standards. This leads to poor stock management, limited stock turning (First-Expired-First-Out), difficulties in quantifying needs, and expiration dates going unnoticed. Furthermore, sunlight is not always properly blocked. Storerooms are not always well ventilated, air-conditioned, and heated.

The conditions of refrigerated and non-refrigerated goods are not controlled well, due to an absence of hygrometers (a device that controls humidity levels in the storeroom), temperature monitoring before and after temperature logging (once a day) in the storeroom and refrigerator and periodic cycle counting. The process of receiving goods is worrisome. An evaluation of staff control of received goods has not been carried out.

4.3 RECOMMENDATIONS

It is recommended to:

- *Further evaluate oblast AIDS centers in the following priority order: start with those with*
 - *largest quantity of ARV dispensed volume and HIV population*
 - *greatest degree of remoteness and lowest budget*
- *Quantify and specify the needs (by site) for:*
 - *storeroom renovation, guidance in storeroom selection and relocation, etc.,*
 - *standardized medicine cabinets for consultation rooms*
 - *standardized professional refrigerators and/or freezers*
 - *standardized storing equipment (shelves, stock cards)*
 - *standardized monitoring equipment (hygrometer, temperature data logger, etc.)*
 - *standardized logging tools (temperature log sheet, stock cards, etc.)*
 - *standardized security equipment (electronic alarm, fire extinguisher, etc.).*
- *Train oblast AIDS Center staff and the RAC PSM manager on:*
 - *national Guidelines for Stock, Storage, Refrigerator, Freezer Management*
 - *provision and placement of signs such as Do's and Don'ts, fire extinguisher placement,*
 - *relevant tools such as temperature log sheets, and stock cards*
- *Evaluate and ensure that the sole distributor does not compromise the supply chain with poor warehousing and transportation to oblast AIDS Centers.*

5. DECENTRALIZED BUDGET APPROVAL PROCESS WITH MOH - DETAILED FINDINGS AND ASSOCIATED RECOMMENDATIONS

5.1 CURRENT SITUATION

The current budget approval process flow is first computed by Oblast AIDS Centers. It is then negotiated at the oblast level between Oblast AIDS Centers and Oblast MOH Departments of Healthcare. When approved, it is then renegotiated and approved at the national level between RAC and the MOH Departments of Healthcare. The budget then goes to the Headquarters of SK Pharmaceuticals in Astana for sourcing and procurement (tender, award, receipt and then warehousing).

This process is highly complex and bureaucratic since Oblast AIDS Centers do not have the adequate data to compute accurately (see Section 1), the proper tool to compute efficiently (see Section 2), the flexibility in contract negotiation with SK Pharmaceuticals and delivery schedules (see Section 3), nor effective support from the RAC (see Section 2).

This process is lengthy and does not support flexibility, quick responses in case of a missing product, or changes in quantity or specification. The process needs to be redesigned.

5.2 RESULTING CONSEQUENCES

The primary and the most dramatic consequence is frequent and rotating stocking out. This is especially true when an additional ARV or OI medicine is needed. This has been repeatedly mentioned by staff of AIDS Centers and RAC. Overstocking also happens when storage capacity and proper stock management knowledge is poor.

Budget approval has now become a cumbersome, convoluted, and time consuming process that no longer supports the provision of good care. Staff and directors have to spend an increasing amount of time on budget approval, leaving them less time for providing good client care. Negotiations with the MoH Department of Healthcare are uncertain.

5.3 RECOMMENDATIONS

It is recommended to:

- *Decentralize budget forecasting to the oblast level associated with ARV Forecasting and Stock Management Software with supporting resources and coordination and collation at the RAC level*
- *Roll out ARV Forecasting and Stock Management Software across all AIDS Centers supplemented by relevant training*
- *Centralize the budget approval process at the level of the RAC and the national MoH Department of Healthcare*
- *Determine the total ARV budget line and leave sub totals (classified by medicine type) flexible, since they are difficult to forecast accurately*
- *Develop and disseminate Roles and Responsibilities in budget forecasting, as well as a step-by-step organizational chart including ARV Forecasting and Stock Management Software*
- *Replace the PUSH distribution system (which is when what has been predetermined is distributed) to a PULL system (when only what is needed is distributed then reconciled with budget) via a quarterly Stock Replenishment Request system and direct deliveries from the distributor.*

ANNEX A: MISSION SCHEDULE

Monday, May 14th: meeting on preliminary background with USAID Kazakhstan HIV Director Dr. Yelena Kudussova,

Tuesday, May 15th: meeting with the M&E specialist of the Republican AIDS Center (RAC), situational assessment from the RAC's point of view, evaluation of the forecasting process flow.

Wednesday, May 16th: meeting with the department head and nurse of Almaty City AIDS Center, evaluation of the situation from City AIDS Center's point of view, visit of the storeroom and cabinets, evaluation of the forecasting process flow.

Wednesday, May 16th: meeting with Almaty oblast ARV distributor, evaluation of the situation from the ARV distributor's point of view.

Thursday, May 17th: meeting with the Director, Department Head and Nurse of Karaganda oblast AIDS Center, evaluation of the situation from oblast AIDS Center's point of view, storeroom visits, evaluation of the forecasting process flow.

Friday, May 18th: follow up meeting with the Director, Department Head and Nurse of Karaganda oblast AIDS Center.

Tuesday, May 22th: follow-up meeting with the General Director and M&E specialist of the Republican AIDS Center, brief presentation of the main findings and consensus on the next steps.

Tuesday, May 22th: Evaluation of Almaty City AIDS center's warehouse.