

ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES

**Assessment of Utilization of Voluntary Counseling
and Testing (VCT) Data for Strategic
Information in Addis Ababa**

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Dedication

To the memory of my beloved family

Acknowledgment

First and foremost, Glory to the LORD and His mother VIRGIN MARY, for being with me all the time.

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List of Acronyms and Abbreviations

AIDS: Acquired Immune Deficiency Syndrome
ART: Antiretroviral Therapy
AOR: Adjusted Odds Ratio
CI: Confidence Interval
ESHE: Essential Service of Health for Ethiopia
FHI: Family Health International
HCT: HIV Counseling and Testing
HIV: Human Immune Deficiency Virus
HMIS: Health Management Information System
HSDP: Health Sector Development Program
IEC: Information Education and Communication
MDGs: Millennium Development Goals
M&E: monitoring and Evaluation
MOH: Ethiopian Ministry of Health
NGOs: Non Governmental Organization
PIHCT: Provider Initiated HIV Counseling and Testing
PMTCT: Prevention of Mother to Child Transmission of HIV
TB: Tuberculosis
VCT: Voluntary Counseling and Testing
WHO: World Health Organization

1. Abstract

Background

Evidence-based decision making in managing VCT services is imperative to strengthen the service. This ultimately roots in utilizing VCT data for strategic information. However, there has not been precise information pertaining to the VCT data utilization for strategic information at health center level.

Objectives

The study was conducted to assess VCT data process performance, level of utilization and factors affecting its utilization in Addis Ababa city.

Methods

Facility based cross-sectional study was conducted from October, 2008 to May, 2009 in all 24 health centers of Addis Ababa. A total of 134 health center employees from all units/departments that are involved in utilization VCT data were included in the study. Trained data collectors administered a pre-tested and standardized questionnaire. In-depth interview with key informants, one VCT focal person from each sub city health desk, were also conducted. Data were entered and cleaned using SPSS window version 11.0. It was also employed for descriptive and logistic regression analysis.

Results

Overall, VCT data utilization rate was 22.4%. Data quality was good as data was reported within reporting deadlines (89.6%), disaggregated (97.7%) and consistent (86.6%). Twenty three percent of health center employees were able to analyze VCT data regularly. Health center employees who are older and those who analyze VCT data regularly were more likely to utilize VCT data for strategic information, AOR (95% CI) = 3.92 (1.07, 13.26) and AOR (95% CI) = 3.42 (1.24-9.40), respectively.

Conclusion

Level of VCT data utilization is low at 22.4%. Process performance of VCT data in terms of data quality was good; however in terms of data analysis was bad. Utilization was higher among older health professionals and those who analyze VCT data regularly.

Recommendation

Due attention for data processing, in & on - service training on data processing with emphasis to utilization and involving young health personnel are recommended.

2. Introduction

The goal of a health information system is often narrowly defined as the production of good-quality data. However, the ultimate goal is more than this – it is to produce relevant information that health system stakeholders can use for making transparent and evidence-based decisions for health system interventions(1).

Global infectious threats, scrutiny of progress towards the millennium development Goals, and performance-based release of donor funding have all contributed to this increased awareness of the need for evidence. Decentralization and delegation of budgetary controls have shifted much of this growing burden to the periphery, requiring districts to provide local health statistics as a basis for decision-making. Increase in the global investment to control AIDS has begun to lift the historical financial barriers, but have brought into sharper focus the dual underlying constraints of human resources and health information (2).

Recognizing the manifold responsibilities of the district health team and the need to allocate scarce resources, the necessity of health management based on adequate information use become obvious and crucial. The main constraint to implement the primary health care approaches reported by most countries is inadequate information for the managerial process (3). As commitment to health sector reform has strengthened, the realization of a good information system is necessary to support reform. Many important operational decisions were made at district level. Increased decentralization and increased focus on preventive and primary health care will increase the importance of decisions made at districts, moreover; a good management system at a district level increases efficiency and effectiveness of woreda level decision makers(4).

Decision-makers at all levels of the health system need information that is relevant, reliable and timely. Unfortunately, even when high-quality information is available this does not guarantee its appropriate use in the decision making process. This has led to the conclusion that: much of the material remains unprocessed, or, if processed, unanalyzed, or, if analyzed, not read, or, if read, not used or acted upon (1).

Research done in most parts of the world reported that information collected using top-down system would have little value for health care action at the site of data generation because it was supposed to be inappropriate and erroneous (4,5). This does not only make accurate data collection difficult but considered as not useful for decision- making (5). A similar study done in Ghana and Uganda about the utilization rate of information suggested that not more than 10% and 20% of the information enter in a register is ever used to improve management in any meaningful way respectively (6, 7).

Information collection is not without cost. According to the MOH HMIS reform report, a detailed analysis of data collection and compilation in governmental health centers suggested that the personnel cost alone could amount to nearly 17 million birr annually (8). There is no value in collecting this data unless they are turned into information that health workers and managers can use to improve service delivery. If information is not used especially by those who produce the service, to improve service delivery management and the health of the population, then it has limited value to the organization.

Health information utilization at health centers for decision making is very low. According to MOH HMIS reform report, the prevalence of local use of health information for decision making at health centers is 20 %(8). According to Ministry of Health HSDP II report there is lack of coordination in leadership, strategy, policy, and of having skilled human resources and of guidelines, timeliness, and completeness of health information system. Health information system remains poor and these problems contribute to the failure to use data as the basis for informed decision-making in planning and other management functions. This situation is observed in most parts of the health sector in general, and especially in the area of HIV/AIDS particularly, where much has to be done to develop strategies to know the magnitude of the disease and to develop intervention activities like to request drugs, develop appropriate IEC programs to refrain the pandemics of the disease in the countries. Parallel reporting mechanism resulted in multiple reporting formats and increased administrative workload (3, 9). Survey done by Essential Services of Health for Ethiopia (ESHE) in some part of Amhara Region, reported that utilization of information at district and health facilities level was partial and uneven. More systematic, long-term monitoring and data based planning were not inherent at district and regional level (10).

Although a lot has been done to increase utilization of VCT services, it is still desperately low (11). In Ethiopia among those who had VCT 13.5% are HIV+ve and in Addis Ababa, it is 14.5% (12). A lot of data is captured by VCT units; in a country where resource limitations like finance and human resource is significantly high. This data is reported to next higher level. It is also true that these data should be utilized for service management by those who produce the data/service. However, there is paucity of information that would describe the extent of VCT data utilization for strategic information in Ethiopia.

Therefore, this study was undertaken to assess VCT data process performance at health center level; to determine the utilization rate and to identify factors of VCT data utilization in the study area. Finally, this study will improve and strengthen the utilization of VCT data for strategic information at health center level in the study area. This is particularly important with regard to interventions launched to curtail the pandemic of HIV/AIDS, as VCT is a gate for all HIV-AIDS related activities.

3. Literature Review

Since the 1990s, knowledge and understanding of the global public health picture have improved following important investments in data collection. Despite this, a huge gap remains between what public health professionals actually know and what they need to know to improve the health of the world's population(1). In the context of health sector reform and decentralization, health systems are managed as closely as possible to the level of service delivery. This shift in function between the central and peripheral levels has generated new information needs and led to a profound restructuring of information systems, with changing requirements for data collection, processing, analysis and dissemination. Health sector reforms also magnify the need for standardization and quality of information, presenting a further challenge to national health authorities (1).

The need for better health information has also arisen from demands to improve accountability, and ensure evidence-based decision-making. The need to make better use of limited resources is a strong driver for improving the quality of health data, particularly to assist evidence-based policy development, and the planning, management and evaluation of health services. The ability to report on progress towards specified targets has become more important with the introduction of performance-based disbursement by a number of international initiatives. More resources, coupled with increasing recognition of the complexity of health challenges and interventions, has created a demand for better data without which there is a serious risk that interventions will be misguided and efforts and resources wasted(1).

It is not the case that countries with insufficient resources should forgo good health information. Indeed, they are the ones that can least afford to be without it (1).Despite this, few developing countries have sufficiently strong and effective health information systems even to permit adequate monitoring of progress towards the United Nations Millennium Development Goals (MDGs). Indeed, it is often in countries with the greatest need that reliable and timely information is not available, owing to chronic under-investment in systems for data collection, analysis, dissemination and use. Even when data are available, they are often out of date, rendering the challenge of assessing trends even more difficult.

Decision-makers do not have the information required to identify problems and needs, make evidence-based decisions on health policy and allocate scarce resources optimally(1).

The situation in Ethiopia is similar to other developing countries. The HMIS has been criticized for collecting too much data with negative effect on both efficiency and data quality. It collects a number of data items that are rarely used. The aggregation step consumes the most resources as its cost is directly related to the number of data items collected. Comparison of reported data with that recorded in facility registers shows significant differences which lead to the conclusion that the quality of data is generally poor (8). The HMIS operates better to accommodate routine administrative needs and the transfer of information from one level to the next, rather than local use of information for service delivery improvement. The prevalence of local use of health information for decision making at health centers is 20% (8). These reflect the fact that woreda and facility level were designed to collect, compile and transmit data to the next higher level. Monitoring and evaluation were conducted at central level which shows a highly centralized system for decision making (8).

Health information can be used for planning, monitoring and evaluation. Local use of information includes strategic planning, annual planning and action-oriented review of results. Feedback processes: reinforcement through written feedback, supportive supervision and peer review, and evidence based performance appraisal are some of the M&E activities that are conducted by utilizing health information. HSDP III strategic plan strongly underlines the relationship between monitoring and evaluation (M&E) and the HMIS. M&E is “an action oriented management tool that operates on adequate, reliable and timely collected, compiled and analyzed information. The objective of M&E are to improve the management and optimum use of resources of programs and to make timely decisions to resolve constraints and/or problems of implementation”(13).

Use of HMIS information in the management procedure has several many benefits. There is broad agreement that information-plus the knowledge it enables-creates value. Yet it is challenging, indeed, to quantify the added value of information (14).

In addition to the improvement of health of the population by improving the health system management, it has the following advantage. First, it increases competencies in interpreting evidence and problem solving. Secondly as data are used for decision making the quality of the data usually increases because health workers are able to spot and correct anomalies in the data(8).

In contrast to its profound potential of use, health information is generally underutilized for various reasons. Utilization rate of health information at woreda health offices and health centers in north Gondar was 22.5% (15). Some of the reasons are: poor quality data, over-collection, deficiencies in completeness and timeliness, infrequent feedback and supervision (8). In addition, the presentation of epidemiological data is frequently aimed at specialists and other experts. Little effort is made to present the information in formats that are relevant and comprehensible to policymakers, the public or those working in sectors other than health. As a result, there is a widely established perception that health information is obscure, unclear and sometimes contradictory (1).

Important program and policy decisions are often made based on insufficient data, even when a wealth of information is available. Too much information is sitting on shelves in reports instead of being used to improve conditions (16).The sustainable production and use of good-quality health information are not only affected by technical factors such as data-collection tools and processes, IT devices and data analysis but also environmental, organizational and behavioral factors play a major role (1). Of these salary is the most significantly associated (15). Information, after all, is necessary but never sufficient to achieve improved outcomes. Other resources-human, material, and financial-are required for change (14).

VCT is an entry point for prevention and care and is acknowledged internationally as an effective strategy for both HIV/AIDS prevention and care. Research conducted in Kenya, Tanzania, and Trinidad by Family Health International has provided strong evidence that VCT is an effective and cost-effective strategy for facilitating behavior change (17). VCT services serve two principal purposes: they determine who requires care and treatment & they help prevent HIV acquisition and transmission.

Global demand for HIV counseling and testing (HCT) services is growing dramatically due to the intensified effort to expand access to antiretroviral therapy (ART) (18). Donors and international public health organizations accordingly regard VCT as a critical component of comprehensive HIV/AIDS programs.

Over the past 20 years, voluntary counseling and testing programs (VCT) have helped millions of people learn their HIV status, yet more than 80% of people living with HIV in low and middle-income countries do not know that they are infected (11). Efforts are urgently needed to increase the provision of HIV testing through a wider range of effective and safe options. HIV testing is a critical entry point to life-sustaining healthcare services for people living with HIV and AIDS and service delivery models need to be expanded to testing in antenatal care, sexually transmitted infection clinics, in-patient wards as well as free-standing client-initiated testing centers (11).

According to the national HIV counseling and testing guidelines, all sites providing services will collect data related to service uptake using the recordkeeping and reporting formats approved by the FMOH. All sites should adopt the standardized data collection and reporting tools developed by MOH so that consistent and standardized data can be obtained at all levels of the health system. The health care facility should have staff dedicated to compile all HCT services related data as required by the reporting system and should be sent in a timely manner. A monthly or quarterly report would be completed and transmitted to appropriate authorities as required by the sites. The collected data need to be analyzed and interpreted to help in planning and decision making (19).

At woreda health offices or zonal health department's data collected from HCT sites will be compiled, collated and reported to respective regional health bureaus. Regional health bureaus will compile the data of all HCT sites within the region and report to the Ministry of Health. Final compilation of National HCT service delivery data will occur at the MOH. The HMIS will ensure that at each level, feedback is provided, so the information flow will be two-way (19).

As it is true for other services, informed decision making, by analyzing and utilizing VCT data, is by far important to intensify VCT services and to fill the huge gap remaining.

Data are not just for giving to funders. Data can also be used for: improving performance (e.g., hires more staff, train staff, or buy more supplies), feedback to program staff (regular staff meetings, including field staff), decision-making about future direction of the program, such as scaling up services/expanding coverage (e.g., identifying new geographical areas and/or other services to be added to program), reporting to donors and policymakers, communicating the program's successes and challenges to the community (e.g., newspaper articles, press conference, town hall meeting) and fund-raising (proposal writing) (17).

4. Objectives

4.1 General Objectives

To assess VCT data process performance, level of utilization and factors affecting its utilization in Addis Ababa city.

4.2 Specific Objectives

- To assess performance of data process related to VCT data at health center level
- To determine the level of VCT data utilization for strategic information at health centers
- To identify factors affecting VCT data utilization for strategic information at health centers in Addis Ababa city.

5. Methods

5.1 Study area

The study was conducted in Addis Ababa, a capital city of Ethiopia. There are 10 sub-cities and 99 kebeles in the City. The population of the Addis Ababa, according to 2007 census, was 2,738,248(20). Among the population 47.6% were males with nearly 0.91 to 1 sex ratio. In 2007 adult HIV Prevalence and Incidence (15-49 yrs. %) for Addis Ababa was 7.5 and 1.52 respectively. There are 171 VCT centers in Addis Ababa. Among those tested in 2007, 14.5% were HIV+ve (18). There are 9 governmental hospitals and 24 health centers in Addis Ababa.

5.2 Study design

A facility based cross-sectional study was conducted from oct.2008 to April 2009 to assess the utilization of VCT data for strategic information at health centers.

5.3 Source population

All health workers in health centers were the source population.

5.4 Study population

All staffs working in units/departments that are involved in utilization VCT data at health centers and VCT focal persons of sub city health desk were the study population.

5.5 Sample size & sampling procedure

The entire study units in all 24 health centers of Addis Ababa were included in the study. Of the units available in the health center, 6 units are involved in utilization of VCT data.

These are

- The VCT focal person

- The PMTCT focal person

- The PICT focal person

- The ART focal person

- The statistician / the HMIS focal person

- The medical director

One health worker was taken from each unit which is involved in utilization of VCT data in the health center making the number of samples to be included in the study to be 144. For the key-informant interview, one VCT focal persons from each sub cities were included in the study.

5.6 data collection procedure

Questionnaire development

The final version of the English questionnaire was developed after extensive revision of relevant literature. The questions and statements were grouped and arranged according to the particular objectives. The questionnaire was pre-tested in a similar study population in the neighboring cities of Oromia region five days before the final work and appropriate adjustment was done before it is finalized. The cities of Oromia region selected because they are near to Addis Ababa and have almost similar working condition to health centers of Addis Ababa.

Quantitative data was collected using pre-tested and standardized questionnaire. A face-to-face interview was conducted using structured questionnaire in English language. Observational checklist was also used in the study units and departments to check whether VCT data is processed into information and used for strategic information. These were include looking at charts, maps, graphs, looking at report and other documents that show utilization of VCT data for strategic information.

Qualitative data was collected from sub city health desks with an interview guide. Tape recorder was used for key informant interview.

Personnel

Data collectors – two Bsc health professionals were recruited from Addis Ababa to increase the quality of data.

Supervisor – one master's degree student from Addis Ababa were selected to lead and coordinate the data collection process.

Both data collectors and supervisors were trained for two days.

The principal investigator interviewed key informants i.e. the VCT focal persons of sub city health desks.

5.7 Study variables

Dependent variable

- Utilization of VCT data for strategic information

Independent variables

- Socio-demographic and economic characteristic (sex, age, total year of services, salary, service year in current position, educational level, department and position in the organization)
- Characteristics linked with data utilization (timely report, consistency, disaggregation of data, supervision, feed back, analyzing data regularly, and analyzing VCT data regularly, training on data analysis and training on data utilization).
- Characteristics on attitude towards data utilization
- Characteristics on formats and reporting system

5.8 Operational definitions

Strategic information – information that is used for strategic benefit of the organization like utilization of information for strategic planning.

VCT data - data that are captured in the service of VCT and PICT.

VCT data utilization - utilization of VCT data for at least two out of three management cycle activities: planning, monitoring and performance evaluation.

Data quality- VCT data is labeled as a quality data if it is reported on time, disaggregated by important variables and it shows consistency.

Data process performance - it was measured by data quality and VCT data analysis.

5.9 Data analysis procedure

Data was entered, cleaned and analyzed using SPSS for window version 11.0. Descriptive statistics such as frequency distribution, percentage on utilization rate of VCT data by socio-demographic and other key selected factors was performed. Bivariate logistic regression was performed on socio-demographic and other selected key variables to examine the relationship between each factor and the dependent variable. Chi-square statistics and odds ratios with 95% confidence intervals were generated to guide interpretation.

Variables that were found with a statistically significant association ($p < 0.05$) at bivariate analysis were analyzed by multivariate analysis within logistic regression. Qualitative data were analyzed with iterative processes of data collection and analysis until point of saturation.

5.10 Data quality assurance

All data collected were checked for completeness, accuracy and consistency every day by the supervisor and the principal investigator. Any thing unclear or ambiguous were corrected on the next day. 10% of the questionnaire collected were randomly checked by the supervisor, to see whether the data collectors are doing their job properly. The principal investigator and the supervisor were closely monitoring the data collection. The data were intensively cleaned before analysis. Tape recorder was used to increase the quality of data collected by key informant interview.

5.11 Ethical considerations

The study was carried out after getting permission from the Institutional Review Board of Addis Ababa University Medical Faculty. Data were collected after getting written consent from the regional health bureau and informed verbal consent from all study participants.

The objectives of the study were discussed with each participant; privacy and confidentiality were maintained during and after the interview. At the beginning and the end of each interview, data collectors disclose that we are grateful to the study subjects for they are willing and giving their time to participate in the study.

6. Results

6.1 Socio-demographic profile

The response rate was 93.1%, 134 of the 144 participants.

The sex distribution of study participants showed that 42 (31.3%) were males giving to nearly 0.46 to 1 sex ratio. Among the total 57 (42.5%) were within the age of 20-29 years old with a mean age of 34 years.

Regarding service year of the participants 75 (56%) of them have less than 10 year of services and most 104 (77.6%) have 1-3 years of service in current position. Distribution of level of education showed that health workers with diploma constituted 65 (48.5 %), all were nurses. Degree holders constituted 39 (29.1 %), among them 7 were medical doctors, 14 health officers and 18 were Bsc nurses. Over half of the participants 92 (68.7%) have a salary ranging from 500-1500 ETH.BIRR.

Around 50 (37%) of the participants were from VCT and ART clinics and 37 (27.6%) were from the administrative departments. Regarding the position of the participants in the organization 21 (15.7%) were medical directors, 23 (17.2%) VCT focal persons, 18.7% PMTCT focal persons, 21 (15.7%) were PICT focal persons, 25 (18.7%) ART focal persons and 19 (14.2%) were statisticians (Table 1).

Table 1 Socio-demographic characteristics of study participants, Addis Ababa 2009

Characteristics	frequency	%
Age (years)		
20-29	57	42.5
30-39	38	28.4
40+	39	29.1
Sex		
Female	92	68.7
Male	42	31.3
Educational background		
Degree holders	39	29.1
Diploma nurse	65	48.5
Others	30	22.4
Total Year of service		
1-10	75	56
11-20	29	21.6
21+	30	22.4
Year of service in the current position		
1-3	104	77.6
4+	30	22.4
Monthly Salary		
500 – 1500	92	68.7
1501+	42	31.3
Departments		
Administrative	37	27.6
OPD &MCH	47	35.1
VCT&ART clinic	50	37.3
Position in the organization		
Medical director	21	15.7
VCT focal person	23	17.2
PMTCT focal person	24	17.9
PICT focal person	22	16.4
ART focal person	24	17.9
Statistician	20	14.9
TOTAL	134	100

6.2 Quality of VCT data

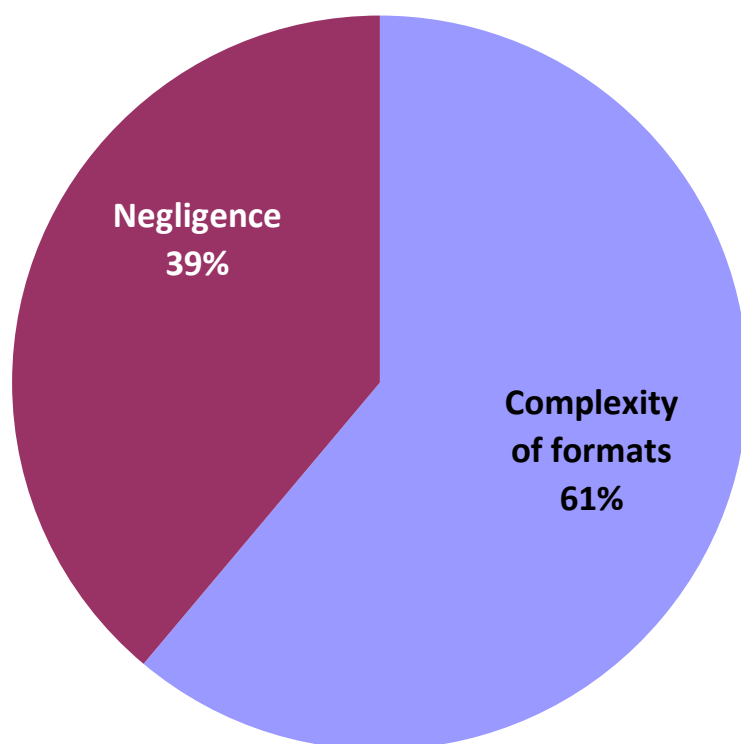
All study participants reported that they have handled VCT data. Majority 98 (73.1%) collect VCT data primarily from the client, 36 (26.9%) collect the data from VCT clinic and 8 (6%) collect the data from laboratory department. With regard to reporting of VCT data 120 (89.6%) report on time to respective organization whereas the remaining showed 1-5 days of delay than expected with the average delay of 2 days. All 14 (100%) that report delayed disclosed overburden of focal persons as the primary reason for the delay. In addition negligence 4 (28.6%) and lack of capacity to compile and report 2 (14.2%) were ascribed as the reason for the delay of reports.

Majority of the participants 116 (86.6%) agreed that VCT data was consistent. Out of 14 participants who believe that the data is inconsistent, 11 (61.1%) gave complexity of the format as a reason for data inconsistency and 7 (38.4%) were identified negligence as a reason for the inconsistency of VCT data (figure1).

VCT data was disaggregated by important variables almost by all 131 (97.7%) of the participants of the study. Disaggregation by sex was 127 (96.9%); age 128 (97.7%), marital status 32 (24.4%), residence 22 (16.8%) and others like occupation, employment status 11 (8.4%). Absence of variables in the formats by two participants and negligence by one participant were the reasons given for failure to disaggregate the data.

Majority 127 (94.8%) of the participants believe that accountability improves data quality as explained by timeliness, consistency & disaggregation; and most of them 115 (85%) believe that information utilization by those who produce the service increase data quality. Also 122 (91%) of them agree that data quality affects data utilization (figure 1 & table2).

Figure 1 Reasons for VCT data inconsistency by health center employees, Addis Ababa 2009 (n=18).



6.3 VCT data analysis

Some of the participants 36 (26.9%) have experience in data analysis and 32 (23.9%) in VCT data analysis. Nineteen (14.2%) of the participants were trained on data analysis, out of which 15 by health bureau and 4 by NGOs. The training days ranged from 3-30 days, the average being 11 days. None of the participants were trained in data utilization (table 2).

6.4 Reported factors affecting data utilization

Twelve (9%) of the participants reported that they were supervised by their respective supervisors in the last three months. During this time nine of them were supervised once and three of them were supervised twice. Most of the participants 127 (94.8%) believe that supervision improves information use. Majority 127 (94.8%) report monthly/quarterly reports and only thirty-eight (28.45%) disclose that they got feedback to their reports. Majority 122 (91%) believe that feedback motivates information utilization (figure2).

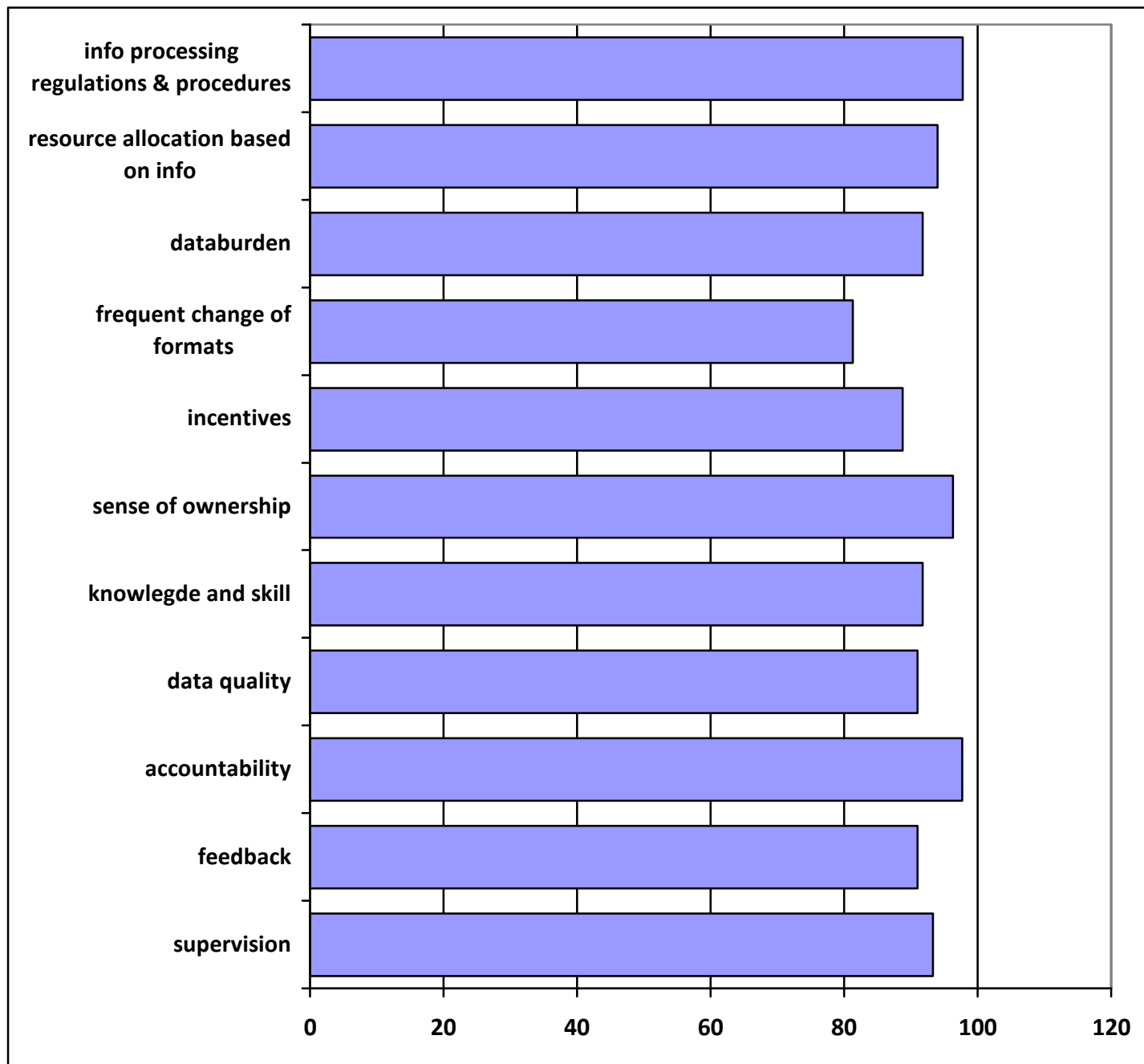
As shown in figure 2, majority 128 (95.5%) of the participants agreed that accountability held for performance through the use of result-based indicators, 126 (94%) believe that resource allocation based on data or information, 123 (91.8%) believe that knowledge and skill, 131 (97.8%) believe that presence of standard information processing procedures and regulations increase information use. Also sense of ownership on VCT data, incentives and perception and attitudes of senior management on VCT data utilization for strategic information were reported by 129 (129%), 119 (88.8%), 124 (92.5%) of the participants respectively as they affect VCT data utilization (figure 2).

Majority of the participants 121 (90.3%) disclose that they have sense of ownership on the VCT data they handle. Fourteen (10.4%) of the participants reported that their organizations have standard information processing procedures and regulations and sixty-seven (50%) of the participants reported that their unit/ department have key indicators with charts and/or tables.

Table 2 characteristics linked with data handling by health center employees,
Addis Ababa 2009

Characteristics	frequency	%
VCT data analyzed regularly		
Yes	32	23.9
No	102	76.1
Data reported on time		
Yes	120	89.6
No	14	10.4
Data disaggregated by important variables		
Yes	131	97.7
No	3	2.3
Data have consistency		
Yes	116	86.6
No	18	13.4
Feedback given regularly		
Yes	38	28.4
No	96	71.6
Accountability improves data quality		
Yes	128	95.5
No	6	4.5
Training for data analysis		
Yes	19	14.2
No	115	85.8
Training for data utilization		
Yes	0	0
No	134	100
Supervision by respective supervisors		
Yes	12	9
No	122	91
Sense of owner ship		
Yes	121	90.3
No	13	9.7
Presence of standard info processing procedures & regulations		
Yes	14	10.4
No	120	89.6
Key indicators with chars And tables		
Yes	67	50
No	67	50
TOTAL	134	100

Figure 2 Reported factors of health center employee's on variables that affect data utilization, Addis Ababa 2009. (n=134)



6.5 Formats and reporting systems of VCT data

More than half of the participants 81 (60.4%) reported that they do report to multiple stakeholders; and among them 56 (67.5%) utilized different reporting formats. Majority of the participants 105 (78.4%) believe that utilizing different reporting formats affect data utilization. Twelve (9%) of the participants report frequent change of formats in their organization and 108 (81.3%) believe that this does affect data utilization.

With regard to format content, 93 (69.4%) reported that reporting formats contain all relevant data elements and 42 (31.3%) agreed that reporting formats are overburdened with unnecessary data elements. Majority believe that data burden affect data utilization (table 3).

Table 3 Formats and VCT data reporting situation of health centers, Addis Ababa
2009

Characteristics	frequency	%
Formats contain relevant information		
Yes	93	69.4
No	41	30.6
Formats overburdened with unnecessary data elements		
Yes	42	31.3
No	92	68.7
Frequent change of reporting formats		
Yes	12	9
No	122	91
Report to multiple stake holders		
Yes	81	60.9
No	53	39.6
Utilizing different reporting formats (n=81)		
Yes	55	67.9
No	26	32.1
TOTAL	134	100

6.6 Utilization of VCT data

In terms of data utilization 24 (17.9%) of the participants utilized VCT data for service management, 22 (16%) utilized for planning, 52 (38.8%) utilized for performance evaluation, 32 (23.9%) utilize for monitoring of activities and 7 (5.2%) utilized for audit of logistics. 12 (9%) of the participants utilized VCT data for health education; among them 11 utilized the data at health centers, 2 in youth clubs, 3 in the school, 4 in kebele forums and 4 in others places like women's association (table 4).

Table 4 data utilization pattern among health center employees, Addis Ababa
2009

Characteristics	Frequency (n=134)	Proportion	Proportion (95% CI)
Data utilization for planning	22	16.4	10.1 – 22.7
Data utilization for Monitoring of activities	32	23.9	16.7 – 31.1
Data utilization for Performance evaluation	52	38.8	30.5 – 47
Data utilization for audit of logistics	7	5.2	1.4 – 8.9
Data utilization for health education	12	9	4.2 - 13.8
Data utilization for advocacy	5	3.7	0.5 - 6.9
Over all data utilization	30	22.4	15.3 – 29.5

6.7 Socio-Demographic correlates of data utilization

Socio-demographic and other important (key) selected variables in relation to data utilization were analyzed by bivariate and multivariate analysis using logistics regression model. Data utilization was compared with socio-demographic variables: age, sex, total year of services, year of service in current position, salary, educational status, department and position in the organization of the participants.

Age was identified as the only socio-demographic variable that is significantly associated with data utilization. Being old (40+) participant was shown to positively impact data utilization with adjusted odds ratio AOR (95%CI) = 3.92 (1.07, 13.26). Total years of service were significantly associated with data utilization in bivariate analysis, but failed to show significant association in multiple logistic regression analysis. The remaining socio-demographic variables didn't show any associations with data utilization (table 5).

Data utilization was also compared with other important (key) selected variables: data reported on time, consistency of data, data burden, experience in data analysis, experience in VCT data analysis, key indicators with charts and tables, training on data analysis, feedback to reports and utilization of different reporting formats.

Among these variables experience in VCT data analysis was the only important (key) selected variable that showed significant association with the prevalence of VCT data utilization. Being experienced in VCT data analysis looked to be an enabling factor for VCT data utilization with AOR (95%CI) = 3.42 (1.24-9.40). Experience in data analysis and utilizing different reporting formats that were significantly associated with VCT data utilization in bivariate analysis, failed to show significant association in multiple logistic regression. All other important (key) selected variables didn't show any association with VCT data utilization (table 6&7).

Table 5 Relationship between socio-demographic variables and data utilization of health center employees, Addis Ababa 2009

variables	Data utilization		OR (95% CI)
	<u>Yes (%)</u>	<u>No</u>	<u>Crude</u>
Age			
20-29	8 (14)	49	1.00
30-39	8 (21.1)	30	1.63 (0.55 - 4.8)
40+	14 (35.9)	25	3.44 (1.27 - 9.25)
Sex			
Male	11 (26.2)	31	1.00
Female	19 (20.7)	73	0.73 (0.31-1.72)
Educational background			
Degree	11 (28.2)	28	1.57 (0.67 - 3.71)
Diploma & certificate	19 (20)	76	1.00
Total year of service			
1-10	12 (16)	63	1.00
11+	18 (30.5)	41	2.30 (1.01-5.01)
Year of service in current Position			
1-3	21 (20.2)	83	1.00
4+	9 (30)	21	1.69 (0.68 - 4.23)
Monthly salary			
500-1500	20 (21.3)	72	1.00
1500+	10 (23.8)	32	1.13 (0.48 - 2.67)
Department			
Administrative	12 (32.4)	25	2.11 (0.89 - 4.97)
clinics	18 (18.6)	79	1.00
Position in the organization			
Administrative	13 (32.5)	27	2.18 (0.94 - 5.08)
Focal persons	17 (18.1)	77	1.00

Table 6 comparison of data utilization by selected variables among health center employees, Addis Ababa 2009

Characteristics	Data utilization		OR (CI 95%)
	<u>Yes (%)</u>	<u>No</u>	<u>Crude</u>
Data reported on time			
Yes	27 (22.5)	93	1.07 (0.28 - 4.09)
No	3 (21.4)	11	1.00
Data have consistency			
Yes	28 (24.1)	88	2.54 (0.55 -11.71)
No	2 (11.1)	16	1.00
Data burden			
Yes	27 (22)	96	0.75 (0.19 -3.02)
No	3 (27.2)	8	1.00
Experience in data analysis			
Yes	13 (36.1)	23	2.69 (1.14 - 6.35)
No	17 (17.3)	81	1.00
Experience in VCT data analysis			
Yes	14 (43.8)	18	4.18 (1.74 -10.07)
No	16 (15.7)	86	1.00
Key indicators with charts & tables			
Yes	17 (25.4)	50	1.41 (0.62-3.20)
No	13 (19.4)	54	1.00
Training on data analysis			
Yes	6 (31.6)	13	1.75 (0.60 -5.09)
No	24 (20.9)	91	1.00
Feedback given regularly			
Yes	10 (26.3)	28	1.36 (0.57-3.25)
No	20 (20.8)	76	1.00
Utilizing different reporting formats			
Yes	9 (16.1)	47	0.33 (0.11- 0.94)
No	10 (37.0)	17	1.00

Table 7 variables that show significant association with data utilization among health center employees, Addis Ababa 2009

Characteristics	OR (CI 95%)	
	<u>Crude</u>	<u>Adjusted</u>
Age		
20-29	1.00	1.00
30-39	1.63 (0.55 - 4.8)	1.27 (0.21- 8.38)
40+	3.44 (1.27 - 9.25)	3.92 (1.01-15.66)*
Total year of service		
1-10	1.00	1.00
11+	2.30 (1.01-5.01)	3.29 (0.26-4.23)
Experience in data analysis		
Yes	2.69 (1.14 - 6.35)	1.50 (0.54-4.13)
No	1.00	1.00
Experience in VCT data analysis		
Yes	4.18 (1.74 -10.07)	3.42 (1.02-10.10)*
No	1.00	1.00
Utilizing different reporting formats		
Yes	0.33 (0.11- 0.94)	0.38(0.13-1.14)
No	1.00	1.00

- *indicates P value < 0.05 with adjustment
- Age, total year of service, experience in data analysis, experience in VCT data analysis, utilizing different reporting formats and sex were analyzed in adjustment.

7. Discussion

This institution based cross-sectional survey study attempted to assess VCT data utilization for strategic information in Addis Ababa. The response rate was 93.1%, 134 of the 144 participants. Compared to other studies, it is a higher response rate. All of the non-respondents were not available during the interview and repeated visit was tried but they were totally absent.

In this study, VCT data utilization based on the criteria set was 22.4%. This is comparable to the study in Gondar and Uganda, which was 22.5 % & 20% (7, 15), but higher than the results reported from Ghana (10%) (6). This may be due to the fact that VCT is one of the most prioritized programs that got attention of the government, both at national and international NGOs, including other partner organizations. This in turn exhibited by better data collection, reporting, and fair updating of data recording and reporting formats.

There is a general consensus in scholars that data quality is one of the determinant factors that affect data utilization and is very poor in developing countries partly because of weak health information system (1). In this study, data quality which is measured by timely report (89.6%), data disaggregation by important variables (97.7%) and data consistency (86.6%); is high compared to the reports from FMOH (8). This may be partly due to training on data recording and reporting, supervisions on recording and reporting by NGOs working in VCT programs. Though VCT data quality is good, its utilization for strategic information was low. This shows that data quality alone doesn't affect data utilization much.

Absence of variables in the formats by two participants and negligence by one participant were the reasons given for failure to disaggregate the data. With regard to reporting of VCT data 14 (10.4%) showed 1-5 days of delay than expected with the average delay of 2 days. All 14 that report delayed disclosed overburden of focal persons as the primary reason for the delay. In addition negligence 4 (28.6%) and lack of capacity to compile and report 2 (14.2%) were ascribed as the reason for the delay of reports.

In the study, 85% of the participants believe that data utilization by those who produce the service/data increases data quality. But in practice data utilization is very low. This in part can be explained by lack of organizational standards of information processing procedures and regulations, and by lack of training, supervision and feedback. In addition low data utilization can be explained by lack of organizational condition to utilize data for service management. Although decentralization is the principal country's health policy, strategic management activities like planning aren't yet performed by health centers (9).

The study showed that being older age increases the likelihood of VCT data utilization for strategic information. Participants who were 40 years old and above were more than 3 times more likely to utilize VCT data than those who were 20-29 years old. This may be due to the fact that those who are above forty may be more experienced, got better training opportunity and assigned on managerial positions.

It was showed that those participants who are able to analyze VCT data were more than 3 times more likely to utilize VCT data for strategic information. It is true that those who are able to analyze data are better in utilizing it for management activities as both are related to each other. Unless data is analyzed its utilization is impossible. From this point of fact the need for training on data analysis is unquestionable. However the study showed that it was only 19 (14.2%) of the participants who were trained on data analysis. This figure is very low, for a program that got great attention from the government and supported by many NGO's. It went worse with training on data utilization. The study showed that none of the participants were trained on data utilization. This is a shining paradox in a country where decentralization is a primary health policy and decision making assumed to be done at a lower level of the health system (9).

Similarly, participants of the in-depth interview disclose anonymously that they lack knowledge on data utilization. This was explained partly by lack of supportive supervision conducted, absence of feedback given to health centers on data utilization and lack of training at all on data utilization. Also they reported that so far no attempt was made to enhance the knowledge or the awareness of the health center staffs on utilization of data. This is partly due to the fact that HMIS is a relatively new discipline to the country health system though it was embedded in public health since the age of public health.

The government institutions and NGOs that are currently working in the areas of health information system primarily focused on data recording and reporting issues to improve the quality of health data. This is partly the reason why knowledge and skills of data utilization remain sitting in the backside of the truck.

In this study, supervision on VCT data utilization in the last three months was 9%. Out of twelve, nine were supervised once and three were supervised twice. This is contrary to the finding of the in-depth interview with sub city focal persons. They reported lack of supervision made pertaining to data utilization. The disparity could be due to failure to differentiate between supervision of technical/service rendering activities with that of supervision of data utilization. In fact supervision of health center VCT activity is conducted at least once in every quarter; otherwise no supervision conducted to support VCT data utilization. This is contrary to scientific literatures, as there is a scholarly consensus that supervision on data utilization by the respective supervisors increase data utilization (1).

Although there is no quantifiable level of feedbacks to reports of health centers, there is no question on the importance of feedback to health center reports especially in situations where decisions are expected to be done at the lower level of the health system (1). In the study, monthly or quarterly reports of health centers were 94.8%. However the feedbacks to health center reports were only 28.45%. This is very low, based on the general consensus of the scholars, as health centers are expected to make decisions on their tasks. In addition to small proportion, feedbacks weren't program focused. They generally addressed the performance of the health center as whole. These in turn create difficulty to take feedbacks and utilize them to improve the service.

Presence of standard information processing procedures and regulations is one of the key factors that affect information utilization (1). This study showed that only 10.4% of the health centers have standard information processing procedures and regulations. Standard information processing procedures and regulations are very useful in that owing it will result in uniform data collection, processing, analysis and utilization of information. Accountability will also be attached to data utilization if there is standardized information processing procedures and regulations. Despite these facts, the situation in the health centers as revealed by the study was desperately low.

Assessment of sense of ownership on VCT data was 90.3%. This is a very good practice as data quality is affected by sense of ownership on the data. Those who have sense of ownership on the data will be more careful in data collection, compilation, disaggregation and report of the data (1). Though it increased the quality of the data, the end result i.e. utilization of information was low. This shows that other factors should also be fulfilled to increase VCT data utilization by health centers.

The findings of the study revealed that 88.8% of the participants believe that incentives increase data utilization. This is in agreement with literatures (1), but no one among the participants disclosed practical applications of motivating health center employees by utilizing incentives so as to increase data utilization. Incentive alone may mean nothing, but when combined with other factors like training, supportive supervision and feedback, it may result in remarkably increased output. Incentives would be of any kind; appreciation of once endeavour could be an incentive. What matters is identifying good performance! It is therefore, motivating health center employees through incentive to increase data utilization is simple & potentially huge benefit but remains unutilized till today.

In the study, half of the participants report that their units/departments have key indicators with charts and tables. This is a bit higher than the proportion of the participants that are able to analyze data. However this could be due to the fact that health center employees have a tradition of displaying 10 top diseases, and this might be taken from that experience. As charts or tables speak more strongly than mere statistics, this is a good practice to assess and evaluate performance. Indeed it was, in the study, for performance evaluation that VCT data was most utilized by the participants of the study.

In countries where health information system is not well developed, multiple reporting is a common finding (1). This is aggravated by different NGOs that come up with their own specific recording and reporting formats that result in weakening of health information system. In the study, multiple reporting was 60.4%; among them 67 % utilize different reporting formats.

This is comparable to the literatures and is partly due to the existence of many NGOs working in VCT programs and weakness of the health information system. Multiple reporting with different reporting formats will result in vertical programs that are difficult to monitor and inconsistency of data which erodes quality of data and end up with low data utilization.

The study showed that reporting formats were overburdened in 31.1% of the formats. This goes with literatures in that formats of developing countries are overburdened with unnecessary data elements which impede the quality of data proportionally.

It was explained by the sub city health desk VCT focal persons that information use culture would develop step by step. First and for most, training is important to enable the staffs on the handling, analysis and utilization of data. It is also very imperative to have standard data processing procedures and regulations. Then, encouraging and motivating the staffs to utilize data through different mechanisms like incentives and others should come next. At the end accountability would come to reinforce all the above measures. However to create culture isn't something that happens overnight. Activities need to be persistent until the target is met.

8. Strengths & Limitations of the Study

8.1 Strengths

- The study used a triangulation method by using both quantitative and qualitative approach.
- High response rate
- As to our knowledge the study is the first attempt in the area so that the upcoming researchers might use the results as a baseline data.

8.2 Limitations

- Small sample size. Possible association might have been obscured because of small sample size. It was due to the design of the study.
- Lack of literatures to compare and contrast the results.
- The study participants were from health centers in the City, therefore the results may not be generalized to all health center employees in the country.

9. Conclusions

1. Level of VCT data utilization is low at 22.4% (15.3 – 29.5).
2. Process performance of VCT data in terms of data quality was good; however in terms of data analysis was bad.
3. Utilization was higher among older health professionals and those who analyze VCT data regularly.

10. Recommendations

To improve utilization rate of VCT data for strategic information

1. Due attention for data processing should be given.
2. In & on - service training on data processing with emphasis to utilization must be conducted
3. Young health personnel should be involved.

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Annex 1 - Structured Questionnaire

Addis Ababa University

Faculty of Medicine, School of Public Health

Consent form to certify the respondent agreement for the interview

01. Name of the institution-----

02. Questionnaire identification number-----

Introduction: my name is ----- I belong to Dr Birhane Atnafu who is the principal investigator of the research. I will request you to listen carefully to what I am going to read about the purpose and general condition of the study and tell me whether you agree or disagree to participate in this study.

Consent form

The purposes of this study are to assess VCT data utilization for strategic information and factors that affect utilization of VCT data. You are selected to be one of the participants in the study. The study will be conducted through interview. The information you give us is confidential and will be used only for study purpose. A code number will identify every participant and no names will be used. If a report of the result is published, only summarized information of the total group will appear. The interview is voluntary; you have the right to participate, or not to participate or refuse to do so at any time during the interview. Your refusal will not have any effect up on you. However, your participation is important to fulfill the study and design appropriate VCT data utilization for Addis Ababa and other similar setups.

Are you willing to participate in the study?

a. () Yes b. () No

Thank you!!

If the study subject agrees to participate in the study, start the interview.

03. Interviewer who certified that the informed consent has been given verbally from the respondents

a. Name----- signature-----

b. Code-----

c. Date-----month-----2009

04. Result

- a. Completed
- b. respondent not available
- c. refused
- d. partially completed
- e. other (please specify) -----

05. Checked by: Name -----Signature----- Date -----

NB:

- 1. No need of cohering the participant to be included in the study.
- 2. Please register the age and sex of study subjects who refuse to participate in the study

Part One: Socio-Demographic Variables

No.	Questions	Answers	Skip
1	age	-----Years (full yrs)	
2	Sex	Male-----1 Female-----2	
3	Monthly salary	-----birr Eth	
4	Total Year of service	-----specify	
5	Year of service in the current position	-----specify	
6	Unit/department	Administrator-----1 OPD-----2 Inpatient-----3 MCH-----4 VCT clinic-----5 ART clinic-----6 Others-----7	

No.	Question	Answers	Skip
7	Position in the organization	Medical director-----1 VCT focal person-----2 PMTCT focal person-----3 PICT focal person-----4 ART focal person-----5 Statistician/ HMIS focal person-----6 Others(specify)-----7	
8	Level of education	Medical doctor-----1 Health officer-----2 B.sc nurse-----3 Diploma nurse-----4 Sanitary-----5 Health assistance-----6 Grade 12-----7 Other (specify)-----8	

Part two: data handling and utilization

No.	Questions	Answers	Skip
9	Do you handle (record, report etc) VCT data?	Yes-----1 No-----2	If no, skip to Q No 18
10	If yes to Q No 8, from where do you collect the data? (Circle all that apply)	Primarily from the client-----1 From VCT clinic report-----2 Laboratory-----3	

No.	Questions	answers	skip
11	Is VCT data reported on time?	Yes-----1 No-----2	
12	If no to Q No 10 for how does it delay on average?	-----	
13	What is reason for the delay? (Circle that all apply)	The focal person is overburdened to report-----1 Lack of capacity to compile and report-2 Negligence-----3 Don't know-----4 Other (specify)-----5	
14	Does the VCT data show consistency?	Yes-----1 No-----2	
15	If no to Q No 14, what would be the reason?	The data collection format is complex-1 Data burden-----2 Lack of capacity in compiling-----3 Negligence-----4 Don't know-----5 Others(specify)-----6	
16	Is the data disaggregated by? Sex Age Marital status Residence others(specify possible options)	1.yes 2.No 1.yes 2.No 1.yes 2.No 1.yes 2.No -----	

17	If no to Q No 16, what is the reason?	The format don't contain-----1 Negligence-----2 Don't know-----3 Others(specify)-----4	
18	Do you think accountability improve timeliness, consistency, and disaggregation of VCT data?	Yes-----1 No-----2	

Part three: data analysis and utilization

No	Questions	answers	skip
19	Have you ever analyzed data?	Yes-----1 No-----2	
20	Have you ever analyzed VCT data?	Yes-----1 No-----2	If no, skip to Q 24
21	Yes to Q No 20, have you ever trained on analyzing data?	Yes-----1 No-----2	
22	If yes to Q No 21, who was the trainer organization?	Health bureau-----1 NGOs-----2 Others(specify)-----3	
23	If yes to Q No 21, duration of the training was	-----	
24	Do you think that utilization of information by those who produce the service will increase data quality?	Yes-----1 No-----2	
25	Do you utilize VCT information for service management? If yes specify	Yes-----1 No-----2	

26	Do you utilize VCT information for planning? If yes specify	Yes-----1 No-----2	
27	Do you utilize VCT information for performance evaluation? If yes specify	Yes-----1 No-----2	
28	Do you utilize VCT information for monitoring activities? If yes specify	Yes-----1 No-----2	
29	Do you utilize VCT information for audit of logistics? If yes, specify	Yes-----1 No-----2	
30	Do you utilize VCT information for health education? If yes, specify	Yes-----1 No-----2	
31	If yes to Q No 28, where do you utilize it? (Circle all that apply)	At the health center-----1 In youth clubs of the kebele-----2 In the nearby school-----3 In any forum in the kebele-----4 Where ever we are asked-----5 Others (specify)-----6	
32	Do you utilize VCT information for advocacy?	Yes-----1 No-----2	
33	Have you ever been trained on information utilization for strategic information?	Yes-----1 No-----2	If no, skip to Q N36
34	If yes to Q No 31, duration of the training was	-----	
35	Is the training improves your capacity of information use?	Yes-----1 No-----2	

36	Have you ever been supervised by your respective supervisor on VCT data utilization in the last 3 months?	Yes-----1 No-----2	
37	If yes to Q No 34, how many times?	-----	
38	Do you agree that supervision will improve information use?	Yes-----1 No-----2	
39	Do you prepare and report monthly/ quarterly reports?	Yes-----1 No-----2	
40	Did you receive feedback to your report?	Yes-----1 No-----2	
41	Do you think that feedback motivates to utilize information?	Yes-----1 No-----2	
42	Do you think that accountability held for performance through the use of result –based indicators will increase information use?	Yes-----1 No-----2	
43	Do you think that resource allocation based on data/information will increase information use?	Yes-----1 No-----2	
44	Do you think that data quality affect utilization of VCT data?	Yes-----1 No-----2	
45	Do knowledge and skill affect utilization of VCT data?	Yes-----1 No-----2	
46	Does your organization have standard information processing procedures and regulations?	Yes-----1 No-----2	

47	Do presence of standard information processing procedure and regulation increase information utilization?	Yes-----1 No-----2	
48	Do you have sense of ownership on the VCT data?	Yes-----1 No-----2	
49	Does sense of ownership affect utilization of VCT data?	Yes-----1 No-----2	
50	Does the perception and attitude of senior management towards utilization of VCT data for strategic information affect your information utilization?	Yes-----1 No-----2	
51	Does an incentive increase information utilization for strategic information?	Yes-----1 No-----2	
52	Does the unit/department have key indicators with charts, tables?	Yes-----1 No-----2	
53	Do you report to multiple stakeholders? If yes specify	Yes-----1 No-----2	
54	If yes to Q No50, do you utilize different reporting formats? If yes show evidence	Yes-----1 No-----2	
55	Do you think that utilizing different reporting formats affect data utilization?	Yes-----1 No-----2	
56	Do reporting formats change frequently?	Yes-----1 No-----2	

57	Do you think that frequent change of formats affect data utilization?	Yes-----1 No-----2	
58	Do the reporting formats contain all the relevant information?	Yes-----1 No-----2	
59	Do the reporting formats overburdened with unnecessary data elements? If yes, show evidence	Yes-----1 No-----2	
60	Do you think that data burden affect utilization of data?	Yes-----1 No-----2	

Thank you very much for you are willing to participate and taking time to answer these questions.

Annex 2 - interview guide / discussion points for key informant interviews

1. How is the quality of reports from health centers? In terms of timeliness, consistency and disaggregation.
2. How are the data sets? Burden, relevance
3. How are multiple reports and utilizing different reporting formats affect utilization of data?
3. How do you make decisions concerning VCT service management? Do you utilize VCT data for decision making?
4. How do you analyze and utilize data for strategic information? Have you ever been trained on analyzing and utilizing data?
5. How are the feedbacks mechanisms and supportive supervisions to health centers on VCT data reporting and utilization?
6. Would you explain the factors that affect data utilization for strategic information?
7. How does information use culture developed?

Thank you for you are willing and giving time to answer theses questions.

Annex 3

Information sheet and Verbal consent form for key informants

My name is _____. I am the principal investigator of the research entitled “Assessment of utilization of VCT data for strategic information in Addis Ababa”. The research is going to be conducted for the partial fulfillment of Master thesis for M.Sc in Health Information in the department of Health Informatics. The objective of the study is to assess utilization of VCT data for strategic information in Health centers of Addis Ababa.

The result of the study will upgrade the current data utilization pattern, information use culture and data analysis to yield information. Finally the result will enormously contribute in the battle of combating HIV-AIDS by fostering utilization of VCT Data for strategic information.

As you are involved in decision making concerning services related to HIV- AIDS that utilize VCT data your participation in the study is valuable. You are selected because of your expertise to share your wealth of knowledge and experience on the stated issue. Your participation in the study is completely based on your will and will not loose any thing by not participating in the study. You can discontinue the discussion at any time you want to do so.

I should assure you that no one except the interviewer will know that you took part in the study. Tape recording and note taking will be taken not to forget any information you are telling us, and to increase the accuracy and efficiency of data collection. We will not record or write your name or other personally identifying information during the discussion. Audiotapes and notes will be discarded after being used. No report produced from this research will include the names of the study participants. Your participation in this study is crucial to improve the service delivery. May I now ask you to participate in this study?

1. Yes, I will participate
2. No, I will not participate

Declaration

I, the undersigned, declare that this thesis is my original work in partial fulfillment of the requirement for the degree of Masters of Science in Health Informatics and has not been presented for a degree in this or any other university. All sources of materials used for this thesis and all people and institutions who gave support for this work have been duly acknowledged.

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Date of submission: **21 July, 2009**

This thesis has been submitted for the examination with our approval as the University advisors.

Name of advisors

Signature

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