Process Evaluation of Anti Retroviral Drug Distribution at Health Facilities in Jimma Zone, Southwest Ethiopia

By

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(B.Pharm, M&E graduating student))

An Evaluation Thesis Submitted to the Department of Health Services Management for the Partial Fulfillment of the requirements for the Degree of Masters of Science in Health Monitoring and Evaluation

June 2011

Jimma, Ethiopia

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Abstract

Background: Ethiopia has one of the largest populations of HIV infected people in the world, with an estimated 1.1 million people living with HIV in 2009. Anti Retroviral Therapy program is one of the interventions to avert HIV/AIDS. The final goal of the Anti Retroviral Therapy programme is to reduce HIV related morbidity, mortality, and mitigate the impact of the AIDS epidemic. To achieve these goals continuous supply management of Anti Retro Viral drugs is the main component. Effective Anti Retro Viral drugs distribution enable every HIV/AIDS patient who needs Anti Retro Viral drugs to get and use as required. The interest of stakeholders and unavailability of such previous study in the area initiated us to conduct this evaluation.

Objective: This evaluation aimed to assess the level of implementation of Anti Retro Viral drugs distribution service in terms of availability of resources, compliance of the activities to national protocols and accommodation of the services.

Methods: Case study design employing both quantitative and qualitative methods was conducted in Jimma Zone. The health facilities were selected using simple random sampling technique. Data collection methods were exit interview, document review, observation and expert interview. Quantitative data was analyzed using SPSS software. Qualitative data was analyzed manually and summarized into key thematic area. The achievement of the program was judged based on judgment matrix developed with stakeholders.

Results: The availability of resources in the study area was 81.64% and judged as medium achievement. Some of key Standard Operating Procedure forms, Anti Retroviral Therapy trained pharmacy professionals, inventory control system and counseling guidelines were not available in some of the facilities. The compliance to national standards was 77.2% and judged as medium achievement, and the utilization of the key Standard Operating Procedure forms and using inventory control system both at dispensary and storage area was low. The accommodation of the service was 96.55% and judged as high achievement according to the rating parameter. The overall implementation of the program was 81.87% and judged as medium achievement.

Conclusion: The resources needed and recommended by guidelines were available except Anti Retroviral Therapy trained pharmacy professionals and guidelines for counseling in some of health facilities. The utilization of key Standard Operating Procedure forms such as expiry date tracking chart, Anti Retro Viral drugs dispensing and consumption summary and stock record card was not low. Training of pharmacy professional on basic Anti Retroviral Therapy, making available the key Standard Operating Procedure forms and designing mechanisms to guarantee their utilization were the main recommendations.

Table of contents

List of Figures

List of Tables

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Abbreviations/Acronyms

ART Antiretroviral Therapy

ARV Antiretroviral

DACA Drug Administration and Control Authority

DHO District Health Office

DTC Drug and Therapeutic committee

DIC Drug Information Center

HCT HIV Counseling and Testing

IEC/BCC: Information, Education and Communication/
Behavioral Change Communication

LMIS Logistic Management Information System

MOH Minister of Health

NGOs None Governmental Organization

PFSA Pharmaceutical Fund and Supply Agency

PMTCT Prevention of Mother to Child Transmission

RHBs Regional Health Bureau

SCMS Supply Chain Management System

SOPs Standard Operating Procedures

SPS Strengthening Pharmaceutical System

USAID United States Agency for International Development

WHO World Health Organization

Chapter 1 Background

1.1 Magnitude of HIV/AIDS and Its Impact

Almost 60 million people have been infected with HIV and 25 million people have died of HIV-related causes since the beginning of the epidemic. According to AIDS epidemic update 2009 G.C report, it was estimated that 33.4 million people were living with HIV worldwide in 2008 G.C. This was 20% higher than the number in 2000G.C and the prevalence was roughly threefold higher in 1990 G.C. Also in 2008 G.C, an estimated 2.7 million new HIV infections and 2 million deaths due to AIDS –related illness occurred worldwide.[1]

Sub-Saharan Africa remains the region most heavily affected by HIV. In 2008 G.C, sub-Saharan Africa accounted for 67% of HIV infections worldwide, 68% of new HIV infections among adults and 91% of new HIV infections among children. The region also accounted for 72% of the world's AIDS-related deaths in 2008 G.C.[1]

Ethiopia is the second most populous and one of the seriously affected countries in sub Saharan Africa.[2] In 2009 G.C an estimated 1.1 million people living with HIV and the prevalence in all ages estimated to be 2.3 between 1.8 and 2.8 in males and females respectively. In the same year about 336,160 populations need ART. [3]

In Oromia Region according to the 2007G.C single point estimate 265,458 people live with HIV/ADIS; 29,225 new HIV infections and 10,833 annual ADIS deaths, and adult prevalence both in rural and urban was 1.5 (between 1.2 and 1.8 in male and female respectively), and also there were 80,358 patients in need of ART by 2009 G.C. [3] In Jimma zone as the annual report of 2009/2010 showed, the positivity rate was 0.6 and 0.3for female and male population respectively. [4]

1.2 Interventions to avert the HIV/AIDS

Ethiopia has significantly expanded its response to the epidemic since enactment of the National HIV/AIDS Policy in 1998 G.C. In 2001G.C, the National HIV/AIDS Prevention and Control Council declared HIV as a national emergency; this was

followed by various interventions focusing on prevention, risk reduction, and behavioral change. [5] The major components of the intervention are HIV testing and Counseling, Prevention of mother- to- child transmission of HIV, Infection Prevention, Antiretroviral Therapy, opportunistic infection management, and ensuring the quality of all services. [6]

Similarly in the study area the major interventions as indicated by 2009/2010 G.C annual report of the Zone include: Information, Education and Communication/ Behavioral Change Communication (IEC/BCC), condom promotion and distribution; Voluntary Counseling and Testing (VCT) and; prevention of mother to child transmission of HIV/AIDS; management of sexually transmitted infections; ART service for those infected by the virus; care and support.[4]

In 2003G.C Ethiopia introduced its fee based ART program with the goal of reducing HIV related morbidity and mortality; improving the quality of life of people living with HIV; and mitigating some of the impact of the epidemic. The free ART was launched in 2005 G.C and the service decentralized to health centers. [2] In the study area ART service started in 2005 G.C. In order to achieve these goals effective ARV drug supply management is essential part of ART program as it ensures uninterrupted supply of ARV drugs and their proper use.

1.3 **Overview of the program:**

1.3.1 ARV Drug Supply Management

ARV Drug supply management is a process of ensuring regular availability of the right drug products, at the right quantities, of the right quality and reasonable price, where they are needed, at the right time and ensuring their proper use. [6]

ARV drugs supply management is quite different and particularly challenging compared with traditional drug supply management: ARV therapy is lifelong and requires an uninterrupted supply of relatively expensive drugs; Stock-outs will lead to insufficient adherence, treatment failure and development of resistance**.** [7] Thus effective ARV drugs

supply management is crucial for the success of ART program as it ensures an uninterrupted supply of ARV drugs and their proper use. Major components of ARV drug Supply management include proper selection and quantification, procurement, distribution, use, management support, and policy and legal framework.[8]

1.3.2 Socio political Context of ARV Drugs Supply Management

As a component of National HIV/AIDS, Health, and Drug Policies, the Government of Ethiopia endorsed Policy on Supply and Use of ARV Drugs in July 2002 G.C. [9]ARV drugs safety, efficacy, quality and proper use was endorsed by Drug Administration and Control Authority, its name changed to Food, Medicine and Health Care Administration and Control (FMHCAC) in 2010. It was established with proclamation No. 176/1999.[10]

In 2007, Drug Fund and The Pharmaceutical Supply Agency was established with Proclamation No.553/2007: a proclamation to establish and implement efficient and effective procurement and distribution systems; to provide adequate and proper storage facilities, to ensure uninterrupted supply of the drugs; supply essential pharmaceutical safety and efficacy approved by appropriate body to all public health institutions; deliver pharmaceuticals directly to health facilities and establish a logistic management system.[11]The Pharmaceutical Fund and Supply Agency (PFSA) perform all these activities and also include ARVs.

In the study area the distribution of ARV drugs is going on in collaboration with PFSA hub, SCMS, SPS, Zonal health department, Deliver and the health facilities. The continued commitment and interest of the partners, the community and other stakeholders is expected to bring in more resources and concerted efforts for large scale distribution.

1.3.3 Objective of the ARV Drugs Supply Management

(a) General Objective

To ensure uninterrupted availability of needed ARV drugs in the right quantity, with the right quality, at the right time and at the right place, and ensure rational use of ARV drugs in the Zone.

(b) Specific Objective

i. To properly quantify and forecast the type and amount of ARV drugs required in the zone as the guideline.

ii. To ensure acquisition of the right type of ARV drugs in the right quantity, at the right time in the zone.

iii. To ensure timely delivery of ARV drugs to the lower level as the schedule.

iv. To keep proper stock management at each level of the pipeline, steady availability of ARV drugs at health facilities, and control volume and movement of ARV drugs in the zone as the guideline.

v. To ensure proper use of ARV drugs that is the prescribing, dispensing and patient adherence to the regimens as the guideline.

All the above objectives were prepared after interviewing and undertaking discussion with the key stakeholders in the zone; the PFSA hub, SCMS and SPS.

1.3.4 ARV Drugs Distribution

Need of ARV Drugs Distribution

ARV drugs distribution in the Zone is a continuous process of receiving drugs from the PFSA hub and transporting them safely to the desired health facilities in accordance with their level of requisitions and per established schedule of distribution unless in an emergency order. Appropriate transportation facility should be used to timely deliver the drug to the Health facility without endangering the quality and security. The components of the ARV drugs distribution at health facilities include the following: [8, 12,13,14,15]

Receipt and Inspection- Newly arrived ARV drugs should be kept separately and physically inspected to check for damaged and missing items, and any discrepancy should be reported to the concerned bodies.

Storage of Drugs: ARV drugs require appropriate storage conditions as these influence their shelf-lives, safety and efficacy. Thus ARV drugs should be stored in accordance with their storage conditions, protected from light, humidity and excessive heat; should be arranged systematically to make tracing of a specific ARV drug easy, and also simplify inventory control and minimize expiry; and in a secured store to prevent and

minimize pilferage, and maintain their quality throughout their shelf-lives. Thus it is important to check the product label to follow the manufacturers' recommendation for the storage of products and also follow general standards of the drugs storage to keep ARV drug product unaltered. After storage of the drugs regular monitoring is important.

Inventory Control: The purpose of inventory control at the facility level is to inform when and how much of a commodity to order and to maintain an appropriate stock level to meet needs of patients by using stock control such as receiving and issuing vouchers, requesting and receiving format, stock record card and reporting formats. A well designed and well operated inventory control system helps to prevent shortages, oversupply, and expiry of ARV drugs. Thus use of inventory control tools is important to know the amount of ARV dugs on hand, to assist in the control and utilization of drugs, and more accurately estimate ARV drugs demand and also help to redistribute stock from areas that have been overstocked to areas that are in need of certain ARV drugs.

Delivery to Dispensary: After storing drugs in store room of health facilities, the drugs should be issued to dispensaries using legal documents such as requisition voucher (internal facility report. Issue and receipt voucher) and issuing voucher (model 22).

Dispensing the distribution process achieves its purpose when drugs reach to dispensary and appropriately prescribed and dispensed to patients. Dispensing is process of preparing drugs and distributing them to their users with provision of appropriate information. Dispensing of the drugs should be performed in a safe and hygienic manner, making sure that the patient or care provider understands and appreciates the value of taking drugs.

Reporting and Ordering: The closing link in the distribution process is the flow of information from health facilities to Pharmaceutical Fund and Supply Agency hub, Strengthening Pharmaceutical System and other higher level stakeholders. Thus Health facilities should keep records on stock on hand, consumption and losses/adjustments and send the reports monthly and Bi-monthly. These reports will be used for forecasting

and procurement at central level, and for re-supplying to the health facilities at hub level respectively.

Thus the distribution component of ARV drugs supply management is the basis for the well functioning of the supply chain and to provide the ARV drugs needed by HIV/AIDS patients.

1.3.5 Stage of Development of ARV Drugs Distribution

During the start of the program, ARV drugs distribution system was "push" system in which a central authority determined quantities shipped to health facility based on annual distribution plan. Then Supply Chain Management System (SCMS) worked with partners and PFSA to redesign the ARV distribution system to "pull" system, which is demand driven distribution, supporting transition from multi-tiered to two level (warehouse to site) distribution.[16] Thus now the distribution of ARV drugs and flow of information in Ethiopia carried out with three levels. The central PFSA clears, receives, stores ARV drugs and distribute to PFSA hubs, and provides feedback. Then the hubs after receiving the drugs store in their warehouse and distribute to the health facilities. Data will be reported from hub to central and also the hub provides feed back to the sites. Each ART site after receiving the drugs store and control the inventory system, and issue to dispensary. Then information flows from sites to hubs.[12]

1.3.6 Resources of ARV Drugs Distribution

The resources for implementation of ARV drugs distribution are: finance, existing health facilities, health personnel, standard operating procedure reference manuals and guidelines, SOP formats and drugs.

1.3.7 Logical model of ARV Drugs Distribution

The logical model of ARV Drugs distribution is developed after reviewing various literatures including reference books, guidelines, standard operating procedures reference manuals, and after discussing with stakeholders.

Goals: To reduce morbidity and mortality due to HIV/AIDS, and improve quality life of people living with HIV/AIDS.

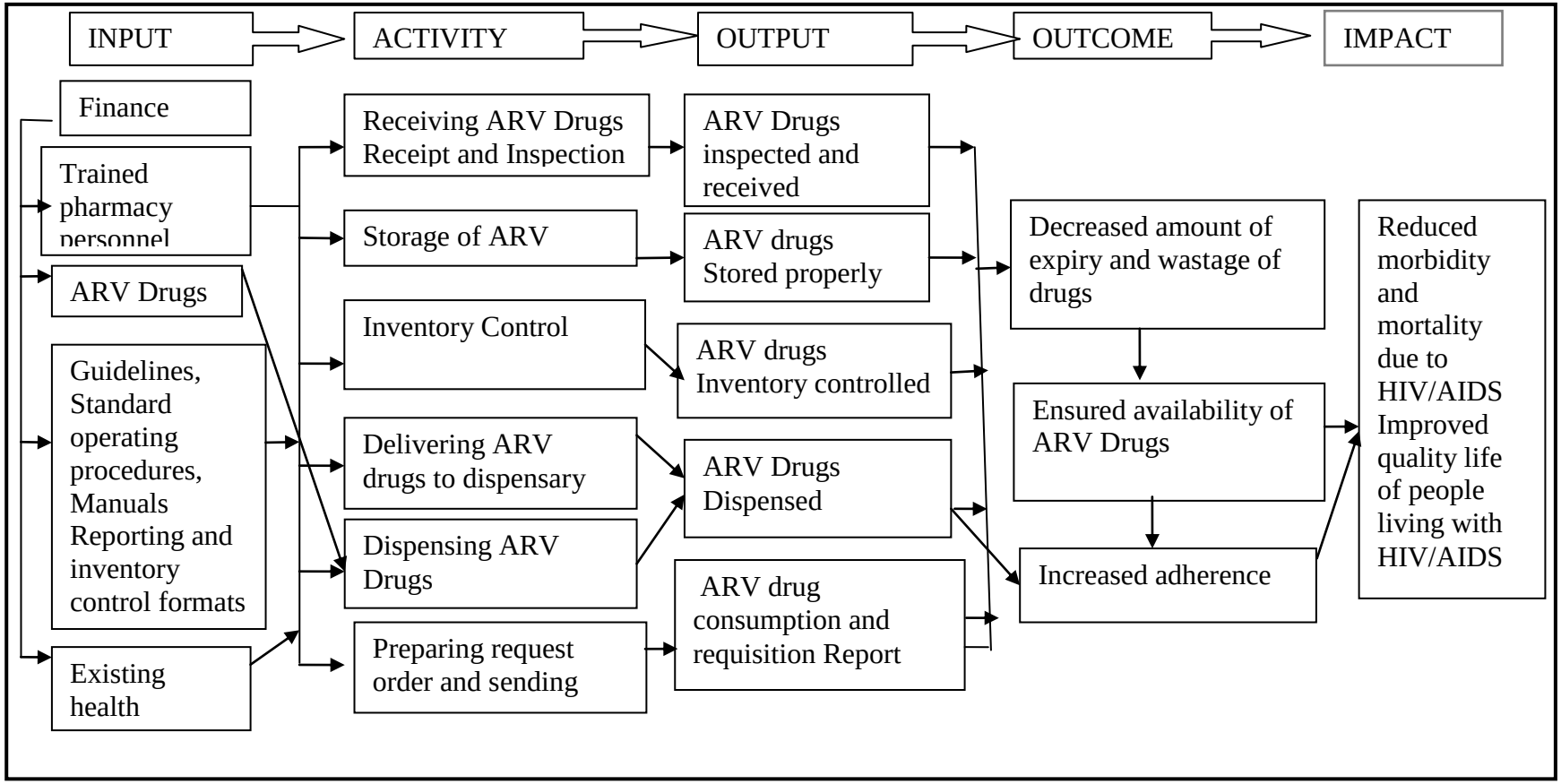

Figure 1: Logic Model of ARV drugs Distribution at Health Facilities in Jimma Zone, December2010**.**

1.4 **Statement of Problem**

A major cause of lack of medicines in Africa is weak procurement and distribution practices and this is of major concern with many countries now scaling up antiretroviral therapy (ART) to thousands of patients. ART drug stock outs are being documented, and various African facilities have identified the single greatest logistic challenge to ART scale-up being that of maintaining drug supplies. Stock-outs mean unplanned treatment interruptions, which in turn cause drug resistance and treatment failure. Such adverse events have already been documented from ART clinics in sub-Saharan Africa. Resistance to first-line therapy means switching to a more complicated, expensive, toxic and less effective second-line regimen, and as far as possible this must be avoided.[17]

Availability and access to medicines in some parts of the developing world have significantly increased. However these increases in the supply of medications are straining systems that are already weak in pharmaceutical supply management. Weaknesses include inadequate capacity and skills to quantify needs for medications or to order, receive and store medications appropriately and to record medications inventories accurately.[18]

In Ethiopia the pharmaceutical supply management has several problems including non availability of needed drugs, unaffordability of drugs, poor storage and stock management at each level of distribution system, and irrational use which include at prescribing, dispensing and usage by the patients. To solve these problems in public health facilities the Government of Ethiopia established Drug Fund and the Pharmaceutical Supply Agency in 2007 G.C which has mandate to avail affordable and quality pharmaceuticals sustainably to all public health facilities and ensure their rational use.[19]

As to the principal investigator's knowledge, there is no evaluation study conducted in the study area. So this evaluation study may fill the information gap in the ARV drugs

distribution and provide information to stakeholders for planning and monitoring, and improvement of the program.

1.5 Rationale for the Evaluation

Monitoring and evaluation are an essential part of management support system in the ARV drugs supply management. Inputs, activities, and outputs of ARV drugs distribution processes should be monitored continuously and evaluated periodically on the basis of indicators to facilitate adequate implementation and identify the strength and weakness, and provide information for improvement of ARV drugs distribution as this is the basis for the well functioning of the supply chain system.

Although ARV drugs supply/distribution in the study area started in 2005, no previous evaluation study conducted. And also program owners and stakeholders were interested in the evaluation of the program.

Therefore, this evaluation is specifically designed to identify areas of the program that need improvement, and to use the result from the evaluation for future planning and appropriate use of the existing resources.

Chapter 2 Stakeholder Identification and Analysis

Evaluation stakeholders are people who have a stake (a vested interest) in evaluation findings. For any evaluation, there are multiple possible stakeholders: program funders, staff, and administrators, and clients or program participants.[20] According to CDC, stakeholders are divided into three principal groups: 1. those involved in program operations, 2. those served or affected by the program, and 3. the primary users of evaluation.[21]

Identification of key stakeholders

Stakeholders of ARV drugs distribution in Jimma Zone were identified through the interview of zonal health department ART focal person and manager of Pharmaceutical Fund and Supply Agency. The principal evaluator met each identified key stakeholders independently, and their role in the program, their interest and their role in the evaluation was identified. The final key stakeholders of ARV drugs distribution in Jimma Zone were Jimma Zonal Health department, Jimma Pharmaceutical Fund and Supply Agency, Supply chain management system (SCMS), Strengthening Pharmaceutical System (SPS), Deliver, district health office, health facilities and ART patients.

Stakeholder participation

The stakeholders were involved throughout evaluation process particularly developing program objectives, developing logic model of the program, developing evaluation questions, selecting ARV drugs, and developing indicators and judgment parameters for evaluation. The health facilities, Pharmaceutical fund and Supply Agency, SCMS and SPS were the most participative of the stakeholders.

Communication with the stakeholders

During the evaluation process, stakeholders were communicated about the progress of the evaluation. The main communication strategies were through E-mail, telephone and

meeting. The dissemination of evaluation findings will be through provision of the report to primary users of evaluation

Stakeholder perspectives and how to utilize evaluation findings

The principal evaluator discussed with stakeholders especially PFSA hub, SCMS, SPS and Zonal health department about the utilization of the findings and their responses were positive towards the utilization findings. Consequently, the findings of evaluation will be used to improve components that need improvement.

Table 1: Stakeholder Analysis Matrix for Evaluation of ARV drugs Distribution in Jimma Zone, December 2010.

Stakeholders	Role in the program	Role in the Evaluation	Interest in Evaluation
Jimma Zone Health department and district health office in the zone	Supportive supervision Accrediting health facilities for ART service	Writing support letter Use of evaluation finding	Improved performance
PFSA	Receiving drugs and storing from central PFSA Distributing to health facilities Over all control of reporting and distribution system Providing training and supervision	Program description Defining evaluation question Source of data	Improved performance and quality service.
SCMS	Collecting reports and requests bimonthly Allocating and resupplying drugs to respective health facilities Providing reporting formats	Provide information Define evaluation question	Improved performance and quality service
SPS	Distributing standard operating procedure forms and IEC materials; Collecting monthly reports, compiling and sending to central	provide information during evaluation	Quality service
Deliver	Training professional and distributing inventory control tools	Provide information	Quality service
Health Facilities	Service Implementers	Sources of data	Improvement of the program
ART patients	Service users	Source of data	Quality service

Chapter 3 Literature Review

Effective ARV drug distribution relies on good system design and good management. A well designed distribution system should maintain a constant supply of drugs; keep drugs in good condition throughout the distribution process; minimize drug losses due to spoilage and expiry; maintain accurate inventory records; rationalize drug storage points; reduce theft and fraud; and provide information for forecasting drug needs. The distribution cycle includes the following steps: receipt and inspection; storage; inventory control; requisition of supplies; delivery; dispensing to patients, and reporting consumption.[8]

Receipt and inspection is important to be able to detect any damage to the external product packaging or to the products themselves; to verify that the quantities being received are the same as the quantities shipped; and to ensure that the quantities of products being received can be used before expiry. An assessment conducted on Supply Chain for ARV Drugs and HIV Test Kits in Sierra Leone in 2007 G.C in 17 health facilities visual inspection and a physical count of products when being received is not routinely performed nor documented on stock cards.[22]

In the same assessment in Sierra Leone in most district hospitals and Primary Health Units visited storage areas were generally integrated into already existing pharmacy stores, counseling offices, or locked cabinets within an existing building structure and were therefore well-lit and ventilated. But products are not arranged in storerooms or on shelves in a way that makes it easy to read product labels and expiry dates to facilitate identification and access to products when needed.[22] In the assessment at the health facility level (21 Health Facilities) in Sudan in 2009 G.C, all health facilities (HFs) temperature control is maintained through roofs and ceilings. Availability of windows, doors, fans and in some of the pharmacies in main hospitals air conditioners give a

chance for good ventilation in 18 HF (85.7%). It was observed that direct sunlight can access inside the pharmacy area in 2 HF (9.5%). Medicines are stored directly on the floor (= no pallets) in 2 HF (9.5%). Fortunately storage areas are free from moisture and pests in the 21 health facilities (100%). [23]

A key finding of the supply chain assessment in Sierra Leone in 2007 G.C was the lack of a standardized inventory control system with procedures for monitoring and managing stock levels of ARV drugs. This results in creating difficulty to detect and address stock imbalances in a timely fashion to avoid stock outs and overstocking. Stock outs of efavirenz, single stavudine d4t30mg and second line drugs were noted at several of the facilities visited, as were quantities of expired ARV drugs.[22] While stock cards were in use at some of the facilities visited, not all products had a stock card, some had not been updated in one or two years, and the data on stock on hand often did not match the physical count at the time of the visit.[22]

At most of the sites visited during the assessment in Sierra Leone, daily register books and monthly summary report forms were available and being used.[22] And in the same assessment of pharmaceutical system in Sudan the standard operating procedures (SOPs) for procurement, receiving, and issuing were found in 2 states only (40%).[23] However in the assessment of the HIV/AIDS Medical Supplies and Laboratory Commodities Supply Chain in Lesotho, November 2007 found that only 17 percent of the hospital pharmacies visited had SOPs for pharmacy.[24]

In an Evaluation conducted in Ethiopia in four populous regions, the capital city, 5 regional logistic hubs and selected health facilities to evaluate activities of two projects supported by USAID and also shows results on storage and inventory control. The store keeper manages the stock using stock cards, generally manuals, but computerized in few

places. ART pharmacies supply their stock from the store of the health facility. Where the store is located at a different place, ART pharmacies have mini stores or lockable cabinets to maintain a small supply of ARVs to support regular dispensing. Inventory control in all ART facilities visited is adequate. Stock outs have been nonexistent or minimal for ARVs. Use of bin and stock cards is adequate.[25]

In addition to these, other studies conducted on pharmaceutical supply management of drugs and ARV drugs supply management in the country at different times have also shown that the pharmaceutical supply management of health institution of the country has got some problems in estimating requirement, timely acquisition, storage, distribution, stock volume and movement control of drugs.[25,26]

Chapter 4 Evaluation Questions and Objectives of the evaluation

4.1 Evaluation Questions

The process evaluation of ARV drugs Distribution was based on the following questions and they were prepared with stakeholders to ensure use. These questions were prepared based on USAID standards, National guidelines, Standard Operating Procedures reference Manuals and discussion with stakeholders.

i. Are necessary resources available? If not why?

ii. Are components of ARV drugs distribution operating according to the standard? If not, Why?

iii. Do the ARV dispensing arrangements meet expectations of the patients? If not why?

4.2 Evaluation Objectives

General Objective

To assess the level of implementation of ARV drugs distribution service at health facilities in Jimma Zone, Southwest Ethiopia, 2010.

Specific Objectives

i. To verify the availability of required resources in health facilities.

ii. To explore the compliance of professionals to national guidelines, SOP reference manuals in the distribution service.

iii. To identify whether distribution service accommodates ART patients.

Chapter 5 Evaluation methods

5.1 Study area and period

Jimma zone is one of the17 zones of Oromia Region which is located in the Southwestern part of the region and 355 km away in the southwest direction from Addis Ababa, capital of Ethiopia. It is bordered by Ilubabor zone in the Northwest, East Welega in the North, West Shewa in the Northeast, Southwest Shewa in the East, and Sothern Nations, Nationalities and Peoples Region in the South and Southeast. It has a total land area of **15,568.58** sq kilometer. The total population of the zone in 2010 G.C projected from 2007 G.C census is **2,732,791.** [27] The Zone is divided into 17 districts and 1 town administration.

There are 7 non-government organizations, one district hospital, 52 health centers, 75 clinics, 469 health posts, 26 private drug stores, 45 private drug venders, and 1480 health professionals in the study area. From the above mentioned health facilities the ARV drugs distribution implemented in the hospital and 10 health centers but among these health centers only 7 started the program, and the remaining 3 have not yet started. This evaluation was conducted from Dec 4, 2010 to Jan 6, 2011.

5.2 Evaluation focus and approach

The focus of this evaluation was process (implementation) evaluation which focuses on inputs and activities. Process evaluation focuses on the internal dynamics and actual operations of a program in an attempt to understand its strength and weakness. It also searches for explanation of the successes, failures, and changes in a program. Process evaluation can provide useful feedback during the developmental phase of a program as well as later, in providing details for diffusion and dissemination of an effective program. [20]

Formative approach was employed and its major aim was to improve the program. Formative evaluation typically connotes collecting data for a specific period of time, usually during the start-up or pilot phase of program, to improve implementation, solve unanticipated problems, and make sure that participants are progressing toward desired outcomes.[20] The purpose of formative approach is also to help or shape the program to perform better.[28]

5.3 Evaluation Dimensions

The evaluation of ARV drugs distribution included the following dimensions: availability of required resources, compliance to guideline and standard manuals, and accommodation of the service to the patients.

Availability: is the relationship of the volume and type of existing services (and resources) to the clients' volume and types of needs. It refers to the adequacy of the supply of health providers; of facilities such as clinics and hospitals; and of specialized programs and services such as mental health and emergency care.[29] In this evaluation study, Availability looked the presence of required resources to perform ARV drugs distribution such as trained pharmacy professionals, SOP forms and ARV drugs.

Compliance: Compliance to guideline or standard may standardize and facilitate the service delivery and minimize waste of time so that service could be provided for more clients. Without guidelines or standards, services of unknown quality and impact could be implemented on flying basis, making it difficult to monitor and evaluate efforts. [28] Compliance was meant to adherence of pharmacy professionals to national guideline and Standard Operating Procedure reference manuals in delivering ARV drugs distribution services at health facilities.

Accommodation: is the relationship between the manner in which the supply resources are organized to accept clients (including appointment systems, hours of operation, walk-in facilities, and telephone services) and the clients' ability to accommodate to these factors and the clients' perception of their appropriateness.[29] Thus, this evaluation study

looked for perception of ART patients on the appropriateness of the dispensing rooms and hours of operation set.

5.4 Conceptual Framework

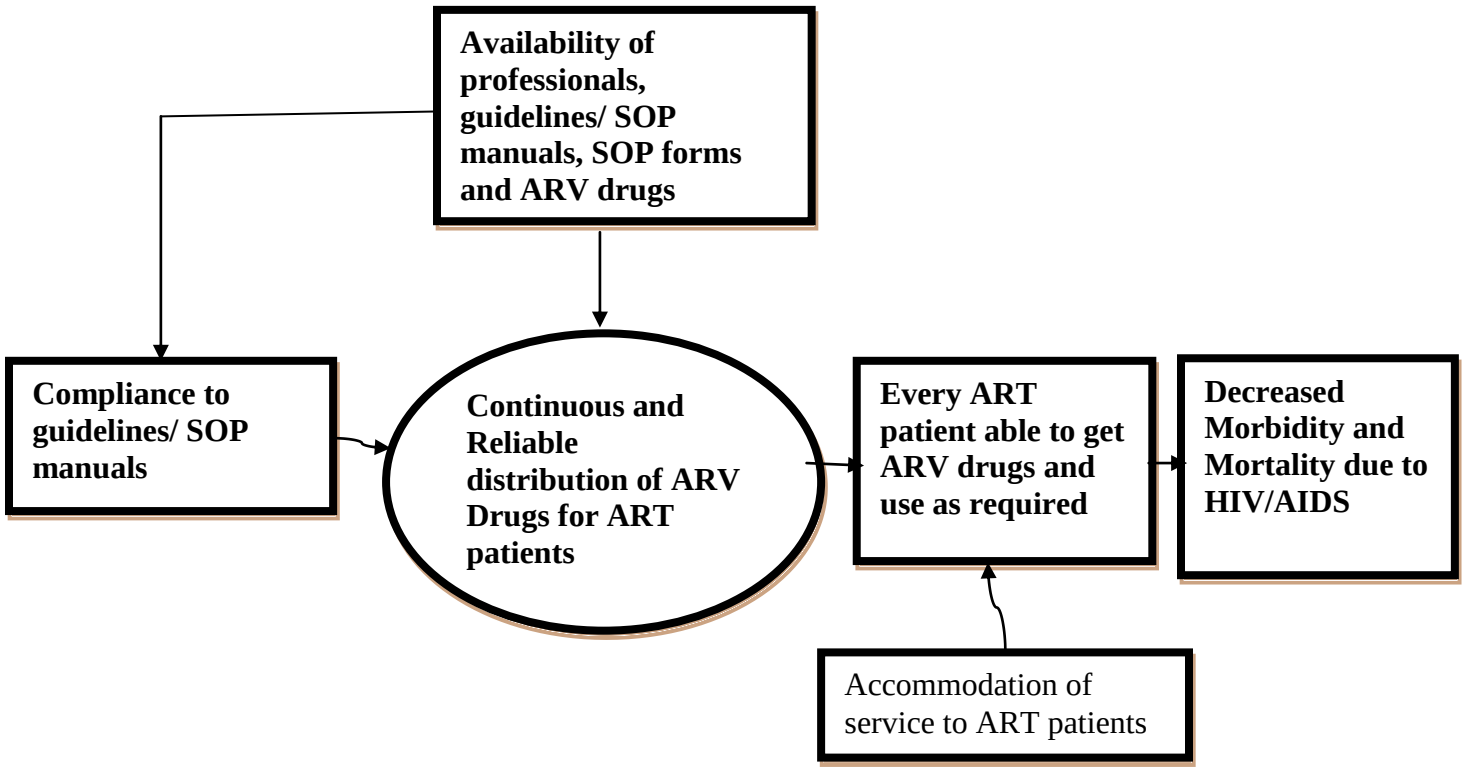

Figure 2 : Conceptual frame work of ARV drugs distribution at Health facilities in Jimma zone, December 2010.

5.5 Evaluation design

The evaluation employed case study design using both quantitative and qualitative data collection methods.

5.6 Study population

Expert Interview: store man, head of pharmacy/pharmacy professional working at dispensary, experts working at Zonal Health Department, Pharmaceutical Fund and Supply Agency (PFSA) hub, Supply Chain Management System (SCMS), Strengthening Pharmaceutical System (SPS) which are found at Zonal level and regional coordinators of Southwest Ethiopia.

Document Review: bin cards, receiving and Issuing Vouchers, Requisition and Reporting forms.

Observation: store and dispensary of health facilities, and SOP forms to check availability and utilization.

Physical Inventory: 22 ARV drugs were selected with stakeholders based on the criteria of normally stocked at most Health facilities. Thus a total of 80 ARV drugs physical inventory done in the four health facilities because during the study period 8 ARV drugs were not normally stocked in some of the facilities.

Exit Interview: ART patients who received the service in the selected Health facilities during the study period.

5.7 Sampling technique and Sample size

Sampling technique

Simple probability random sampling approach was used to select three health centers from the seven health centers which were providing ARV drugs distribution service actively before data collection period, and one hospital was included as it is the only Hospital found in the zone. Thus a total of four health facilities were included in this evaluation; these were Limu Genet hospital, Agaro health center, Asendabo health center and Sekoru health center**.**

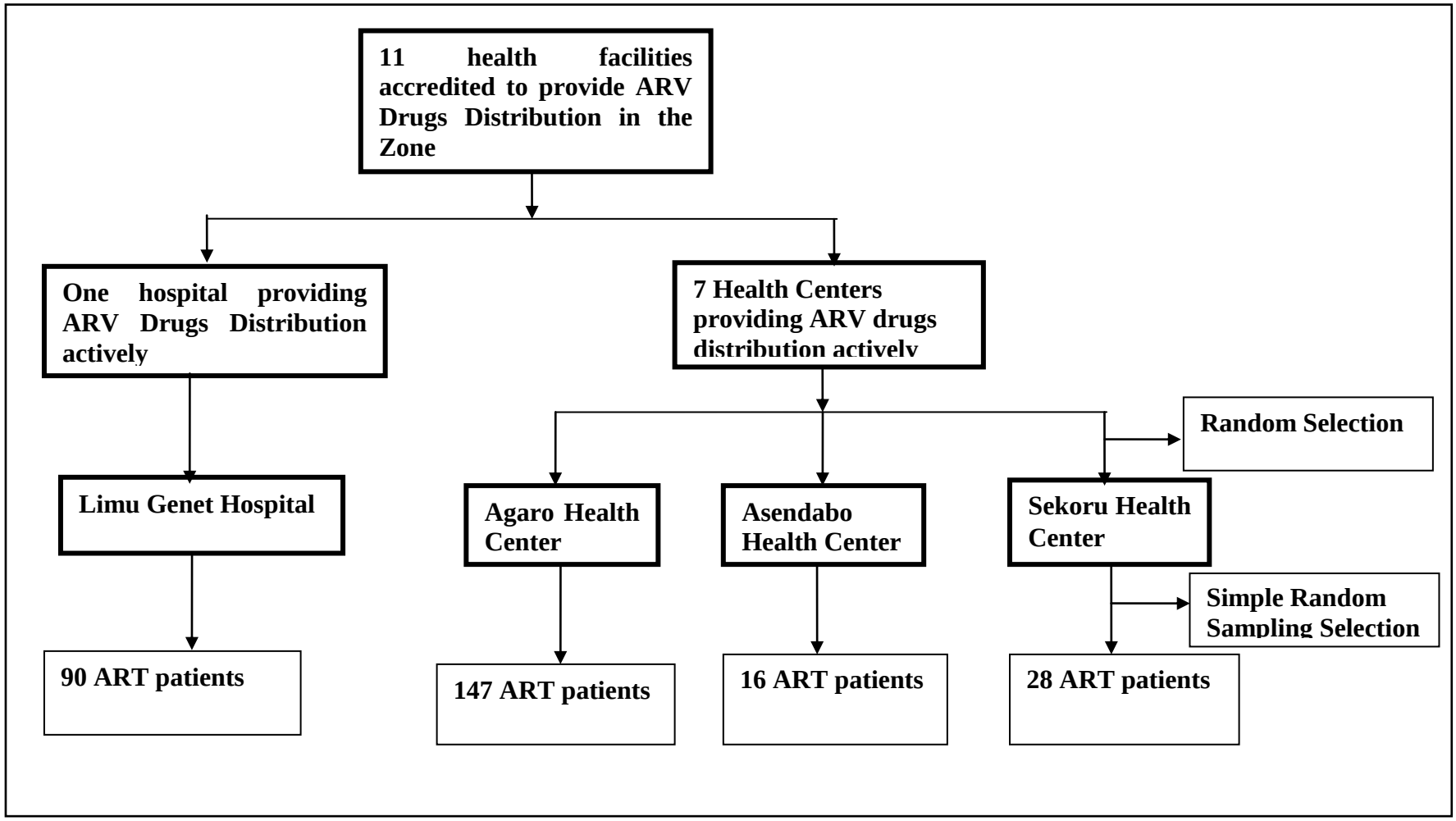

Figure 3 : **Schematic Diagram showing selection of Health facilities for the Evaluation in Jimma Zone, December 2010.**

Sample size determination

Expert Interview: Eight pharmacy professionals (one working in the store and one in dispensary/ head of pharmacy at health facilities), and four experts from Pharmaceutical Fund and Supply Agency (PFSA), SCMS (Supply Chain Management System), SPS (Strengthening Pharmaceutical System) and Zonal health department.

Document Review: Bin cards of 80 ARV drugs, four Receiving and issuing voucher, four Requisition and Reporting forms.

Observation: the stock arrangement of the four stores, four dispensaries, and also availability and utilization of 44 SOP (Standard Operating Procedure) forms.

Physical inventory: The physical count of the 80 ARV drugs.

Exit Interview: As this is a cross sectional facility based survey, a single population proportion formula was used to estimate the sample size of ART patients to be interviewed. Due to lack of similar previous studies and to achieve a maximum sample size, the following assumptions were made: proportion of the variable of interest, which is prevalence of patients perception on hours operation and dispensing room because this has higher indicator than compliance of counseling, as 50% (p = 0.5), confidence level to be 95% and absolute precision or margin of error to be 5% (E = 0.05).

$$n = \frac{Z1_{-\alpha}^{2} * P\,(1-P)}{E^2}$$

Where: n: Sample size

P: Perception of patients on to hours of operation and dispensing room (50%).

E: Possible sampling errors during the process = 5% (0.05)

$Z_{1-\alpha}$: Standard normal variable at 95 % confidence level (1.96)

Nu: Source population (762)

This calculation gives 384.

By taking the number of ART patients who were actively getting ARV drugs at selected health facilities before data collection date as source population which was 762. This number is less than 10,000 to get the final sample size; finite population correction formula was used.

$$N_{final} = n/(1+n/Nu)$$

$$= 384/(1+384/762) = 255;$$

After adding 10% none response rate,

$$N_{final} = 281 \text{ ART patients}$$

This sample size was distributed to the health facilities according to their patient load. The first patient was selected using simple random sampling technique from their appointment registration book. Then the next to be interviewed was selected using systematic random sampling with sampling interval of three until the required sample size fulfilled in each facility.

Table 2: Health facilities included in the study and allocation of ART patients for exit interview, and experts for interview, document review and observation at Health facilities in Jimma, December 2010

Selected Health facilities	Number of patients actively on ART in health facilities	Proportional sample size for patients Exit Interview	Expert Interview	Document review	Observation
Agaro H.C	397	147	2	Four reporting and requisition forms, four receiving and issuing voucher, 80 ARV drugs bin cards,	Four stores and four dispensaries, and 44 SOP forms.
Limu Genet Hospital	245	90	2		
Asendabo H.C	43	16	2		
Sekoru H.C	77	28	2		
Total	762	281	8 from facilities and four at Zonal level		

5.8 Inclusion and Exclusion Criteria

Health facilities providing ART service currently and have patients on ART before the start of data collection were included in this evaluation.

ART patients who have started ARV drugs at the time of data collection, severely sick and age less than 15 were also excluded.

5.9 Data collection methods

The methods of data collection employed in this evaluation were document review, Physical count, observation, expert interview and patient exit interview.

Expert interview: health facility ARV drugs store managers, pharmacy professionals working at ART pharmacy dispensary, and professionals from Zonal health department, Pharmaceutical Fund and Supply Agency (PFSA), Strengthening Pharmaceutical System (SPS) and Supply Chain Management System (SCMS) were interviewed using semi structured questionnaires.

Observation: Health facility ARV drug stores and dispensaries were observed for their cleanness, stock arrangements and condition of warehouse, to explore the availability and utilization of SOP forms using observation checklist.

Review of documents and records: bin cards, receiving and issuing vouchers, reporting and requisition forms were reviewed using a checklist.

Physical Inventory: The physical count of ARV drugs were undertaken to check the availability, stock out and expiry using checklist.

Exit Interview: ART patients were interviewed to check the convenience of dispensing room and hours of operation set, and the information provision during counseling in the dispensing process using exit interview guide.

Data Collectors

Document review, expert interview, observation and physical inventory have been conducted by principal evaluator. Exit interview for one compliance indicator and accommodation of service was conducted by four Diploma pharmacy professionals who can speak both languages. The exit interview was strictly supervised by two Pharmacists. Both data collectors and supervisors were trained for two days.

5.10 Instruments for data collection

For this evaluation four types of data collection tools were used to collect information from study participants. These were exit interview guide for exit interview, semi structured interview guide for expert interview and checklist for observation, document review and physical inventory. These were adopted from USAID/DELIVER logistic assessment tool, and developed from SOP reference manual and guideline, and few questions from questionnaires of evaluation in Health facilities of Ethiopia. The questionnaires for exit interview were translated to local languages Afan Oromo and Amharic, translated back into English by a third person to keep the consistency. Prior to data collection the data collectors and supervisors for exit interview were trained for two days on the objective of evaluation, on contents of the questionnaire and how to interview the ART patients using the prepared questionnaire. Pretest was done in Jimma health center in 5% of ART Patients for exit interview and the semi structured questionnaires for experts interview (pharmacy professionals) was done on two professionals working in the store and dispensary; checklists for observation, document review and physical inventory were tested. Consequently, the tools were refined based on the findings from the pre-test study and appropriate corrections were made in the final questionnaire for interview based on observations from the pretest. The data collected from the pretest was not included in the final analysis**.**

5.11 Variables

Dependent variables

Compliance of information provision to national dispensing manual

Perception of ART patients to hours of operation and dispensing room

Independent variables

Age

Sex

Marital status

Educational status

Religion

Ethnicity

5.12 Data Collection Procedures

The availability of resources was assessed by interviewing the pharmacy professionals working at dispensary and store, by observing their availability using a checklist, by performing a physical inventory and reviewing the bin cards of ARV drugs for the past one year to assess the drugs actual and historical availability respectively.

The compliance of the activities to national protocols and guidelines was assessed by checking and reviewing the forms that had been utilized during the past six months preceding the evaluation using a checklist. The pharmacy personnel in charge of the main store of ARV drugs and those working at dispensary were interviewed using semi structure questionnaire. Physical count and review of bin cards was performed using a checklist to assess the correspondence; internal facility requisition and issuing forms were reviewed; observation of the store and dispensary using a checklist adopted from national manuals and standards; bi-monthly reporting and requisition forms, and

receiving voucher (model 19) were also reviewed. The compliance of information provision during the dispensing process was also assessed by interviewing 273 ART patients. These findings were crosschecked by interviewing experts working at zonal level.

The accommodation of the service was also accessed by interviewing the same number of ART patients who are attending their follow up service in the selected health facilities on their perception on convenience of dispensing room and hours of operation.

5.13 Data quality Control

The quality of the data was also assured through proper training of the data collectors and supervisors, close supervision of the data collectors and proper handling of the data. To ensure the validity of tools, USAID/DELIVER logistic indicator assessment tool for ARV drugs were adopted for this particular evaluation study. All collected data were examined for completeness and consistency. Finally the data was entered after careful cleaning and edition by principal evaluator.

5.14 Data management and Analysis

Quantitative data- were cleaned, edited and entered into SPSS software by principal evaluator. Binary logistic analysis was done to perform univariate and multivariate analysis using the same software, and results were presented in tables, and text narrations.

Qualitative data - were transcribed, summarized in to key thematic area and presented in narrative forms. Field notes were taken during qualitative data collection by the principal evaluator. Finally data from different sources were complemented to produce valid information. The questionnaires and the soft copy of the data are kept under the custody of the principal evaluator with multiple back ups.

5.15 Indicators and Bases for Judgment

Some of the indicators were adopted from WHO recommended indicators for assessment of pharmaceutical system and others were developed from national guidelines and standard operating procedure reference manuals. The judgment parameters and weights for indicators were developed with the primary users of the evaluation findings. Judgment matrix and the national guideline and standard operating procedure manuals were used for the purpose of judging the program's achievement. The table shows the cut points to say high, medium and low achievement in the three dimensions and overall judgment of the program.

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Table 3 : Basis for Judgment of dimensions and over all implementation of ARV drugs distribution, Jimma zone, December 2010.

Dimension	Values		Judgment parameter
	From	To	
Availability of resources	Greater than 85%	100%	High achievement
	65%	85%	Medium achievement
	Lowest	Less than 65%	Low achievement
Compliance of activities	Greater than 85%	100%	High achievement
	65%	85%	Medium achievement
	Lowest	Less than 65%	Low achievement
Accommodation of the service	Greater than 85%	100%	High achievement
	65%	85%	Medium achievement
	Lowest	Less than 65%	Low achievement
Overall judgment	85%	100%	High achievement
	65%	84%	Medium

			achievement e
	Lowest	64%	Low achievement

5.16 Operational Definition

Stock out: when the drugs are not available both at dispensary and store even for a day.

ART patient: those patients who have started taking ARV drugs

Unexpired ARV drug: none of the unites of the drugs are expired

Scientific arrangement of drugs: it is arrangement of ARV drugs on shelves according to their pharmacological activity, alphabetical name of the drugs and their dosage form preparation that is liquid, tablet etc.

Loose drugs: ARV drugs which are prepared in single dosage form that is not combined with others.

Too short waiting time: this waiting time between the arrival of patients at dispensary and the dispensing of drugs to patients. It was less than 10 minutes.

Reasonable waiting time: this waiting time between the arrival of patients at dispensary and the dispensing of drugs to patients. It was between 10 and 20 minutes.

Too long waiting time: this waiting time between the arrival of patients at dispensary and the dispensing of drugs to patients. It was greater than 20 minutes.

5.17 Ethical Issues

Ethical clearance was obtained from Jimma University College of Public Health and Medical Sciences Ethical clearance committee. Official permission was obtained from Jimma Zone and a letter obtained from the Zone was communicated to the health institutions that were included in the study. Permission was obtained from heads of each health institution. For client exit interview, clients were asked for their willingness to participate in the interview first by pharmacy professional working at dispensary and then by data collectors. The consent was also obtained from experts to be interviewed. Confidentiality was assured by not recording client's and expert's name, and their personal information was also kept confidential.

5.18 Evaluation Dissemination Plan

The final evaluation report will be presented to Jimma University and relevant comments will be taken. After the approval of the thesis, hard and electronic copies of evaluation report will be disseminated to Jimma Zone health department, Jimma branch PFSA hub, SCMS, SPS and to health facilities. Publication of the findings of the evaluation on a peer reviewed journal will also be considered.

5.19 Limitation of the Evaluation

Social desirability bias the patients may provide information that they think good for health care providers than the real situation.

Chapter 6 Results

6.1 **Availability of Resources**

Key SOP forms,

Availability of key SOP forms was assessed by checking their availability during data collection period at the health facilities. The average percentage of availability of these key SOP forms was 85.42% (Min 50, Max 100) and when compared with the preset judgment parameter it was judged as high achievement.

Table 4 : Availability of key SOP forms, at health facilities in Jimma Zone, December 2010

Ser No.	Types SOP forms and reference manual	Percent of Health facilities	
		Yes	No
1	Receiving and Issuing forms/ models	100	0
2	Bi-Monthly Reporting and Requisition form	100	0
3	Expiry Date Tracking Chart (ARV/ETC-04)	100	0
4	Receiving Discrepancy Reporting Form (ARV/ RDR-04)	50	50
5	ARV Drugs and Patient Information Sheet (ARV/PIS-04)	100	0
6	ARV Drugs Dispensing Register (ARV/DDR-04)	100	0
7	Monthly ARV Drugs Dispensing and Consumption Summary (ARV/DCS-04)	100	0
8	Pharmacy Monthly ARV Drugs Activity Report (ARV/MAR-04)	100	0
9	Bin card at store	100	0
10	Stock Record card	0	100
11	Bin card at dispensary	75	25
12	Standard operating procedures reference manual	100	0
Average percentage availability SOPs		85.42%	

Pharmacy personnel trained on ART

The national ART implementation guideline recommends for hospital and health center to have two and one ART trained pharmacy personnel respectively. Except one of the health facilities all had ART trained pharmacy personnel as the guideline. This was judged as medium achievement according to the judgment parameter. The reason given

by experts for this unavailability was the trained professional left the facility and joined private institutions. Pharmacy professionals also indicated when the trained professionals were not available untrained professionals also dispense the drugs. The reason was shortage of trained professionals. Surprisingly, in one site even though the staffing of trained pharmacy professionals were according to the guideline, untrained professionals were dispensing the ARV drugs during the data collection day, the reasons were one of the trained was sick and the other was busy with other works. Experts also indicated that the ART training for pharmacy professionals was not matched with the staff turnover in the facilities.

Table 5: Availability of pharmacy professionals trained on ART at health facilities, Jimma Zone, December 2010.

Type of health facility with trained professionals	Number of health facility	Number of professionals Trained in ART
Hospital	1	2
Health centers	3	2

N.B: Hospital recommended having two trained pharmacy personnel
Health center recommend having one trained pharmacy personnel

Trained Pharmacy Personnel on ARV drugs logistic management

In all the health facilities store managers were trained in ARV drugs logistic management. The training includes calculating reorder quantity, completing the forms, and inventory management as indicated by expert interview. It was judged as high achievement according to the preset judgment parameter.

Unexpired ARV drugs

The percentage availability of the unexpired ARV drugs was calculated using the standard formula which was adopted from indicator based assessment tool and the percentage availability of unexpired ARV drugs was 82.56% (Min 66.67, Max95.2). This indicator was used to assess the inventory control system. This was judged as medium achievement according to the preset judgment parameter.

ARV drugs

The percentage availability of ARV drugs during the data collection period was 80.68%. This was judged as medium achievement according to preset judgment parameter. The main reasons given by pharmacy professionals for unavailability of some of the drugs were the decrease demand of patients and the drugs were expired, and supply of some drugs not started. Experts at PFSA hub reported that there was no requisition from facilities as the resupply depends on requisition from facilities.

Table 6 : Availability of ARV drugs during data collection period at health facilities in Jimma Zone, December 2010

Stock out period of ARV drugs

This evaluation revealed that the average percentage of stock out days of the zone was

Ser No.	ARV drugs	Percent of Health facilities having ARV drugs	
		Yes	No
1	D4t30mg+3TC150mg+NVP200mg	100	0
2	D4t30mg+3TC150mg	75	25
3	AZT300mg+3TC150mg+NVP200mg	100	0
4	AZT300mg+3TC150mg	100	0
5	AZT300mg	100	0
6	EFV600mg	100	0
7	NVP200mg	100	0
8	TDF300mg/3TC300mg	50	50
9	Abacavir300mg	75	25
10	Tenofovir300mg	75	25
11	FDC12(D4t12mg+3TC60mg)	100	0
12	FDC12(D4t12mg+3TC60mg+NVP100mg)	75	25
13	FDC6(D4t6mg+3TC30mg)	100	0
14	FDC6(D4t6mg+3TC30mg+NVP50mg)	100	0
15	3TC30mg+NVP50mg+Azt60mg	25	75
16	3TC30mg+Azt60mg	75	25
17	EFV50mg	25	75
18	EFV200mg	75	25
19	NVP50mg/5ml	100	0
20	EFV30mg/ml	100	0
21	Azt50mg/5ml	75	25
22	3TC50mg/5ml	50	50
Average availability of ARV drugs		80.68%	

1.48 (Min 0.26, Max 3.52). It was judged as high achievement according to the preset judgment parameter. The reasons given for shortage and stock out of ARV drugs were: expiration due to decreased demand (changing of regimen); supply of ARV drugs which have short shelf life from PFSA hub; poor stock management; increased demand and poor estimation of requirement as they indicated the new Logistic training given before five months of study period but the study about stock out covers the past one year. Some of stock out drugs observed from pediatric regimen were EVF 50 mg , EFV 200mg, D4t 12mg + 3TC 60 mg, D4t 6 mg + 3TC 30mg and 3TC 50 mg/ 5ml, and from adult regimen the only reported stock out drug was D4t 30 mg + 3TC 30 mg (Mistake).

Mechanisms for controlling ARV drugs expiry

The mechanisms for controlling expiration of ARV drugs used by health facilities were using expiry date tracking chart, first expiry first out arrangement of ARV drugs, distribution of nearly expiry ARV drugs and frequent inventory control. This evaluation showed that except one of the health facilities all were found using at least one mechanism for controlling expiration of ARV drugs. It was judged as medium achievement as the preset judgment parameter.

Guideline for counseling during dispensing of ARV drugs

Findings of this evaluation showed that one health facility had manual for good dispensing practice and one had guideline for counseling patients using ARV drugs during dispensing posted on the wall. The other facilities do not have either manual for good dispensing practice prepared by DACA or guideline for counseling. This was judged as low achievement according to the judgment parameter. The main reasons given by pharmacy professionals working at health facilities for unavailability of the guideline was lack of supply by the responsible body and respondents indicated that if it is made available they are willing to use. But the responsible bodies at the zonal level reported as they were already distributed the guideline to the health facilities.

Table 7 : Analysis and Judgment Matrix of the Availability of resources for ARV drugs distribution at Health facilities in Jimma Zone, December 2010

Availability =42.85%					
Inputs/Activity	**Indicators**	**Value Given**	**Value Achieved**	**%**	**Judgment Parameter**
Trained store man	Availability of trained pharmacy personnel on ARV supply management or logistic system	40	40	100%	**>85% High achievement**
SOP reference Manuals , SOP forms, and ARV drugs	Availability of key SOP forms and reference manuals in Health facilities	35	29.89	85.42%	**65-85% Medium achievement**
	Availability of ARV drugs during the study period	40	32.27	80.68%	
Inventory controlling/ Control stock volume and movement	Availability of unexpired ARV drugs in Health facilities at the time of survey	40	33.02	82.56%	
	Availability of mechanism of controlling expiration of ARV drugs	35	26.25	75%	**<65% Low achievement**
	Stock out period of ARV Drug in Health facilities in the last 12 months	35	32.41	*92.6% (1.48)	
Guidelines for counseling during dispensing	Availability of guideline for counseling on AR V drugs	35	17.50	50%	
Avail of 2 for hospital and 1 for health center ART trained pharmacy Personnel	Availability of trained pharmacy personnel as per national guideline.	40	33.36	83.4%	
	Sub-Total	300	244.7	81.56%	**Medium Achievement**

***N.B. 0- 1.5 %days (>85%)** **>1.5-2% days (65-85%)** **>2 % days (< 65%)**

6.2 Compliance to Guidelines, and Standard Operating Procedure

Reference Manuals

Utilization of SOP forms

As listed in Table 8 all the eleven SOP forms were expected to be utilized by health facilities and also as recommended by the SOP reference manual. The average percentage of utilization of the SOP forms was 56.82% (Min 0, Max 100)**.** According to the judgment parameter it was judged as low achievement. The main reason given by pharmacy professionals for not utilizing some of the forms was workload because the dispensary for ARV drugs is together with other drugs dispensary and the same dispenser do both. But the experts at zonal level reported as there is no shortage of professionals at health facilities and also reported as they have about 50 unemployed pharmacy professionals because enough professionals allocated to health facilities.

One pharmacy personnel working at dispensary responded that ARV drugs and patient information sheet form was prepared considering the loose drugs but most of the currently available drugs are in combination form. They mentioned this as the reason for not utilizing the form in addition to work load and recommended the revision of the form. As checked by observation the sheet was prepared in loose drug form but most of the available drugs are combined containing two or three drugs.

Table 8 : Utilization of SOP forms at health facilities in Jimma Zone, December 2010

Ser No.	Types of SOP forms	Percent of Health facilities	
		Yes	No
1	Receiving and Issuing forms/ models	100	0
2	Bi-Monthly Reporting and Requisition form	100	0
3	Expiry Date Tracking Chart (ARV/ETC-04)	25	75
4	Receiving Discrepancy Reporting Form (ARV/ RDR-04)	25	75
5	ARV Drugs and Patient Information Sheet (ARV/PIS-04)	25	75
6	ARV Drugs Dispensing Register (ARV/DDR-04)	100	0
7	Monthly ARV Drugs Dispensing and Consumption Summary (ARV/DCS-04)	50	50

8	Pharmacy Monthly ARV Drugs Activity Report (ARV/MAR-04)	75	25
9	Bin card at store	100	0
10	Stock record card	0	100
11	Bin card at dispensary	25	75
	Average percentage utilization	56.82%	

Undertaking visual inspection and physical count on new arrival ARV drugs

The result of this evaluation showed that all health facilities undertake visual inspection and physical count on new arrival of ARV drugs against the invoice of the supplier. This was judged as high achievement according to the preset judgment parameter.

Maintaining Acceptable storage

Findings of this evaluation showed that 85.4% of the standard 12 storage criteria (annex 3) were fulfilled by the health facilities. This was judged as high achievement according to the preset judgment parameter.

Table 9 : Percentage of Health facilities maintaining acceptable storage condition for ARV drugs at health facilities in Jimma Zone, December 2010

	Frequency	**Percent**
Health facilities which fulfill 11(91.67%)criteria from 12	2	50%
Health facilities which fulfill 10(83.33%)criteria from 12	1	25%
Health facilities which fulfill 9(75%)criteria from 12	1	25%
Average percentage		85.4167%

Percentage of stock record cards that correspond with physical count

Except one health facility which used computerized record system even though not updated, the others used manual bin card system at the store of health facilities. The average percentage of bin card record that corresponded with physical count was calculated using standard formula (Numerator was records corresponded with physical count, and Denominator was total number of records examined this was multiplied with 100. Then to get average percent we summed up percent in each facility and then divide by total number of facilities in sample that is four) which was adopted from an indicator based assessment tool. The average percentage of stock record cards that corresponded with the physical count was 66.07 %(min 15.38, max 100). This was judged as medium achievement according to the preset judgment parameter. The main reason given by Pharmacy professionals for not updating the computerized record system or manual bin card system was being too busy.

D**istributing ARV drugs to dispensary**

The finding of this evaluation showed that all health facilities were using model 20 or internal facility requisition form and issuing voucher (model 22) for distributing ARV drugs to dispensaries. Except one facility the others distributed as the standard operating procedure reference manual. The finding was compared with the preset judgment parameter and judged as medium achievement.

Dispensaries using inventory control system

It was found that, one health facility used inventory control system/ bin card but the others didn't use either stock movement card or other inventory control system. The finding was compared against the judgment parameter and it was low achievement. The main reasons given by pharmacy professionals for not using were being too busy and shortage of professionals because the dispensary for ARV drugs and others are put together.

Dispensaries maintaining dispensing environment and stock management

The result showed 88.9% of health facilities maintain their dispensing environment and stock management. It was compared with the preset judgment parameter and judged as high achievement.

Table 10 : Percentage ART site dispensaries maintaining dispensing environment and stock management, Jimma Zone, December 2010.

Ser No	**Criteria for maintaining dispensing environment and stock management**	**Percent of Health facilities**	
		Yes	**No**
1	Damaged and expired products are not available with usable products in the dispensary.	**50**	**50**
2	ARV drugs are stored in a dry, well-ventilated dispensary and windows that can be opened.	100	0
3	Cleanliness (absences of dirt and dust, rodents or insects in the dispensary).	100	0
4	The dispensing area is secured with a lock and key that protects against theft but is accessible during normal working hours; access is limited to authorized personnel.	100	0
5	Medicines are not stored directly on the floor	75	25
6	The drugs arranged in shelves/ cabinets using one of scientific arrangement methods	75	25
7	Direct sunlight is prevented from entering the dispensary (e.g. by means of painted window panes or blinds).	100	0
8	ARV drugs are stored separately from insecticides, flammable products, and chemicals.	100	0
9	Dispensary is protected from water penetration or free from moisture (e.g. leaking of ceiling, drains, taps)	100	0
	Average	88.9%	

Estimation of ARV drugs requirement using appropriate method

This evaluation showed all health facilities use formula to quantify their requirement for the next two months of resupply. The formula includes quantity received in the previous resupply month, quantities used, stock on hand (the usable drugs available at health facilities to be used) and losses/ adjustments. This was judged as high achievement according to the preset judgment parameter.

Completing and submitting requisition reports according to the schedule

It was revealed that all of the facilities completed and sent their requisition report within the scheduled period which is with in 10 days of the reporting period for the last three reporting periods. According to the judgment parameter this was judged as high achievement.

Average time between order and delivery from Pharmaceutical Fund and Supply Agency (PFSA) hub to Health facilities

The average time between the health facilities place an order to Pharmaceutical Fund and Supply Agency; and resupplying of the ARV drugs to health facilities for the last three resupplying period was 13.9 days (min 12.3, max 15). According to the judgment parameter it was judged as high achievement.

Reporting of ARV drugs discrepancies encountered

As this evaluation result showed half of the health facilities reported the encountered discrepancy using standard form to the appropriate body Zonal health department and PFSA. It was judged as low achievement according to the preset judgment parameter.

Patient Exit Interview

Socio-demographic characteristics of ART clients

A total of 273 ART patients responded to the questionnaire, which makes the response rate to be 97.15%. Among the respondents 161(59.0%) were female and the remaining

were males and the mean age of the respondents was 34±9.39. Muslim and Orthodox Christian were the dominant religions which accounts for 122(44.7%) and 119 (43.6%) respectively. Majority of the respondents 145 (53.1%) were Oromo in ethnicity followed by Amhara 81 (29.7%). Majority of the ART patients 158 (57.9%) were married and 177 (64.7%) literate. (Table 11)

Table 11 : Socio-demographic Characteristics of ART patients at health facilities in Jimma Zone, December 2010

Socio-demographic characteristics	Number (n=273)	Percent
Sex		
male	112	41.0
female	161	59.0
Age		
15-24	31	11.4
25-34	115	42.1
35-44	88	32.2
Above 44	39	14.3
Mean±SD	34±9.39	
Religion		
Muslim	122	44.7
Orthodox	119	43.6
Protestant	31	11.3
Other (Adventist)	1	0.4
Ethnicity		
Oromo	145	53.1
Amhara	81	29.7
Gurage	26	9.5
Tigre	3	1.1
Others	18	6.6
Marital Status		
Married	158	57.9
Unmarried	32	11.7
Widowed	42	15.4
Divorced	41	15.0

Educational Status		
Unable to read and write	96	35.2
Only able to read and write	23	8.4
Grade 1- 8	94	34.4
Grade 9- 12	55	20.2
College(University)	5	1.8

Other Ethnicities: Yem, Dawuro, Silitie, Keffa

Patients who have got adequate information during dispensing

Two hundred sixty seven (97.8%) patients were told when to take the drugs. The patients who have got the information about how to take the drugs were 253(92.7%). Two hundred forty (87.9%) of the patients have got information on how to keep/store drugs at home. Similarly, 240(87.9%) of the patients were told not to stop treatment when side effects occur. The proportions of ART patients who have got all the four critical messages were 223 (81.68%). This was judged as medium achievement according to the preset judgment parameter. (Table 12)

Table 12 : Proportion of patients who have got the four key messages during dispensing, Jimma Zone, December 2010.

Serial no	Information provided to patients	N	Percent
1	ART patients who have got information when to take drugs	267	97.8
2	ART patients who have got information about how to take the drugs	253	92.7
3	ART patients who have got information about how to keep/ store the drugs at home	240	87.9
4	ART patients who have got information not to stop treatment when side effects occur	237	86.8%
	ART patients who have got all information	**223**	**81.68%**

Table 13 : Statistical analysis results socio demographic characteristics of patients with the variables in the information provision during dispensing, December 2010

Characteristics Sex(n=273)	Odds ratio (CI 95%)		
	YES (No. & %)	Crude (**Bivariate)**	Adjusted ((**Multivariate)**
Male	109(39.9%)	1.450(0.287-7.316)	----------
*female	158(57.9%)		

Characteristics	Odds ratio (CI 95%)		
Sex(n=273)	YES (No. & %)	Crude (**Bivariate)**	Adjusted (**Multivariate)**
Male	103 (37.7%)	1.192 (0.477-2.978)	1.244 (0.493- 3.136)
*female	150(55.0 %)		
Marital Status			
Married	144 (52.7%)	1.896 (0.413-8.696)	1.888 (0.411 -8.664)
Unmarried	31 (11.4%)	0.629 (0.054-7.263)	0.606 (0.052 – 7.034)
Widowed	39 (14.3%)	1.500 (0.237-9.477)	1.528 (0.241 – 9.675)
*Divorced	39(14..3%)		

Characteristics (n=273)	Odds ratio (CI 95%)		
	YES (No. & %)	Crude (**Bivariate)**	Adjusted (**Multivariate)**
Male	98(35.9)	0..926(0.440-1.948)	0.912(0.429-1.938)
*Female	141(51.7)		
Married	136(49.8%)	3.154 (0.710-14.006)	3.161 (0.712 – 14.038)
Unmarried	28(10.3%)	2.786 (0.477-16.280)	2.831 (0.482 – 16.627)
Widowed	37(13.6%)	2.635 (0.481-14.430)	2.616 (0.477- 14.34)
*Divorced	39(14.3%)		

Characteristics (n=273)	Odds ratio (CI 95%)		
	YES (No. & %)	Crude (**Bivariate)**	Adjusted (**Multivariate)**
Male	100(36.6)	0.685(0.327-1.4345)	0.729 (0.345-1.540)
*Female	137(50.2)		
Married	139(50.9%)	0.984 (0.344-2.816)	0.991 (0.345 -1.540)
Unmarried	29(10.6%)	0.745 (0.164-3.380)	0.786 (0.172 – 3.589)
Widowed	33(12.1%)	1.964 (0.597-6.460)	1.919 (0.582 – 6.331)
*Divorced	36(13.2%)		

***show the reference variable**

None of the above mentioned dependent and independent variables show significant association.

Table 14 : Analysis and Judgment Matrix of compliance dimension for ARV drugs distribution at Health facilities in Jimma Zone, December 2010.

Compliance = 42.85%					
Inputs/Activity	**Indicators**	**Value Given**	**Value Achieved**	**%**	**Judgment Parameter**
Utilization or implementation of above mentioned SOP forms	Average percentage of utilization of SOP forms for ARV drugs distribution as the guideline for the past six months	30	17.05	56.82 %	**>85% High Achievement** **65 – 85% Medium Achievement** **<65 Low Achievement**
Receipting and inspecting of ARV drugs	Undertaking inspection on new arrival as per the national guideline	20	20	100%	
Storing ARV drugs properly	Maintain acceptable storage conditions as the standard 12 criteria	20	17.08	85.4 %	
Inventory controlling/ Control stock volume and movement	Average percentage of stock cards of tracer ARV drugs that correspond with physical count	30	19.82	66.07 %	
Inventory control/ stock card	Using inventory control system/stock movement card	20	5	25%	
Delivery of ARV drugs to dispensary of ART site	Distributing ARV drugs to dispensary as per guideline for the past six months	20	15	75%	
Keeping good dispensing environment and stock management	Dispensaries keeping dispensing environment and stock management as the manual	20	17.78	88.9%	
Dispensing of ARV drugs as per guideline	Proportion of patients who have got adequate information during dispensing	30	26	81.68 %	
Ordering and reporting	Estimating their ARV drugs requirements following appropriate method (s) for the past six months	30	30	100 %	

Sending Reports as the schedule	Completing and submitting their requisition report as the schedule for the last three reporting period	30	24.99	83.3 %	
Acquisition of ARV drugs from PFSA hub	Average time between order and delivery from PFSA hub to Health facilities for the past three deliveries	30	28.9	*96.33% (13.9)	
Discrepancy reporting using form ARV/RDR-04	Report encountered ARV Drug discrepancy	20	10	50%	
	Sub-Total	300	231.62	77.2 %	**Medium Achievement**

***N.B**. ≤ 15days (>85%); >15-20 days (65-85%); >20days (<65%)

6.3 Accommodation of ARV drugs dispensing service

The finding showed that 265(97.1%) of the patients perceived that as appropriate hours operation was set. This was judged as high achievement according to the preset judgment parameter. Almost all (96%) of them felt that dispensing rooms are convenient. This also judged as high achievement according to the preset judgment parameter.

Table 15 : Perception of ART patients on Accommodation of the service, Jimma Zone, December 2010

Variables	Number	Percent (%)
Convenient hours of operation is set		
Yes	265	97.1
No	8	2.9
Waiting time between arrival at dispensary and dispensing of drugs is		
Too short	161	59.0
Too long	8	2.9
Reasonable	90	33.0
Do not know	14	5.1
Convenient dispensing room		
Yes	262	96.0
No	11	4.0

Majority of the respondents 161 (59%) reported that the waiting time is short enough at ARV drugs dispensary while 8 (2.9%) respondents felt that the time is too long. Moreover, 90 (30%) of the patients said that the waiting time is reasonable. Another 14 (5.1%) clients did not know the time between their arrival at dispensary and the dispensing of the drugs.

Statistical association was observed with variables educational status (1-8) grade and convenience of hours of operation, and educational status grade 1-8 with convenience of dispensing room. The others did not show significant association. As the multivariate analysis showed those with educational status 1-8 grade 0.036 times more to have perception on convenience of hours of operation than those with educational status college or University. Similarly multivariate analysis showed those with educational status 1-8 grade 0.042 times greater on convenience of dispensing room than with educational status College/ University.

Table 16 : Statistical analysis result of socio demographic variables with dependent variables of accommodation, December 2010.

Sex(n=273)	Odds ratio (CI 95%)		
	YES (No. & %)	Crude (**Bivariate)**	Adjusted (**Multivariate)**
Male	111(40.7%)	0.716 (0.064-7.996)	0.398 (0.031 -5.068)
*female	159 (58.2%)		
Characteristics Educational status (n=273)			
Unable to read and write	96 (35.0%)	0.00 (---)	0.000 (….)
Only read and write	23 (8.4%)	0.00 (---)	0.000 (…)
1-8	93 (34.1%)	0.043 (0.002-0.819)	0.036 (0.002 – 0.742)
9-12	54 (19.8%)	0.074 (0.004-1.418)	0.069 (0.003 – 1.380)
*College/ university	4 (1.5%)		
Sex(n=273)	Odds ratio (CI 95%)		
	YES (No. & %)	Crude (**Bivariate)**	Adjusted (**Multivariate)**
Male	111 (40.6%)	1.441 (0.089-23.290)	0.920 (0.047- 18.019)
*female	160 (58.6%)		
Characteristics Educational status (n=273)			

Unable to read and write	96 (35.2%)	0.00 (0.00-)	0.000 (…)
Only read and write	23(8.4%)	0.00 (0.00-)	0.000 (...)
1-8	93 (34.0%)	0.043 (0.002-0.819)	0.042 (0.002 -0.844)
9-12	55 (20.1%)	0.000 (0.00-)	0.000 (…)
*College/ university	4 (1.5%)		

***show reference variable**

Table 17 : Analysis and Judgment Matrix of accommodation dimension for ARV drugs distribution at Health facilities in Jimma Zone, December 2010

Accommodation=14.3%					
Inputs/Activity	**Indicators**	**Value Given**	**Value Achieved**	**%**	**Judgment Parameter**
Timely service delivery	Proportion of ART clients who perceived that appropriate hours of operation is set	50	48.55	97.1%	**>85% High Achievement** **65- 85% Medium Achievement** **< 65% Low Achievement**
Presence of covenant dispensing room for client	Proportion of ART clients who perceived that dispensing rooms are convenient.	50	48	96%	
	Sub-Total	100	96.55	96.55%	**High Achievement**

Table 18 : Overall implementation of ARV drugs Distribution at Health facilities in Jimma Zone, December 2010.

Dimension	**Value Given**	**Value Achieved**	**%**	**Judgment Parameter**
Availability of resources	300	244.7	81.56%	**>85% High Achievement** **65- 85% Medium Achievement** **< 60% Low Achievement**
Compliance to National Guidelines and Manuals	300	231.62	77.2%	
Accommodation of the service	100	96.55	96.55%	
Overall implementation	**700**	**572.87**	**81.84%**	**Medium Achievement**

Chapter 7 Discussion

This evaluation study used/ focused on process of ARV drugs distribution addressing availability of resources, compliance to national standard reference manuals and guidelines, and accommodation of the service to the patients.

Availability

The result show that the staffing of ART trained pharmacy professionals in health facilities was not according to the guideline. In one health center there is no trained pharmacy professional on ART. This was not inline with the guideline as it recommends for health centers to have one trained pharmacy professional.[2]This unavailability of trained pharmacy professional affects the counseling during dispensing and the utilization of SOP forms as also supported by experts. All health facilities have trained pharmacy professionals in ARV drugs logistic which includes procedures in completing the SOP forms and calculating reorder quantities. This finding is different from assessment in public health facilities of Zimbabwe which reported none of the sites has received formal logistic training on how to complete ARV logistic forms and calculate reorder quantities.[30]The possible reasons for this difference may be the difference in the study period as that was conducted in 2006.

This evaluation finding showed availability of unexpired ARV drugs in health facilities was 82.56%. This indicates that in 17.44% of the drugs expired products were also available in stock. A drug is defined as available if even one unit of unexpired product is in stock. Since expired drugs are inappropriate for use in almost all situations, they are not counted as stock available for use. [31] The availability of expired products indicates poor inventory management and results in wastage of resources. And also the average percentage of stock out days of ARV drugs for the past one year was 1.48. A supply system will be called as well functioning if every person is able to obtain and use ARV drugs as required.[12] A reliable supply of ARV drugs is critical because stock outs could

lead to dangerous consequences such as drug resistance and treatment failure.[32] Guideline for counseling during dispensing was available only in two health facilities. This unavailability of counseling guidelines may seriously influence the quality of counseling as also pointed out by many experts interviewed.

Compliance

The average utilization of SOP forms in health facilities was 56.82%. But the national guide line for implementation of ART program recommends the pharmacy service to assure safety of patients on treatment, adherence and uninterrupted supply of drugs by storing drugs safely and securely, and monitoring stock levels and usage through standardized forms. [2] This low utilization of SOP forms affects the collection, organization and reporting of information to other levels and proper management of distribution system.

In all health facilities: ARV drugs were stored in a dry, well ventilated and windows that can be opened and protected from direct sunlight; the storage area was clean and secured with lock and access is limited to authorized person; the drugs were stored separately from flammable products and chemicals, and were not stored directly on the floor; and the store was free from moisture. This result is inline with the standard operating procedure reference manual.[14] Assessment in Lesotho reported a different result in which in 75% of facilities ARV drugs were stored on the floor and access to the stores was not limited to authorized persons. [24] Results of this evaluation also indicated in more than half of the health facilities ARV drugs were arranged on shelves with arrows pointing up, with identification labels, expiry and manufacturing dates clearly visible and in a systematic way (pharmacological and first expiry first out /FEFO/ procedures); and are accessible for counting and stock management. A different result reported in assessment in Sierra Leone, none of the facilities ARV drugs were arranged on shelves in a way that makes it easy to read product labels and expiry dates. [22] In half of the health facilities evaluated expired ARV drugs were found with usable products in store room. Almost similar result

reported in an evaluation conducted in Ethiopia. Expired ARV drugs were kept together with active drugs at one site.[25]Keeping proper storage of ARV drugs helps to maintain their quality, safety and efficacy, and to avoid the risk of diversion, theft, and fraudulent use of ARV drugs.[14] If proper storage procedures not followed, ART patients will not receive a high quality drug product because poor storage conditions can cause damage or cause reduction in shelf life, and also not following proper storage procedures cause wastage of time in trying to find needed drugs. If expired products are available with usable products they may be distributed to patients by mistake.

The average percentage of health facility stock records that corresponded exactly with physical counts was 66.07% with the range among facilities from 18.2% to 100%. A different result reported in assessment conducted in Sierra Leone in which stock records did not match with physical count. [22] Effective inventory management help facilities avoid stock outs and losses due to unnecessary expiry, theft and other problems, and insure that the desired medicines are available at all times and helps to more accurately estimate drug demand. [25, 32] The use and regular updating of stock records (paper-based or computerized) in health facilities is important because stock record cards can easily display the amount of drugs on hand and facilitate controlling of drug expiry.

Except one health facility others distribute ARV drugs from store to dispensary according to the standard that is they use Internal Facility Report, Issue and Receipt Voucher instead of model 20 to request from store. The standard operating procedure manual for pharmaceutical logistic recommends: the pharmacy personnel in charge of the out patient and inpatient pharmacy complete and provide logistics data on the Internal Facility Report, Issue and Receipt Voucher to the store. And then the pharmacy employee in charge of main store uses the information in the report section to determine re-supply quantities and issue the drugs after completing issuing voucher (Model 22).[19]The health facility prefer to use model 20, as indicated by expert interview it doesn't require any calculation and they are not using bin card in the dispensary. Only one health facility

dispensary used bin card at dispensary and this affects the provision of essential data to store of health facility and also affects provision of essential data to PFSA hub.

All health facilities estimated their drug requirement using a standard formula in standard reporting and requisition form, and they sent their bi-monthly report to PFSA hub with in the first 10 days of the end of reporting period. These were inline with the standard operating procedure reference manual. The standard operating procedures manual for pharmaceuticals logistic recommends health facilities to use standard formula to calculate their reorder quantity which includes beginning balance in store, quantity received, loss/adjustment and ending balance, and should send their report to PFSA hub until the 10^{th} day of the month following the end of the reporting period.[19]

The proportion of ART patients who have got the four basic information for the dispensed drugs were 81.68%. This was not inline with the manual as almost 18% of patients didn't get one of the information. Good dispensing practices ensure that the correct drug is delivered to the right patient, in the required dosage and quantities, with clear instructions, and in the package that maintains an acceptable potency and quality of the drug. Drugs will be effective only if the appropriate root of administration followed, therefore the advice (information) when to take (e.g. before or after meal); how to take drugs (take with water, chewing, direct swallowing, etc) should be clearly provided to patients/caregivers; drugs should be stored at favorable condition and place to maintain the potency of drugs thus patients should be informed how to store drugs at home (e.g. avoid heat, light, and moisture); and patients should be informed not to stop treatment when side effects occur or in absence of response without consulting the prescriber or dispenser. [33] The possible reasons for this difference may be unavailability of counseling guidelines and trained professionals. If these information not delivered to patients correctly, the patients will not have good adherence to the drugs and potency of the drugs will be lost as it depends on their storage condition.

Accommodation

Almost all (97.1%) of ART patients perceived that appropriate hours of operation were set. As found by expert interviewed the dispensing pharmacy works in working hours both in the morning and in the afternoon. Ninety six percent of ART patients also reported as dispensing rooms were convenient. But some of the patients on the other side reported "as they are not getting enough and up to date information; the mixing of ART drugs dispensing room with other drugs affects their privacy and also as there is high turnover of professionals and as that affects their adherence".

Social desirability bias the patients may provide information that they think good for health care providers than the real situation. During the interview of the patients on the information provision during dispensing, on convenience of dispensing room and hours of operation may create bias to the patients. As we don't know to quantify the bias, we use the finding with this limitation.

Chapter 8 Conclusion and Recommendation

8.1 Conclusion

Based on the study findings, the over all achievement of the ARV drugs distribution program of the Zone was in medium achievement when compared to the preset evaluation judgment parameter.

The availability of resources for the program implementation in the Zone was in medium achievement. How ever shortage of ART trained pharmacy professional and guidelines for counseling during dispensing at some of the health facilities were observed and these may affect the utilization of SOPs at dispensary and the provision of basic information during dispensing. These are areas for recommendation.

The compliance of distribution service to national guidelines and standards was in medium achievement when compared to the preset evaluation judgment parameter. How ever the utilization of some of the key SOP forms such as expiry date tracking chart, receiving discrepancy reporting form, monthly ARV drugs dispensing and consumption summary and bin cards at dispensary, and regular updating need improvement as these affect implementation and flow of information to the higher level. The provision of basic information about the dispensed drugs needs improvement as this affects the adherence of patients. These are areas of recommendation.

The accommodation of the service to the patients was in high achievement as the preset evaluation judgment parameter. Even though majority perceived the dispensing room as appropriate, some of them reported as they don't have comfort with the mixing of dispensing room with other drugs ;as they are not getting up to date information and as there is high turnover of pharmacy professionals at dispensary and this affects their adherence. These comments may help the stakeholders to look again the arrangement of dispensing room and follow the dispensary.

8.2 Recommendation

Zonal Health Department

- Zonal health department together with partners should give basic training on ART to pharmacy professionals and the frequency of the trainings should be matched with the staff turnover at the health facilities.
- The zonal health department and district health offices should communicate to improve the pharmacy professional availability at health facilities.

SPS, DELIVER, PFSA and SCMS

- Should make available all key SOP forms
- As the availability of key SOP forms did not guarantee their utilization in health facilities due attention should be given to design mechanisms for utilizing the forms like providing refreshment training for pharmacy professionals and if the problem is shortage of professionals by discussing with the Zonal health department facilitate the additional allocation of professionals.
- Should make available guidelines for counseling during dispensing. And if they made it available they should guarantee its availability at dispensary to avoid the information fallacy.
- Should update the ARV drugs and patient information sheet considering the combined drugs.

Pharmacy professionals

- Should frequently update the bin cards at health facility store, and utilize at dispensaries.
- Should strictly follow the standard storage criteria and frequent follow up in stock management and inventory control to avoid expired products from usable products on the shelves and to distribute ARV drugs before their expiry.

- Should provide all the basic information during counseling to enhance the adherence of the patients.

Chapter 9 Meta Evaluation

Michael Scrivens defined that Meta evaluation is Evaluation of evaluation. Good evaluation requires that evaluation efforts themselves be evaluated. Many things can and often go wrong in evaluation work. Accordingly, it is necessary to check evaluations for problems such as bias, technical error, administrative difficulties, and misuse. Such checks are needed both to improve ongoing evaluation activities and to assess the merits of completed evaluation efforts.[34] To assure the quality of process evaluation of ARV drugs distribution service implementation of Jimma Zone, the following actions was considered during the overall evaluation process

Utility standard

Key stakeholders were identified through discussion with Zonal health department. They were involved throughout evaluation process. They have also agreed to utilize the findings of the evaluation.

Feasibility Standard

The evaluation procedure was made practical; to keep disruption to a minimum while needed information was obtained. The evaluation proposal was prepared by balancing the benefits of the evaluation and resources required for such evaluation. Accordingly the planned activities were implemented with the given time, financial and human resources. Consequently, the evaluation was efficient and produced valuable information to justify expended resources.

Propriety Standard

The evaluation was conducted after getting ethical clearance from Jimma University College of Public health and Medical sciences. The evaluation was designed and conducted to respect and protect the rights and welfare of human subjects.

Accuracy standard

All the evaluation procedures designed in the protocol was applied to obtain unbiased and desired information. The data collection, processing, and reporting were systematically done. Quality control strategies were carried out properly. Different methods of data

collection including expert interview, document review and observation and other sources of data were used. Data were collected by trained pharmacy professionals under close supervision.

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Annex

1. Map of Jimma Zone

2. Information matrix on ARV drugs Distribution at health facilities in Jimma Zone, 2010.

Evaluation Questions	Dimensions	Source	Data collection tools
i. Are necessary resources available? If not why?	Availability	Pharmacy professionals and experts, SOP forms, bin cards, and ARV drugs	Observation check list Checklist Document review check list and interview guide
ii. Are components of ARV drugs distribution operating according to the standard? If not, Why?	Compliance	Pharmacy professionals and experts, SOP forms, Receiving and Issuing voucher, Reporting and Requisition forms, Bin cards and ART patients	Document review checklist Interview guide Observation checklist Exit interview guide
iii. Do the ARV dispensing arrangements meet expectations of the patients? If not why?	Accommodation	ART patients	Exit interview guide

3. Percentage of facilities that maintain acceptable storage conditions as the standard, Jimma 2010.

Ser No	Criteria for storage conditions	Number of Health facilities (n=4)		
		Yes	**No**	**Total**
1	Products are arranged on shelves with arrows pointing up, and with identification labels, expiry dates, and manufacturing dates clearly visible.	**75**	**25**	**100**
2	ARV drugs are stored and organized in a systematic way (e.g. alphabetical, pharmacological or first expiry / fist out/FEFO) procedures and are accessible for counting and general stock management.	**75**	**25**	**100**
3	Damaged and expired products are not available with usable products in the storeroom.	**50**	**50**	**100**
4	ARV drugs are stored in a dry, well-ventilated storeroom and windows that can be opened. (Visually inspect roof, walls, and floor of storeroom.)	100	0	100
5	Cartons and products are protected from direct sunlight.	100	0	100
6	Cleanliness (absences of liter and dust, rodents or insects in the storage area). (Visually inspect the storage area for evidence of rodents [droppings] or insects that can damage or contaminate the products.)	100	0	100
7	Storage area is secured with a lock and key that protects against theft but is accessible during normal working hours; access is limited to authorized personnel.	100	0	100
8	Medicines are not stored directly on the floor	100	0	100
9	There is a cold store with a temperature chart.	75	25	100
10	Direct sunlight is prevented from entering the storage area (e.g. by means of painted window panes or blinds).	50	50	100
11	ARV drugs are stored separately from insecticides, flammable products, and chemicals.	100	0	100
12	Store is protected from water penetration or free from moisture (e.g. leaking ceiling, drains, taps)	100	0	100
	Average storage condition	85.4%		

3. Questionnaires

Jimma University
College of Public Health and Medical Science
School of Graduate studies
Department of Health Planning and Health Services Management
Health Monitoring and Evaluation Unit

3.1 Questionnaire for Health facility Evaluation

Interview Guide for Store Manager

Informed Consent Form

Hello. My name is _____. I am here to conduct evaluation of the ARV drugs distribution at Health facilities in Jimma Zone. I would like to ask you a few questions about the ARV drugs distribution at the store of this facility; relevant documents will be reviewed and observation will be done using a checklist. Your information will be recorded on a questionnaire. No personal identifiers will be attached/ recorded to the questionnaires.

All response will be kept confidential that means your response will only be shared with evaluation team members and we will ensure that any information we include in our report does not identify you as respondent. Remember, you do not have to talk anything you do not want to and you may end the interview at any time. May I continue?

If the respondent agrees to continue, ask if he/she has any questions. Respond to questions as appropriate, and then ask Q1.

General Information

Date: _____ Time of data collection_____

Interviewee's Title _____Qualification _____

Name of Facility_____

Address: Woreda_____ Town _____Tel_____

I. Availability and or implementation of Guidelines, Manuals and SOPs

1. Are the following guidelines and standards available and implemented at ART site store for the intended purposes

Ser No.	Description	Available Yes/No	Implemented Yes/No	Remark
1	Standard operating procedures for Antiretroviral Drug supply management at Health facilities			
2.0	SOPs and Formats			
i.	Receiving and Issuing forms/ models			
ii.	Bi-Monthly Reporting and Requisition form			
iii.	Expiry Date Tracking Chart (ARV/ETC-04)			
iv.	Receiving Discrepancy Reporting Form (ARV/ RDR-04)			

Interviewers please verify the availability and implementation or utilization of Key SOPs by visiting appropriate units, reviewing documents and checking use of such formats for the last 6 months

2. If any of the above format (s) is/are not available and/ or not utilized why? _____

II Receipt and inspection

3. Do you undertake physical inspection on new arrival drugs? Yes__ No___

If yes interviewers please check for the availability of a standard form for such purpose and inspection report _____

4. Do you report any discrepancy encountered? Yes ____ No____

If yes interviewers please check for the availability of a standard form for such purpose and discrepancy report _____

5. If yes for who have you reported the encountered discrepancy:

a) PFSA Hub? Yes____ No____

b) ZHD? Yes___ No____

c) DACA? Yes____ No_____

d) Others, specify_____

6. Do you receive drugs using model 19? Yes___ No___

   If No why_____

III. Storage condition of ARV drugs at the store

7. Interviewers Place a check (tick) mark in the appropriate column based on visual inspection of the storage area; note any relevant observations in the comments column. To qualify for a Yes response, all products must meet the criteria for each item.

Ser. No.	Description	Yes	No	Comments
1	Products are arranged on shelves with arrows pointing up, and with identification labels, expiry dates, and manufacturing dates clearly visible.			
2	ARV drugs are stored and organized in a systematic way (e.g. alphabetical, pharmacological or first expiry / fist out/FEFO) procedures and are accessible for counting and general stock management.			
3	Damaged and expired products are not available with usable products in the storeroom.			
4	ARV drugs are stored in a dry, well-ventilated storeroom and windows that can be opened. (Visually inspect roof, walls, and floor of storeroom.)			
5	Cartons and products are protected from direct sunlight.			
6	Cleanliness (absences of liter and dust, rodents or insects in the storage area). (Visually inspect the storage area for evidence of rodents [droppings] or insects that can damage or contaminate the products.)			
7	Storage area is secured with a lock and key that protects against theft but is accessible during normal working hours; access is limited to authorized personnel.			
8	Medicines are not stored directly on the floor			
9	There is a cold store with a temperature chart.			
10	Direct sunlight is prevented from entering the storage area (e.g. by means of painted window panes or blinds).			
11	ARV drugs are stored separately from insecticides, flammable products, and chemicals.			

12	Store is protected from water penetration or free from moisture (e.g. leaking ceiling, drains, taps)			

IV. Inventory control

8. Is stock record card used in store? Yes____ No____

   If yes is it up-dated? Yes____ No____

   Interviewers please fill in appropriate space in table 1 the stock from the stock card and the actual stock from the store and/ dispensary.

   If No what is the reason?

9. Do you have expired drugs? Yes____ No_____

   If yes, interviewers please fill the type and quantity in the table 1

   If yes reason for expiry_____

10. Unexpired drugs currently available. Interviewers please fill in the current stock available in the table 1:

11. Is there mechanism for control of expiration/expiry and out of stock of drugs? Yes___ No____

    If yes enumerate the mechanisms

    _____

12. Have you experienced stock outs of ARV drug (S) during the last 4 months? _

Please fill in the Number of days each ARV drug product was out of stock in each month. Add up total stock out days of each ARV drug product for 12 months in the total column of table below.

Table 1: For recording availability of unexpired, expired, and stock out of drugs.

S. No	Description of item	Unit	Available(yes, no)	Balance in stock card	Physical count in store	Total quantity expired	Stock out in past 12 months(Yes, No)	Stock out days	Remark
1	D4t30mg+3TC150mg+NVP200mg								
2	D4t30mg+3TC150mg								
3	AZT300mg+3TC150mg+NVP200mg								
4	AZT300mg+3TC150mg								
5	AZT300mg								
6	EFV600mg								
7	NVP200mg								
8	TDF300mg/3TC300mg								
9	Abacavir300mg								
10	Tenofovir300mg								
11	FDC12(D4t12mg+3TC60mg)								
12	FDC12(D4t12mg+3TC60mg+NVP100mg)								
13	FDC6(D4t6mg+3TC30mg)								
14	FDC6(D4t6mg+3TC30mg+NVP50mg)								
15	3TC30mg+NVP50mg+Azt60mg								
16	3TC30mg+Azt60mg								
17	EFV50mg								
18	EFV200mg								
19	NVP50mg/5ml								
20	EFV30mg/ml								
21	Azt50mg/5ml								
22	3TC50mg/5ml								

V. Delivering ARV drugs from Dispensary

13. Are ARV drugs delivered from store to dispensary on the basis of the request/(ARV/ORF-04) form completed by pharmacy personnel in charge and model 22 or equivalent to:

Yes _____ No_____

If no, how it is distributed_____

VI. Ordering and Reporting

1. What LMIS forms do you use for reporting to a higher level?

(**Ask to see a copy of the report.)**

Insert name of standard LMIS report her*e* _____

2. Do LMIS report forms include the following?
   A. Received Yes No
   B. Issues Yes No
   C. Consumption Yes No
   D. Stock on hand Yes No
   E. Losses/adjustments Yes No
3. Does a completed LMIS report include the following? (**must be verified with completed report)**
   A. Stock on hand Yes No
   B. Quantities used Yes No
   C. Losses and adjustments Yes No
4. Who prepares the orders/reports for ARV drugs for this facility?
   1. Clinical Officer
   2. Nurse
   3. Pharmacist
   4. Pharmacy Technician
   5. Pharmacy Assistant
   6. Storekeeper
   7. Other *(specify)*
5. When was the last time you submitted the report on consumption and stock on hand of ARV drugs at this facility?
   a. Never
   b. Within the last month
   c. 2 months ago
   d. 3 months ago
   e. More than 3 mont
6. How often are you supposed to submit reports to the higher level?
   a. Monthly
   b. Bi monthly
   c. Other
7. Are you able to submit your reports on time?
   a. Always
   b. Most of the time
   c. Sometimes
   d. Never
8. If not always what factors influence not being able to submit your report on time?

   _____

9. How long does it take you to complete your report/order?

   Days: _____

Hours: _____

10. How did you learn to complete the forms for collecting and reporting data on the quantities of ARV drugs dispensed (consumption) and quantities in stock (stock on hand)? *(Circle all that apply.)*
    a. During a training workshop
    b. On-the-job training
    c. Never been trained
    d. Other *(specify)*
11. How are the order resupply quantities determined? (Ask interviewee to explain the formula used to arrive at the order quantity and note here.)
    a. Formula
    b. Don't Know
    c. Other means (specify)
12. How did you learn to calculate the order quantity for ARV drugs? (Circle all that apply.)
    a. During a training workshop
    b. On-the-job training
    c. Never been trained
    d. Other (specify)
13. How do you transmit your report/order to the higher level?
    a. By fax
    b. By email
    c. Send with courier or mail
    d. Send by facility vehicle
    e. Picked up by higher level
    f. Other

14. On average, approximately how long does it take from the time the facility places an order until the ARV drugs are received?

a. Less than 2 weeks
b. 2 weeks to 1 month
c. Between 1 and 2 months

Interviewer please check the reporting and requisition form, and receiving voucher (Model 19) for the past six months and fill the day in the table below

Ser. No	**Date on the reporting and requisition form**	**Date on the receiving voucher**

14. If is not up to two weeks what is the reason? _____

VII. Human Resource

15. Type and number of personnel involved in ARV drugs distribution

Ser No.	Qualification	Total Number	Number Trained in ARV drug supply management	Number involved in ARV drug dispensing	Remark

3.2 Interview Guide for Dispenser/ Head of Pharmacy

Informed Consent Form

Hello. My name is _____. I am here to conduct evaluation of the ARV drugs distribution at Health facilities in Jimma Zone. I would like to ask you a few questions about the ARV drugs distribution activity at dispensary; relevant documents will be reviewed and observation will be done using a checklist. Your information will be recorded on a questionnaire. No personal identifiers will be attached/ recorded to the questionnaires.

All response will be kept confidential that means your response will only be shared with evaluation team members and we will ensure that any information we include in our report does not identify you as respondent. Remember, you do not have to talk anything you do not want to and you may end the interview at any time. May I continue?

If the respondent agrees to continue, ask if he/she has any questions. Respond to questions as appropriate, and then ask Q1.

General Information

Date: _____ Time of data collection_____

Interviewee's Title _____Qualification _____

Name of Facility_____

Address: Woreda_____ Town _____Tel_____

Availability and or implementation of Guidelines, Manuals and SOPs

15. Are the following guidelines and standards available and implemented at ART site dispensary for the intended purposes

Ser No.	Description	Available Yes/No	Implemented Yes/No	Remark
1	Guidelines for use of ARV dugs in Ethiopia at ART site's clinic			
2.0	SOPs and Formats			
I	ARV Drugs and Patient Information Sheet (ARV/PIS-04)			
Ii	ARV Drugs Dispensing Register (ARV/DDR-04)			
Iii	Monthly ARV Drugs Dispensing and Consumption Summary (ARV/DCS-04)			

Iv	Pharmacy Monthly ARV Drugs Activity Report (ARV/MAR-04)			
V	Manual for good dispensing practice/Guideline for counseling during dispensing			
Vi	Stock movement card			

Interviewers please verify the availability and implementation or utilization of Key SOPs by visiting appropriate units, reviewing documents and checking use of such formats for the last 6 months

16. If any of the above format (s) is/are not available and/ or not utilized why? _____

17. Do you have inventory control/stock card system?

    Yes_____ No_____

    If no why_____

18. What is the information delivered to ART patients during dispensing?

    1._____

    2._____

    3._____

    4._____

    5._____

    5._____

    6._____

    7._____

19. Dispensary of ARV drugs

    Interviewers Place a check (tick) mark in the appropriate column based on visual inspection of the dispensing area; note any relevant observations in the comments column. To qualify for a Yes response, all products must meet the criteria for each item

No.	Description	Yes	No	Comments
1.	Damaged and expired products are not available with usable products in the dispensary.			
.2	ARV drugs are stored in a dry, well-ventilated dispensary and windows that can be opened.			

.3	Cleanliness (absences of dirt and dust, rodents or insects in the dispensary).			
.4	The dispensing area is secured with a lock and key that protects against theft but is accessible during normal working hours; access is limited to authorized personnel.			
.5	Medicines are not stored directly on the floor			
.6	The drugs arranged in shelves/ cabinets using one of scientific arrangement methods			
.7	Direct sunlight is prevented from entering the dispensary (e.g. by means of painted window panes or blinds).			
.8	ARV drugs are stored separately from insecticides, flammable products, and chemicals.			
.9	Dispensary is protected from water penetration or free from moisture (e.g. leaking of ceiling, drains, taps)			

20. Human Resources

Type and number of personnel involved in dispensing including clerk

Ser No.	Qualification	Total Number	Number Trained in ART	Number involved in ARV drug dispensing	Remark

Jimma University
College of Public Health and Medical Science
School of Graduate studies
Department of Health Planning and Health Services Management
Health Monitoring and Evaluation Unit

3.3 Interview Guide for Pharmaceutical Fund and Supply Agency, SCMS, SPS and Zonal health department.

Informed Consent Form

Hello. My name is _____. As you know we know we are conducting an Evaluation on ARV drugs Distribution in Health facilities in Jimma Zone. I would like to ask you a few questions about the ARV drugs distribution at Health facilities on the reporting and ordering that the Health facilities perform and the resupplying system. Your information will be recorded on a questionnaire. No personal identifiers will be attached/ recorded to the questionnaires.

All response will be kept confidential that means your response will only be shared with evaluation team members and we will ensure that any information we include in our report does not identify you as respondent. Remember, you do not have to talk anything you do not want to and you may end the interview at any time. May I continue?

If the respondent agrees to continue, ask if he/she has any questions. Respond to questions as appropriate, and then ask Q1.

1. Do you receive reports on the quantities of ARVs dispensed (consumption) and the quantities of ARVs in stock (stock on hand) from lower-level facilities?

Yes No

2. How many Health facilities are supposed to submit their order reports on ARV drugs to this hub?
3. How many of these facilities submitted their reports for the last three reporting period?
4. Do all the Health facilities send their order timely? Yes No

(can you show me the last three reports?)

5. If no what is the reason? _____
6. Do you receive discrepancy report?
7. Some of the guidelines and SOP forms not available and not utilized in health facilities? What is your reason for this unavailability and not utilizing?

8. Shortage of ART trained pharmacy professionals reported what do you say about this?

Jimma University
College of Public Health and Medical Science
School of Graduate studies
Department of Health Planning and Health Services Management
Health Monitoring and Evaluation Unit

3.4 Questionnaire to ART patients

Informed Consent

At the starting phase of the data collection, the data collector will get the informed consent from the clients through the dispenser. After the dispenser is well informed about the purpose and objective of this study, then the next step will be to reach an agreement with the clients.

After the client agrees, the data collector will be permitted to conduct an exit interview with the clients. If the client is not volunteer, they will not participate in the study.

Good morning/afternoon. I am_____

This interview is aimed to getting pertinent information concerning the ARV drugs dispensing service delivery at Health facilities in Jimma Zone. I would like to help the improvement of the services provided by this facility. I think the dispenser told you some information about the purpose of this interview. I would be interested to find out about your perception and the information you get today during dispensing. I will not write down your name, and everything you tell me will be kept strictly confidential. Also, you are not obliged to answer any question you don't want to, and you may withdraw from the interview any time. Do you want to continue? 1) Yes 2) No

Name of interviewer _____

Signature _____

Signature of client _____

I General Information

101 Woreda_____ Name of HF_____

102 Date of Visit_____

103 Time interview started_____

104 Questionnaire code number_____

105 Sex:

1. male 2. Female

106 Age of respondent _____ (years)

107 Religion

1. Orthodox 4. Catholic
2. Muslim 5. Other (specify)_____
3. Protestant

108 Ethnicity of respondent

1. Oromo 4. Tigre
2. Somali 5. Guragie
3. Amhara 6. Others (specify)_____

109 Marital status

1. Married 2. Unmarried
4. Divorced 3. Widowed

1010 Educational status of respondent

1. Unable to read and write 4. Grade 9 -12
2. Can read and Write 5. University(College
3. Grade 1-8

II Interview questions

201 Is the time for service is convenient for you 1, Yes 2, No

202 If No for Q. No1 what is your recommendation _____

_____

203 What do you feel about the waiting time between your first arrival at dispensary and the time you received the drugs?

1) Too short
2) Too long
3) Reasonable
4) Do not know

204 Is the dispensing room convenient for you 1, Yes 2, No

205 If No for Q. No 4 what is your recommendation_____

206 Have you got the following information during dispensing from dispenser?

Ser. No		Yes	No

1	When to take drug/time/		
2	How to take the drug/ with water, chewing, swallowing/		
3	How to keep drugs/ keep drugs at home such as keep at dry place, out of reach of children, etc		
4	Not to stop the drugs when side effects occur ways of reporting		

207 Do you have general comment _____
_____

Questionnaire to ART patients in Afan Oromo
Informed Consent

Odeefanno funaanu utuu hin jalqabin namootni odeefannoo funaanan karaa ogeessa qoricha kennuu dhukkubsataa wajjin wal qunnamu.Erga ogeessi qorichaa kayyoo fi xiyyefanno qorannicha dhukkubsatootaf ibsee booda, namni odeeffanno funaanu kun dhukkubsataa wajjin waliigaltee uuma.dhukkubsataan suniif namni odeeffanno funaanu erga waliigalani booda odeefannotu funaanama . Dhukkubsatichi yoo fedhe odeeffannoo kennu dhiisuu danda'a.

Akkam ooltan/bultan. An maaqan koo---------- jedhama. Gaaffii fi deebin an isiini wajjin godhuu haala kenninsa tajaajila qoricha farra HIV/AIDS akka godina Jimmatti kennamu irratti odeefanno gaha argachuuf na gargaara. Kayyoon gaaffichas tajaajila kennamu fooyyesuuf. Waa'ee gaaffii fi deebi kanas ogeessi qorichaa waan isinitti hime natti fakkaata. gaffin ko kun hubannoo keessan akkasumas odeeffanno isin argatan beekufis ni fayyada. Unka gaaffii kana irratti maqaan keessan hin barreeffamu. Odeeffannoon isin naaf laatanis iccitiin isa ni eegama. Gaaffii deebisu hin barbaanne kamiyyu deebisuu dhiisuu dandeessu, yoo feetanis gaaffii fi deebicha addaan kutuu ni dandeessu.

maqaa nama odeeffannoo funaanu_____ mallatto_____

Mallattoo nama gaafatamee _____

I. Odeeffannoo waliigalaa

101. .Aanaa_____Buufata fayyaa_____

102 Guyyaa_____

103 Yeroo ittii gaaffii fi deebin jalqabe_____

104 Kooddii unka gaaffii_____

105. Saala 1.dhiira 2. dhalaa

106. Umrii_____(Wagaan)

107. Amantii 1. ortodoxii 2.musilima 3. protestanti 4. Catolikii 5. kan biroo(ibsi)

108. Qomoo/sanyii 1. oromo 2. somali 3. amaraa 4.tigiree 5. guragee 6. kan biroo(ibsi)

109.Haala fudhaa fi heeruma

1) Fuudheera/heerumeera

2) hin fuune/heerumne

3) du'aan kan gargar ba'e/baate

4) wal iiku 5) kan biroo

110. Sadarkaa barumsaa

1) hin baranne

2) barresu fi dubbisuu kan danda'u/dandeessu

3) kutaa1-6

4) kutaa 7-12

5) Universitii/collagii

II.**Gaaffile**

201 yeroon tajaajilaa itti siif kenname mijaata ture? 1. eeyye 2.miti

202. Yoo deebin ke mitii ta'e, yaada akkam laatta?_____

203 Yeroo turti qoricha fudhattee fi dhufte gidduu jiru maal sitti fakkaata? a) baaye gabaaba dha b) baayee Dheera dha c) giddu galeessa d) hin beeku

204 Kutaan qorichi itti kennemu mijataa dha? 1)eeyye 2) miti

205 Yoo deebin ke mitii ta'e, yaada akkam laatta? _____

206 Yeroo qoricha fudhattan odeeffannoo armaan gadii argatanittu?

lakkofsaa		Eeyye	Miti
1	yeroo kam akka qoricha fuudhattu		
2	haala kamiin akka fudhattu/bishaanin, alaanfachuudhaan		
3	qorichichaa bakka akkami akka ka'uu qabdu/bakka ijjoleen hin geenye, bakka jiidha hin qabne		
4	malltowaan tokko tokko qorichichan wal-qabate mulachu danda'u isiniti imamera?		

207. Yadda waligalaa yoo qabatee?_____

_____

_____

እንደምን አደሩ/□ሉ::እኔ----------□ባላለሁ::

የዚህ ቃለ መጠይቅ ዋናዉ አላማ በጅማ ዞን የፀረ ኤች አይቪ መድሃኒት የሚሰጥባቸዉ ቦታዎች ላይ የሚሰጠዉን አገልግሎት ትክክለኛ መረ□ ለማ□ኘት ነዉ::የማገኘ□ መረ□ም ለሚደረገዉ አንክብካቤ መሻሻል እገዛ ያደርጋል::ስለማደርግለዎት ቃለ መጠይቅ አገልግሎቱን አየሰጠዉ ያለዉ ጤና ባለሙያ እነደነገረዎት ተስፋ አደርጋለሁ::ዛሬ ባገኙት አገልግሎት አሰጣጥ ላይ ያለዎትን ግንዛቤና አመለከከት እነድሁም ያገኙትን መረጃ አንድነግሩኝ እፈልጋለሁ::ስመዎትን አልፅፍም የጤናዎት ሁኔ□ም ሚስጥራዊ ይሆናል::ማንኛዉንም ጥያቄ አንድመልሱ አይገደዱም::በማንኛዉም ሰአት ማቋረጥ ይችላሉ::ፈቃደኛ ነዎት?

ሀ)አዎ---------- ለ)አይደለሁም

አመሰግናለሁ::

□□□ቂ□ ስም----------

□ርማ----------

□ተ□□ቂ□ □ርማ----------

የተጠያቂዉ አጠቃላይ ሁኔ□

101 ወረ□----------□መስሪ□ ቤቱ ስም----------

102 ቀን----------

103 ቃለ መጠይቁ የተጀመረበት ሰዓት

104 Questionnaire code number_____

105 የተጠያቂዉ ፆታ

1 ወንድ 2 ሴት

106 ዕድሜዎ ስንትነዉ? ----------አመት

107 የየትኛዉ ሃይማኖት ተከታይ ነዎት?

1 ኦርቶዶክስ 3 ፕሮቴስታንት

2 ሙስሊም 4 ካቶሊክ

5 ሌላ(ይገለጽ) _____

108 ብሄረሰብዎ ከየትኛው ይመደባል?

1 ኦሮሞ 4 ትግሬ

2 ሱማሌ 5 ጉራጊ

3 አማራ

6 ሌላ(ይገለጽ) _____

109 የጋብቻ ሁኔታ

1 ያገባ 5 ሌላ (ይገለጽ) _____

2 ያላገባ

3 ባል/ሚስት የሞተበት

4 የተፋታ

1010 የትምህርት ደረጃ 2 ማንበብና መፃፍ ብቻ የሚችል

1 ማንበብና መፃፍ ማይችል

4 ከ9-12ኛወይም10+2 የደረሰ

5 ኮሌጅ የደረሰ

3 ለ1-8ኛ ክፍል የደረሰ

የቃለ መጠይቁ ጥያቄዎች

201 አገልግሎቱን ለማግኘት የተሰጠዉ ጊዜ ምቹ ነዉን? 1)አዎ 2)አይደለም

202 ለአንደኛዉ ጥያቄ አይደለም ከሆነ አስተያይትዎ ምን ቢሆን ይሻላል ይላሉ?

_____

_____

_____

203. ወደ መድሃኒት ክፍል በመጡበት ሰዓት እና መድሃኒት አግኝተዉ በሄዱበት ሰዓት መከከል ያለዉን ጊዜ እንዴት ያዩታል?

1)በጣም አጭር 2) በ□ም □ረ□ም

3) ምክንያ□ዊ 4) አላዉቅም

204 አገልግሎቱ የሚሰጥበት ክፍል ምቹ ነዉን? 1. አዎ 2. አይደለም

205 ለአራተኛዉ ጥያቄ አይደለም ከሆነ መልሰዎ ምን ቢሆን ይሻላል ይላሉ?

206 አገልግሎቱን በሚያገኙበት ጊዜ የሚከተሉትን መረጃዎች አግኝተዋልን?

ተ.ቁ		አዎ	አይደለም
1	መድሃኒት የሚዎሰዱበትን ሰዓት		
2	መድሀኒቱ ሲወሰድ ሊያስከትለው የሚችለው ነገር ተነግሮወታል		
3	መድሃኒቱን እንዴት መዉሰድ እንዳለበዎ(በዉሃ የምታኝ□ □ሚ□□)		
4	መድሃኒት እንዴት ማስቀመት እንዳለበዎት (ደረቅ ቦታ ልጆች በማይደርሱበት ቦ□)		

207. ባጠቃላይ ስለ አገልግሎቱ የሚሰጡት አስተያየት ካለ

_____

_____

_____

አመሰግናለሁ