



An Assessment of the Knowledge, Attitudes
and Practices of Health Workers towards the
Anti-Retroviral Therapy (ART) Accreditation
Program

May 2014

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Contents

Acknowledgements	iv
Acronyms	v
Executive Summary	1
1.0 Background	2
2.0 Study Goal	3
3.0 Methodology	3
3.1 Study Design	3
3.2 Data Collection Tools	4
3.3 Limitations	4
3.4 Data Analysis	5
4.0 Survey Findings.....	6
4.1 Survey Demographics	6
4.2 Knowledge	9
4.3 Attitude.....	13
4.4 Practices	15
4.5 Qualitative data from the Focus Group Discussions	19
5.0 Discussion.....	21
6.0 Conclusion	23
7.0 Recommendations	24
8.0 References.....	25
Appendix A: Sampled number of survey respondents by province and health facility.....	26
Appendix B: General Survey Questionnaire	27
Appendix C: Focus Group Discussion Guide for Service Users.....	35

List of Tables

Table 1: Age groups of health providers surveyed (n=155)	7
Table 2: Surveyed respondents by health personnel cadre, (n = 155)	7
Table 3: Years of experience working in the ART department for all 7 cadres (n = 155).....	7
Table 4: Trainings attended by surveyed health personnel, (n = 155).....	8
Table 5: Awareness of various requirements for ART accreditation (n = 155).....	11
Table 6: Responses and mean scores on attitude statements (n = 155)	14
Table 7: Distribution of respondents by number of clients attended to per day, and time spent on each client (n = 86).....	15
Table 8: Access to MOH guidelines relevant to HIV care and treatment among doctors, COs, nurses, and counsellors (n = 86).....	16
Table 9: Likely action taken for given scenario (n=86, Doctors, COs, nurses and counsellors).....	17

List of Figures

Figure 1: Gender of health providers surveyed.....	6
Figure 2: Location of health providers surveyed	6
Figure 3: Distribution of respondents by number of years worked at the ART department (Doctors, COs, Nurse, Counsellors, n = 86)	8
Figure 4: Awareness of ART accreditation program by health personnel, by cadre (n = 155)	9
Figure 5: Health personnel knowledge of whether the facility is accredited for ART (n = 155).....	9
Figure 6: Knowledge of key departments necessary for ART accreditation (n = 155)	12
Figure 7: Respondents' views on the advantages of ART accreditation (n = 155).....	12
Figure 8: Do you think all facilities should be accredited (n = 155).....	13
Figure 9: Reasons given for all facilities to be accredited (n = 155)	13
Figure 10: Per cent of surveyed professionals (by cadre) that work full time in the ART department (n=86).....	15
Figure 11: Action taken in case of complication (Doctors, COs, nurse, counsellors, n = 86).....	17
Figure 12: Means of communication by ART staff with their supervisor (n = 132, Doctors, COs, Nurse, Counsellors, laboratory and pharmacy).....	18

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Acronyms

AIDS	Acquired Immune Deficiency Syndrome
ART	Anti-Retroviral Therapy
ARV	Anti-Retroviral (medication)
CO	Clinical Officer
DHIS	District Health Information System
DILSAT	District Integrated Logistics Self-Assessment Tool
FGD	Focus Group Discussion
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HPCZ	Health Professions Council of Zambia
KAP	Knowledge Attitude and Practices
MCDMCH	Ministry of Community Development, Mother and Child Health
MOH	Ministry of Health
MP	Medical Practitioner
OI	Opportunistic Infections
PLHIV	Persons Living With HIV
PMTCT	Prevention of Mother to Child Transmission (of HIV)
QA	Quality Assurance
QI	Quality Improvement
SPSS	Statistical Package for Social Sciences
TB	Tuberculosis
USAID	United States Agency for International Development
ZISSP	Zambia Integrated System Strengthening Program

Executive Summary

The Government of the Republic of Zambia, through the Ministry of Health, first implemented the anti-retroviral therapy (ART) site accreditation program in 2007 under the auspices of the Health Professions Council of Zambia (HPCZ). In 2012, HPCZ requested the USAID-funded Zambia Integrated Systems Strengthening Program (ZIISP) to support a Knowledge, Attitudes and Practices (KAP) survey on the ART accreditation program to generate data that would strengthen decision making and policy formulation.

The study employed a non-interventional cross sectional survey of 155 employees representing seven professional cadres working in 25 accredited ART clinics. The study also collected qualitative data from ART clients receiving services at two health facilities per province through focus group discussions (FGDs), which were held at the time the research assistants visited the facilities to interview the health professionals.

Of the 155 respondents that were surveyed, the median age was 36 years (range 20 – 60) and 57% were male and 43% were female. Two-thirds worked in urban health facilities. The mean number of years worked at the ART department for health professionals (doctors, clinic officers (COs), nurses, and counsellors, n=86) was 3.5 years.

The survey revealed that awareness of the ART accreditation program varied by cadre, with an average of 78% awareness by medical doctors, nurses, pharmacy staff and data management officers, and lower awareness (average of 52%) for COs, counsellors and laboratory personnel. The majority of health personnel (>70%) indicated that they were aware that their facility was accredited. The survey identified lack of awareness of critical guidelines for provision of ART services, including the HPCZ accreditation guideline (28% awareness). The majority of the surveyed participants had positive attitudes about accreditation, with 81% having the opinion that all health facilities providing ART services in the country should be accredited. In terms of practice, the study found that the ART-accredited sites had high patient-provider ratios, with health professionals attending to an average of 54 ART clients per day. Through the FGDs, ART clients shared that they felt they were usually treated well and given enough information by the ART staff. However, the clients felt that the accredited ART facilities were not doing a good job in managing client appointments, attending to clients in an efficient and orderly manner on ART days and managing long queues.

The findings of the study suggest a need for HPCZ to sensitize health staff and their supervisors about the ART accreditation program in order to increase knowledge and awareness of what accreditation entails. Positive attitudes that already exist amongst health professionals about accreditation will support the sensitization process. Other recommendations relate to the need for ART accredited sites to continuously monitor their adherence to the standards, including the need for Quality Assurance Committee formation to ensure continued quality provision of ART services.

1.0 Background

Zambia is burdened with an HIV epidemic that emerged in the late 1980s. As of 2012, the country had an HIV prevalence rate of 12.7% among adults ages 15 to 49 years¹, with an approximate annual infection rate of around 56,000². With an ever-increasing number of Zambians needing HIV care and treatment, the government's health care costs have been increasing rapidly over time. A scenario in which high service usage is not matched by increased resource inputs increases the risk of compromising quality of care.

The Ministry of Health (MOH) of the Government of the Republic of Zambia recognized that an accreditation system was necessary to monitor the quality of services in the health sector. An accreditation program for sites providing Anti-Retroviral Therapy (ART) services was first implemented in 2007 under the auspices of the Health Professions Council of Zambia (HPCZ) (formerly known as the Medical Council of Zambia). The minimum acceptable standards for accreditation of an ART site include the following:

1. HIV care and ART team leadership [a focal point person] to provide supervision
2. The site should have the recommended MOH national guidelines, protocols and standard operating procedure manuals for ART services
3. Comprehensive HIV and related services, based on a list of mandatory services and a list of desirable services
4. Laboratory capacity to do basic recommended tests, with appropriate staffing and quality control systems in place
5. Reliable data collection system for maintaining patient medical records, including patient tracking system and program monitoring and evaluation
6. Human resource capacity, with certified staff and a continuous professional development system
7. Pharmaceutical and logistical management information system with appropriate staff

During implementation, various challenges for both the HPCZ and the ART sites were revealed, including lack of adequately trained assessors to meet the demands of emerging numbers of ART sites, lack of national guidelines at ART sites, and lack of certified staff.

As a result, stakeholders felt that the ART site accreditation activities were unattainable within the existing standards of health in Zambia at that time. This sentiment led to the review of accreditation guidelines to respond to the prevailing standards of healthcare in Zambia. The revised guidelines were updated and an implementation plan drawn. The updated accreditation plan was rolled out in three phases:

- Phase I: A pilot targeting 45 ART sites during 2007
- Phase II: Expansion of the pilot, targeting 105 ART sites during 2008
- Phase III: Roll-out to all ART sites during 2009-2012

¹ Joint United Nations Programme on HIV/AIDS (UNAIDS. (2013). "Global report: UNAIDS report on the global AIDS epidemic 2013." World Health Organization. Geneva, Switzerland: Page A8.

² Ibid, page A26.

At the start of the roll out phase in 2009, of the 358 ART sites at that time in the country, 177 had been assessed and 60 (17%) were accredited (45 public, 15 private). By June 30 2012, Zambia's ART sites had increased to 450, of which 134 sites (30%) had been accredited.

The HPCZ engaged in on-going compliance monitoring exercises at each accredited ART site to ensure that sites maintained adherence to the accreditation standards. The compliance monitoring revealed variations at health facilities over time; some health facilities improved, while others lost their accreditation. Rapid staff turnover at health facilities often disrupted certified clinical teams (required by the standards), increasing the risk of provider-induced resistance to ART. In addition, restructuring of establishments within the MOH caused disruption to provincial assessment teams.

HPCZ identified a further need to evaluate the role of accreditation in provision of ART services. In 2012, HPCZ requested the Zambia Integrated Systems Strengthening Program (ZISSP) to support and facilitate a knowledge, attitudes and practices (KAP) survey on the ART accreditation program in Zambia. Funded by the United States Agency for International Development (USAID), these efforts culminated in this report.

2.0 Study Goal

The goal of the study was to assess the KAP of health personnel working in accredited ART clinics towards the ART accreditation program in Zambia. The study findings would inform HPCZ on ART service provision in the country for use in strengthening policy formulation and decision-making, with the ultimate goal of improving quality of services.

3.0 Methodology

3.1 Study Design

The study employed a non-interventional, cross-sectional survey of health professionals working in accredited ART clinics of health facilities from around the country. The survey included both quantitative and qualitative data collection methods.

The study sampling frame was all accredited ART sites (n=134) located in various provinces and districts of Zambia as of June 2012. Health facilities and personnel were selected for the study using the following multi-stage sampling technique:

- Stage 1: Purposive sampling of five provinces (out of the ten in Zambia), based on the following criteria:
 - Province has a minimum of five accredited ART sites
 - Of the five provinces to be selected, three should be along the “line of rail” (Lusaka, Southern, and Copperbelt), and the other two predominantly rural

- Province has both public hospitals and urban health centres, and at least one private ART clinic
- Stage 2: Purposive selection of five health facilities from each of the five sampled provinces based on the following criteria:
 - One of the facilities to be a private ART clinic
 - The other four facilities to be any combination of public hospitals and urban health centres
 - Facilities that are easy to access by road
- Stage 3: Selection of one of each of the seven standard types of health personnel working in each sampled accredited ART clinic (as defined by HPCZ) for an interview. These seven health personnel constituted the standard team: Medical practitioner, clinical officer (CO), general nurse, counsellor, laboratory personnel, pharmacy personnel, and data management officer.

A total of 175 health professionals from 25 facilities were targeted for a survey interview. Appendix A shows the provinces and health facilities that were sampled to be visited for the study.

Of the five sampled health facilities in each of the five sampled provinces, two facilities (one urban, one rural) were purposively selected for focus group discussions (FGD) with ART clients. In each selected facility, a convenience sample of five to ten ART clients was selected for FGDs. A total of 72 ART clients participated in the FGDs.

3.2 Data Collection Tools

A survey data collection tool (Appendix B) was developed for the collection of quantitative data. Research assistants administered the tool through face-to-face interviews with health personnel. A FGD guide (Appendix C) was developed for the collection of qualitative data from clients who utilized the services at the selected accredited ART sites.

3.3 Limitations

1. The study employed purposive sampling when picking accredited ART sites, selecting those sites which were easily accessible to visit, resulting in more urban sites with larger patient populations. This sampling method could have reduced the chances of picking a representative sample for all the sites that were accredited at the time.
2. The ART clients that participated in the FDGs were conveniently picked at the time the research assistants visited the facilities. Thus, they are not a representative sample of all ART clients that accessed services from respective health facilities.

3.4 Data Analysis

We analysed the quantitative survey data with Statistical Package for Social Sciences (SPSS) version 17 (IBM Corp, 2012).

We transcribed the recorded discussion sessions from the various FGDs into separate Microsoft Word documents. A simple matrix table was developed to aid in the thematic analysis of the FGD transcripts.

4.0 Survey Findings

This chapter presents study findings. Quantitative data are in numerical and graphic forms, while the qualitative data are presented verbatim, thematically arranged in their categories.

4.1 Survey Demographics

A total of 155 healthcare providers (89 males, 66 females) were interviewed for the KAP survey (Figure 1). The median age of the respondents was 36 years. More urban health providers were surveyed than rural, with 104 respondents working in urban facilities and 51 in rural facilities (Figure 2) at the time of the survey.

Figure 1: Gender of health providers surveyed

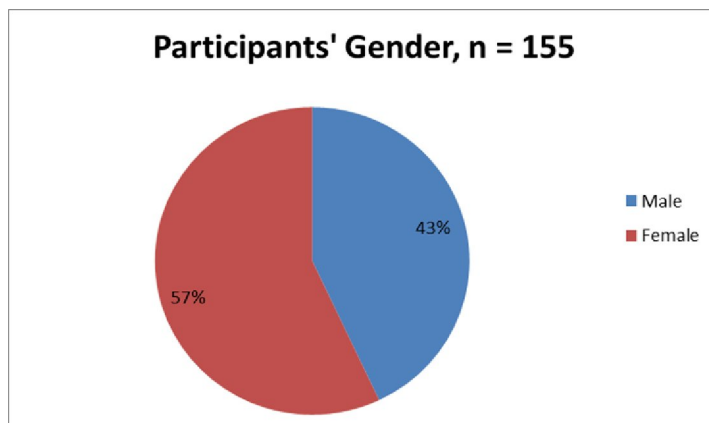
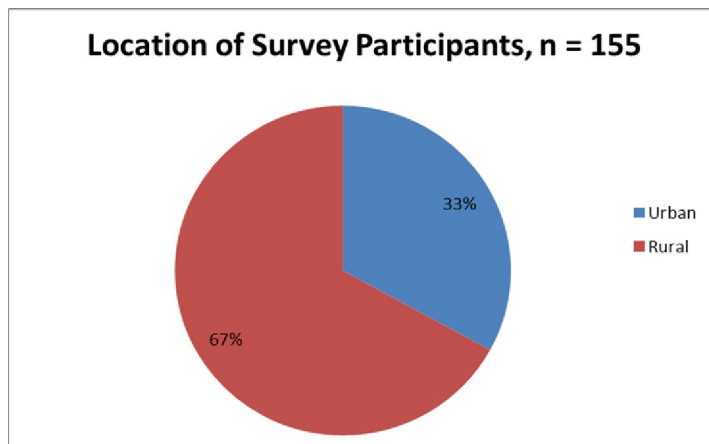


Figure 2: Location of health providers surveyed



Almost all the respondents (99%, n=153) were in the age range of 20 to 60, with the plurality (37%) between the ages of 30 and 39 years (Table 1).

Table 1: Age groups of health providers surveyed (n=155)

Age	n	Per cent
20 to 29	35	23%
30 to 39	58	37%
40 to 49	42	27%
50 to 59	18	12%
Over 60	2	1%

There was relatively even distribution of the seven types of targeted health personnel represented in the study sample (Table 2).

Table 2: Surveyed respondents by health personnel cadre, (n = 155)

Type of health personnel	n	Per cent
Medical practitioner	20	13%
Clinical Officer	17	11%
General Nurse	24	16%
Counsellor	25	16%
Laboratory personnel	22	14%
Pharmacy personnel	24	16%
Data Management Officer	22	14%

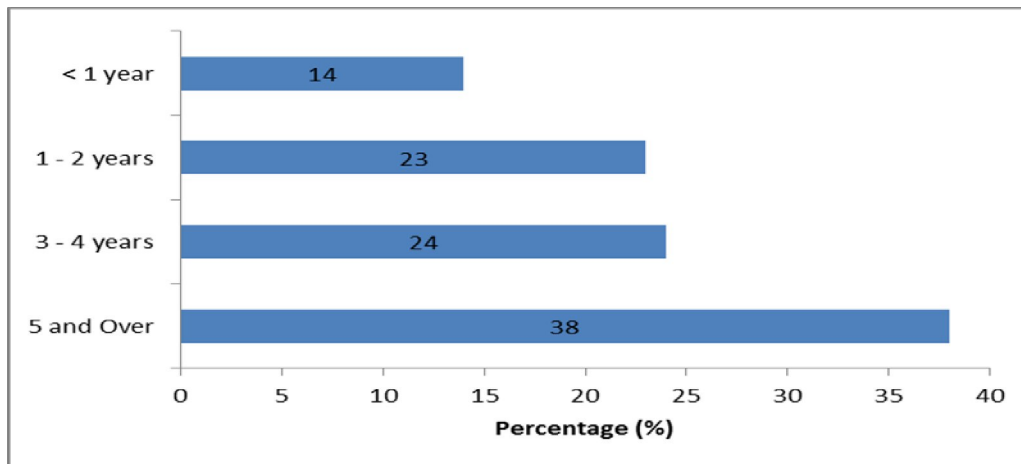
About two-thirds of the respondents (54%) had one to five years of work experience in ART, while a third of the respondents (35%) had work experience of more than five years (Table 3).

Table 3: Years of experience working in the ART department for all 7 cadres (n = 155)

Years working in ART	n	Per cent
< 1 year	18	11%
1 year	10	6%
2 year	23	15%
3 year	23	15%
4 year	12	8%
5 year	15	10%
Over 5 year	54	35%

For doctors, COs, nurses, and counsellors (n=86), the mean number of years worked at the ART department was 3.5 years. Of these cadres, almost half (47%) indicated that they had worked in the same department for a period ranging between one and four years. A sizeable proportion of those interviewed (38%) indicated that they had worked in the ART department for five or more years, while only 14% of the respondents had worked in the ART department for one year or less (Figure 3).

Figure 3: Distribution of respondents by number of years worked at the ART department (Doctors, COs, Nurse, Counsellors, n = 86)



The survey asked participants about the types of ART-related trainings they had attended. The most common trainings attended by health care respondents were Adult HIV Care (34%), Opportunistic Infections (34%), and psychosocial counselling (30%). The least attended trainings were District Integrated Logistics Self-Assessment Tool (DILSAT) (10%), a performance improvement strategy targeting health workers at facility levels, and phamacovigilance (6%) (Table 4).

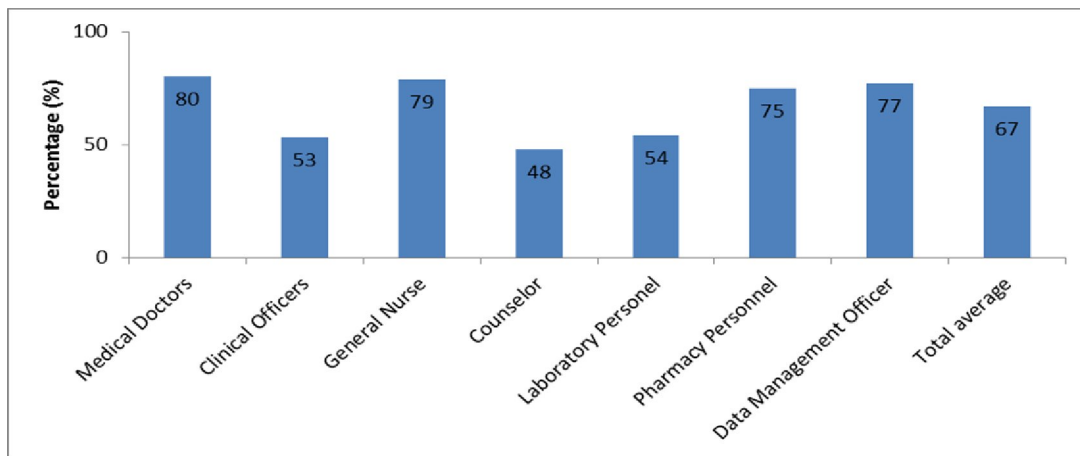
Table 4: Trainings attended by surveyed health personnel, (n = 155)

<i>Training</i>	<i>n</i>	<i>%</i>
Adult HIV Care	52	34%
Opportunistic Infection	53	34%
Psychosocial Counselling	47	30%
Paediatric HIV Care	41	26%
Management of national ARVs	41	26%
PMTCT	36	23%
HIV test logistics system	35	23%
HMIS/Smart Care	29	19%
Trainer of Trainers in ART	15	10%
DILSAT	16	10%
Phamacovigilance	10	6%

4.2 Knowledge

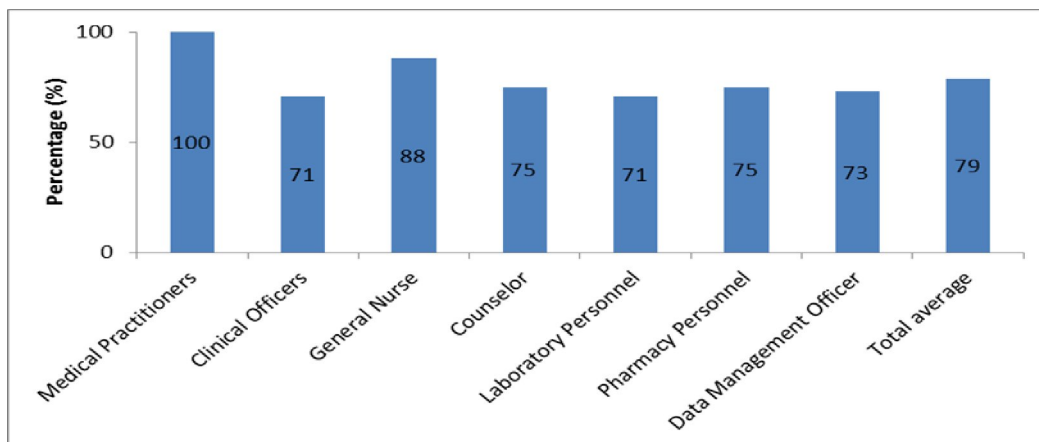
The survey revealed that there was generally a high level of awareness of the ART accreditation program, with 67.1% of the surveyed health personnel aware of it, but there were variations in awareness across different health cadres (Figure 4). Medical doctors, general nurses, data management officers, and pharmacy personnel had the highest levels of awareness, ranging from 75% to 80%. In contrast, just 48% of counsellors, 53% of clinical officers, and 54 percent of laboratory personnel were aware of the program.

Figure 4: Awareness of ART accreditation program by health personnel, by cadre (n = 155)



When asked whether their health facility was ART accredited, most surveyed health personnel (78.9%) were aware of the accreditation status, with medical practitioners (100%) and General Nurses (87.5%) showing the highest knowledge levels (Figure 5).

Figure 5: Health personnel knowledge of whether the facility is accredited for ART (n = 155)



However, when asked about the various requirements for ART accreditation, health personnel had varying levels of knowledge. The ART accreditation requirements were grouped into six categories: Staffing; team leadership; quality assurance; guidelines and

protocols; mandatory services; and Health Management Information System (HMIS) and Monitoring and Evaluation (M&E).

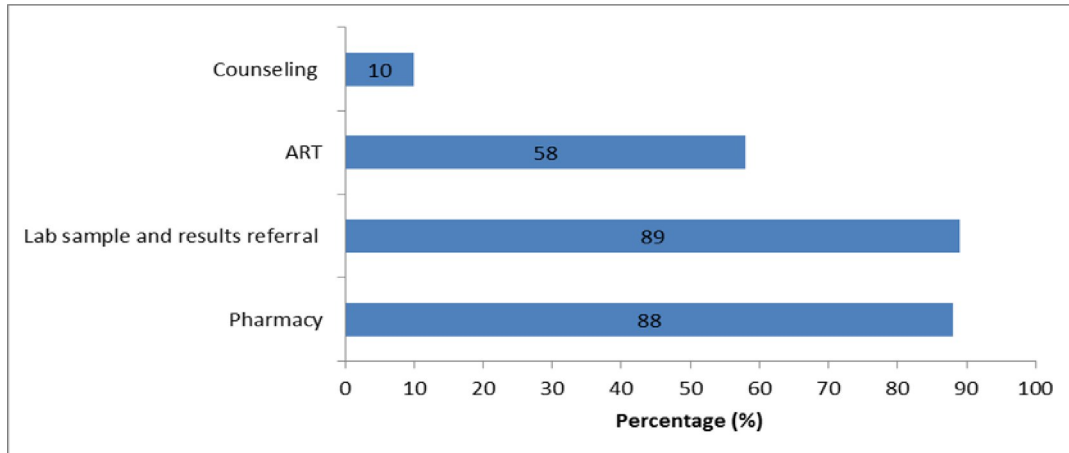
Table 5 presents the proportion of surveyed staff who were aware of each of the various requirements for ART accreditation. Fewer than 50% of the staff surveyed were aware of the staffing and team leadership requirements for an accredited ART facility, while only about half (50%) of the participants were aware of the quality assurance and HMIS and M&E needs. On the other hand, surveyed staff generally had higher knowledge and awareness of most guidelines and protocols and of mandatory health services. However there are a few notable guidelines that surveyed staff scored below expectations. Less than 50% of the surveyed health personnel were aware of the following guidelines required for ART accreditation: HPCZ accreditation protocols (28%); National HIV and TB Policy (48%); National Guidelines for HIV Counselling (45%); Nutritional Guidelines (32%); and Prevention of Mother-to-Child Transmission (PMTCT) guidelines (46%) (Table 5).

Table 5: Awareness of various requirements for ART accreditation (n = 155)

Domain	Requirements	Awareness levels	
		Number	Per cent
Staffing	Required Minimum number of staff	23	15.3
Team leadership	Supervising Medical Doctor	69	44.5
	Focal point person	71	45.8
Quality assurance	Quality focal point person	72	46.5
	Quality Assurance Committee	80	51.6
	Minutes for QA meetings	60	38.7
	Quality Assurance tools	80	51.6
	Support supervisors	59	38.1
Guidelines and protocols	National guidelines for adult HIV/AIDS	110	71
	HPCZ accreditation guideline	44	28.4
	National HIV and TB policy	74	47.7
	National guidelines on management and care of paediatrics	98	63.2
	National guideline for HIV counselling	70	45.2
	HPCZ Accreditation guidelines	19	12.3
	Nutritional guidelines	49	31.6
	PMTCT guidelines	72	46.5
	Integrated technical guidelines	42	27.1
	Infection prevention guidelines	57	36.8
	DHIS/Smart Care procedural manual	43	27.7
	Pharmacy Standard Operating procedure	67	43.2
	Laboratory Standard Operating procedures	72	46.5
Mandatory services	Basic laboratory services	130	83.9
	Counselling	127	81.9
	Management of Sexually Transmitted Infections	79	51
	Pharmacy	120	77.4
	PMTCT Prophylaxis & Management of OI	88	56.8
	Nutritional counselling	58	37.4
	Risk Reduction	51	32.9
	Family Planning	52	33.5
HMIS and M&E	HMIS Smart Care	98	63.2
	Smart Care Procedures and Manuals	72	46.5

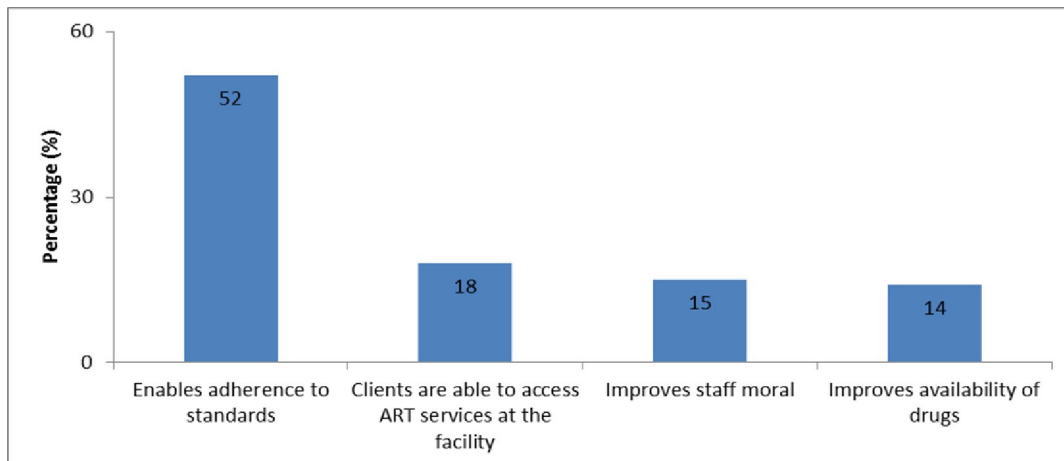
The survey asked participants about which departments were necessary for ART accreditation. Most surveyed staff (89%) knew that a laboratory and pharmacy unit are key departments in an accredited ART facility (Figure 6). Only 58% indicated that the ART unit itself as a department. In addition, only 10% of surveyed personnel knew that the counselling department was a key department for accreditation.

Figure 6: Knowledge of key departments necessary for ART accreditation (n = 155)



Health personnel were asked the advantages of ART accreditation. Slightly above half (52%) of all the survey respondents indicated that the adherence to ART standards was an advantage of having an accredited ART program (Figure 7). The other survey respondents associated having an accredited ART program with clients' ready access to ART services (18.1%), improvement of staff morale (14.8%), and improved availability of drugs (13.5%).

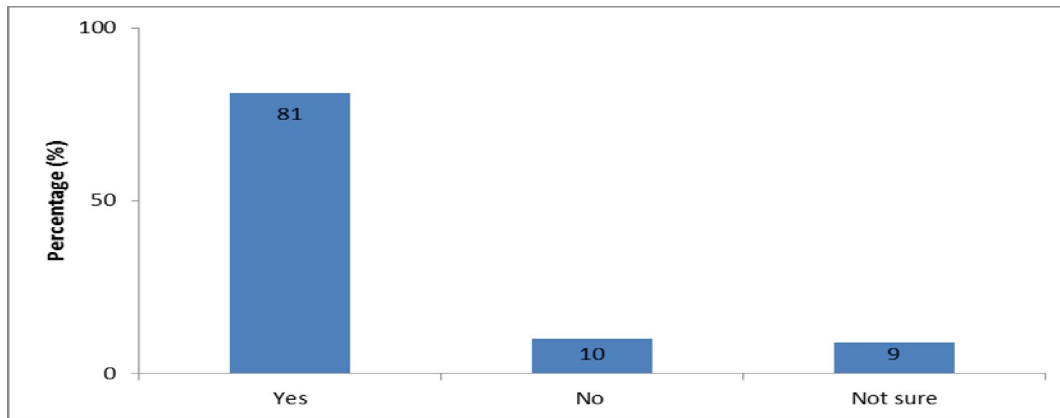
Figure 7: Respondents' views on the advantages of ART accreditation (n = 155)



4.3 Attitude

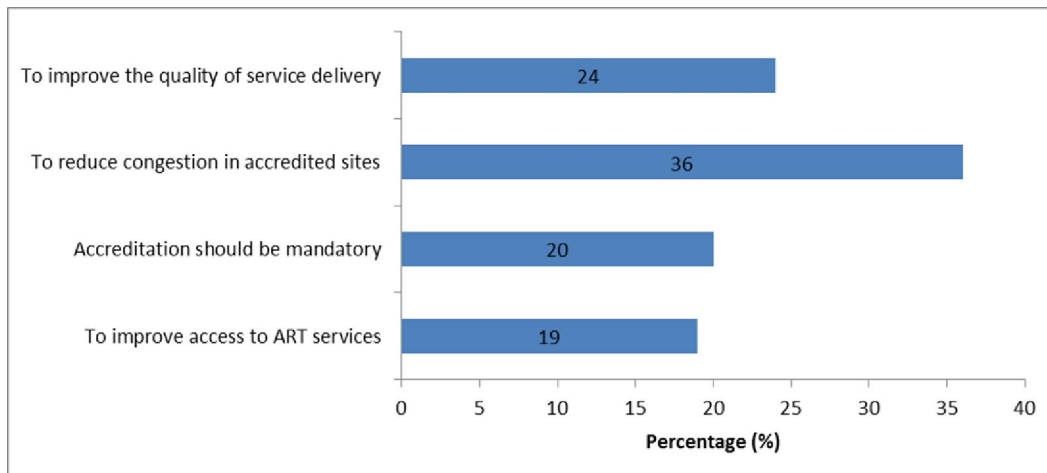
The majority (81%) of the surveyed respondents were of the opinion that all health facilities providing ART services in the country should be accredited. The rest of the respondents were either not sure (9%) or were of the opinion that not all facilities should necessarily be accredited (10%) (Figure 8).

Figure 8: Do you think all facilities should be accredited (n = 155)



When asked to give reasons why ART sites should be accredited, one third of respondents (36%) had the opinion that accreditation would result in the reduction of client congestion at health facilities (Figure 9). The views of the remaining 64% of the surveyed respondents were relatively evenly distributed into three thematic areas: to improve access to ART services; because accreditation should be mandatory (to bring about standardization); and to bring about improvement in the quality of service delivery.

Figure 9: Reasons given for all facilities to be accredited (n = 155)



Attitudes of health providers were further measured by soliciting their views on specific thematic areas of ART accreditation. On a scale of 1 to 5 (Likert scale format), ranging from strongly disagree (1) to strongly agree (5), participants were required to express the strength of their views

on four statements about accreditation (Table 6). Respondents strongly agreed with the statement about whether accreditation improves the quality of ART services offered to clients (mean score 4.6). When asked about whether ART clinics would still provide quality services even in the absence of accreditation, the majority of respondents were either unsure or disagreed with the statement (mean score 3.7). Respondents strongly disagreed when asked whether accreditation of ART clinics was a waste of time and did not contribute to the improvement of the quality of service (mean score 4.5). Finally, respondents mostly found assessment teams to be helpful and supportive (mean score 4.1).

Table 6: Responses and mean scores on attitude statements (n = 155)

<i>Statement</i>	5 Strongly agree		4 Agree		3 Not sure		2 Disagree		1 Strongly Disagree		Mean Score	<i>SD</i>
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%		
S1	98	64.5	53	34.9	1	0.7	0	0	0	0	4.6	0.6
S2	1	0.7	25	16.4	19	12.5	82	53.9	25	16.4	3.7	1
S3	0	0	1	0.7	2	1.3	64	42.1	85	55.9	4.5	0.6
S4	42	27.5	92	60.1	10	6.5	6	3.9	3	2	4.1	0.2

S1: ART accreditation improves the quality of services offered to clients.

S2: Even without accreditation, ART clinics would still provide quality services.

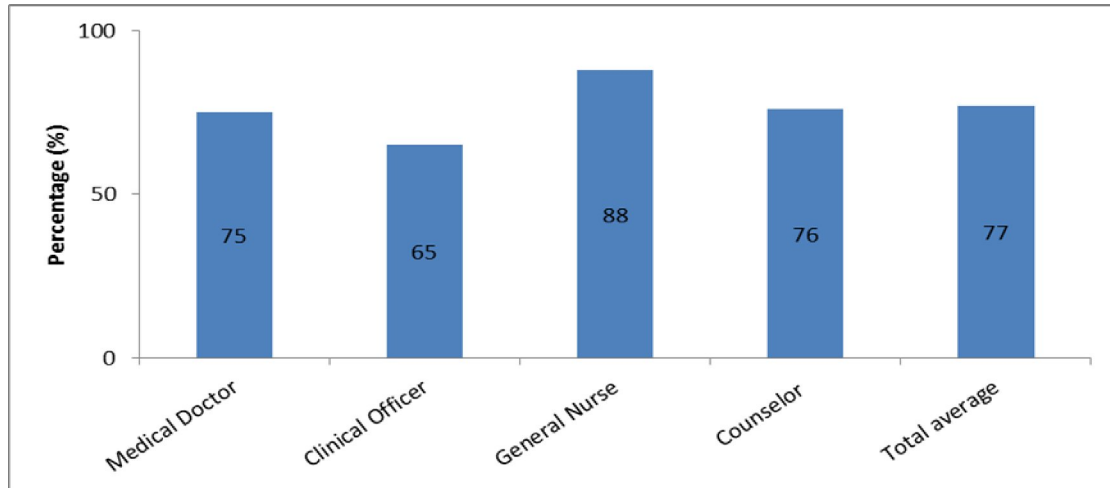
S3: Accreditation of ART clinics is a waste of time; it does not contribute to the improvement of the quality of service.

S4: I find the assessment team to be helpful and supportive.

4.4 Practices

The KAP questionnaire investigated a sample of indicators from the ART accreditation tools as a proxy measure of the extent to which accredited sites continued to maintain expected standards in everyday practice. On average, 77% of the 86 surveyed health professionals (medical doctors, COs, general nurses and counsellors) worked full time in the ART department (Figure 10).

Figure 10: Per cent of surveyed professionals (by cadre) that work full time in the ART department (n=86)



Based on the survey, medical practitioners, COs, nurses and counsellors attended to an average of 54 ART clients per day (Table 7). The health staff indicated that they usually spent a mean period of 15 minutes with each client.

Table 7: Distribution of respondents by number of clients attended to per day, and time spent on each client (n = 86)

	n	%	
<i>Number of clients/day</i>			
1-20	26	30.2	
21-40	19	22.1	
41-60	11	12.8	<i>Mean = 54</i>
61-80	8	9.3	
81-100	10	11.6	
Over 100	12	14	
<i>Time spent on each client</i>			
1-10 min	73	55.3	<i>Mean = 15 Min</i>
11-20 min	27	20.5	
21-30 min	12	9.1	
Over 30 min	20	15.2	

Of the 86 surveyed medical practitioners, COs, nurses and counsellors, almost all (93%) had access to *National Guidelines for Adult HIV and AIDS*, and at least two thirds had access to three other essential guidelines, namely the *National HIV and TB Policy*, *National Guidelines on Management and Care of Paediatric HIV*, and PMTCT guidelines (Table 8). However, less than half of the clinicians indicated that they had access to other important guidelines, such as the *National Guidelines for HIV Counselling*, nutritional guidelines and infection prevention guidelines.

Table 8: Access to MOH guidelines relevant to HIV care and treatment among doctors, COs, nurses, and counsellors (n = 86)

Guideline	n	%
National guidelines for adult HIV and AIDS	57	93
National HIV and TB policy	42	69
National guidelines on management and care of paediatric HIV	42	69
PMTCT guidelines	42	69
Infection prevention guidelines	31	51
National guideline for HIV counselling	28	46
Nutritional guidelines	27	44
Integrated technical guidelines	24	39
HPCZ accreditation guideline	21	34
DHIS/Smart Care procedural manual	18	30

Furthermore all (100%) of the surveyed laboratory personnel (n=22) and 71% of the Pharmacy personnel (n=17 of 24) indicated that they had access to Laboratory Standard Operating Procedures and Pharmacy Standard Operating Procedures, respectively.

The survey presented doctors, COs, nurses and counsellors with four typical clinical situations (Table 9) and asked the course of action that they would take. Overall, more than 86% indicated the right course of action in two of the four clinical scenarios. However, only about two-thirds of the clinicians indicated the right course of action in the remaining two clinical situations.

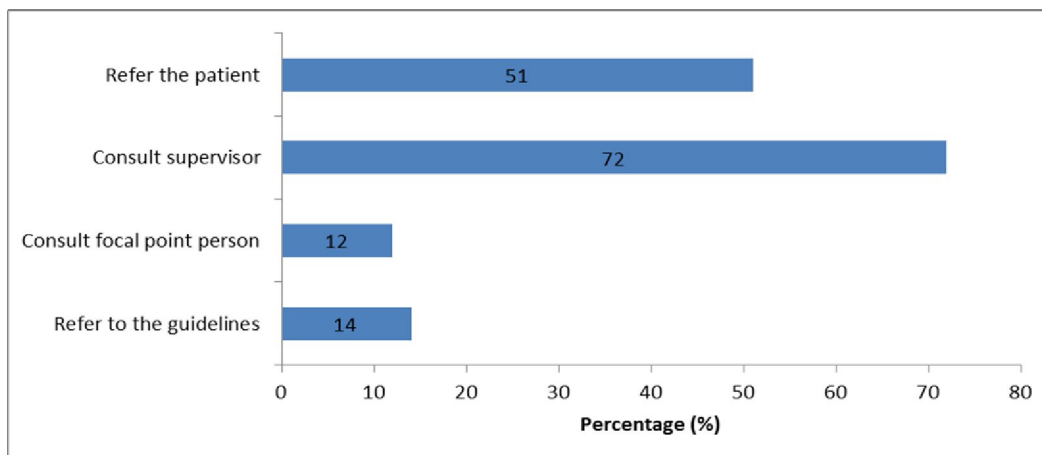
Table 9: Likely action taken for given scenario (n=86, Doctors, COs, nurses and counsellors)

	<i>Scenario</i>	<i>Usual Action taken*</i>	<i>n</i>	<i>%</i>
1	Patient eligible for ART refuses medication	Counselling	58	68.2
		Refer the patient	2	2.4
		Allow patient to think about it	24	28.2
2	Patient on ART has not disclosed to the partner	Counselling	63	74.1
		Disclose to the spouse	5	5.9
		Allow patient to think about it	15	17.6
3	Patient is not adhering to ART	Counselling	74	86
		Refer the patient	6	7
		Stop the medicines	5	5.8
4	Patient is eligible for ART and has TB. Which one do you treat first?	Start ART first	1	1.2
		Start TB first	80	93
		Both at the same time	5	5.8

*Shaded action represents correct response.

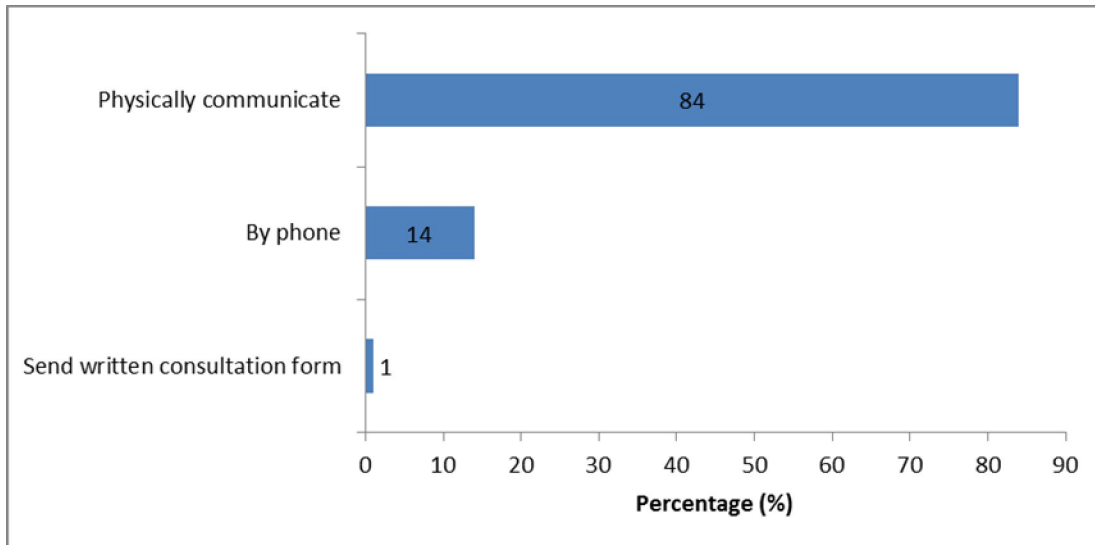
When asked what action they take when faced with a complicated case, 72% of the clinical respondents (n=86) indicated that they consulted their supervisors (Figure 11). Another common answer included patient referral (51%). Only 14% of respondents indicated that they would consult guidelines in the case of a complication.

Figure 11: Action taken in case of complication (Doctors, COs, nurse, counsellors, n = 86)



The study revealed that 90% of the 132 surveyed health staff involved in direct patient care (all but the Data Management Officers) indicated that their supervisor was readily available for consultation when they needed them. Communication between health staff and their respective supervisors was usually by means of physical communication (84% of the instances) (Figure 12).

Figure 12: Means of communication by ART staff with their supervisor (n = 132, Doctors, COs, Nurse, Counsellors, laboratory and pharmacy)



4.5 Qualitative data from the Focus Group Discussions

From the FGDs, most ART clients who attended the clinics from where the health professionals were surveyed) indicated that they were usually treated well and given enough information by the ART staff. One client said, *“In my opinion, I find the services good. They receive us well. Also, they really try to find how we are really feeling when we come to the doctor’s office.”* Another client said, *“They answer and assist according to how we explain our problems. They always advise us to explain to them what problems we experience at all times.”*

However, the majority of clients were largely displeased with the amount of time they spent at the facility in long queues waiting to receive services. One client said, *“They open the clinic at whatever time they feel like, it could be 09 hours or 10 hours, but I know for sure that they never open at 08 hours. Then also at the pharmacy we wait for a long time because we have to wait for the pharmacist to come from the general pharmacy to serve the ART clinic.... My biggest concern is that we spend a lot of time here. I arrived at 08 hours but will probably be here till 12 or 13 hours.”* Another client at another facility said, *“Patients end up waiting for a long time to be attended to at every department. Another thing is that because we all come in at the same time as the office orderly, you find that he wants to clean at the same time that you all are queuing up ... Overall there is disorganization here, and on top of that you find nurses moving up and down but not attending to clients, and they will be on the phone talking to their friends whilst we wait.”*

In addition, ART clients often complained of bad practice by ART staff in the way they managed clients waiting on long queues. One client said, *“The services are ok here but there is a lot of favouritism because you find that you come here early but others those that come after you are attended to first. Like this morning there were some people who came after us but they have already received their medication and gone home. What is bad is that they are prejudiced; they favour people that look like they have money as opposed to those of us with lower incomes.”* Another client pointed to a disorganized work force in a particular department. *“The registry in these support departments, they go for lunch early [and] come back late, then knock off early. It all goes back to attitudes. If these things can be corrected, things will just fall into place.”* Another client indicated lack of good work ethics. *“Files take long to come out of the registry. You find that people in the registry are busy chatting or telling stories whilst patients wait.”*

FGD participants (ART clients) often indicated that the time they spent in the counselling room was not adequate to address all their concerns. One client said, *“What I can say is that they should increase the number of counsellors available because at the moment if you go into the counsellor’s office there are people outside waiting, so one fails to really express themselves, so we spend just a few minutes, less than 10 minutes, with the counsellor.”* A client from another facility said, *“I really want things to change at this clinic. They just tick things; they don’t sit to talk to us. Like she is saying, they don’t address concerns. These are my observations: The only time they ask us questions is when they are ticking the adherence form. Thereafter in the other offices we don’t talk much, and I feel we don’t get the chance to express our problems such as reactions to medication.”*

Study findings showed that some ART facilities were having challenges with managing clients’ CD4 tests, especially in instances where a CD4 machine had broken down or there were no CD4

reagents. One client said, *“The only thing I can see that is bad is the CD4 machine. We sometimes find the reagents are not available to carry out tests, and they now refer you somewhere else for the test. Instead of them drawing blood and sending samples, they send patients.”* Another client said, *“The results are taking too long to come out. They keep postponing from one month to the next. My samples were taken some time back, but up to now are not yet out; something needs to be done about the results.”* Another client said, *“For CD4 count results there is a problem; you’ll find that you are given wrong CD4 count results.”*

5.0 Discussion

Knowledge: Considering that 83% of survey respondents had worked in the ART department for two or more years, and that all the sampled health facilities were ART-accredited, one would expect that knowledge of ART accreditation would be high across all ART staff. However, only about 67% of the health personnel were aware of the accreditation program implemented by HPCZ. An average of 78% of medical doctors, general nurses and pharmacy personnel were aware of ART accreditation, but less than half of the other health cadres that comprised a standard ART team (COs, counsellors and laboratory personnel) were aware. To some extent, the low percentage could possibly be a result of recall limitations. However, this finding is a source of concern and indicates a gap in sensitization about accreditation. Lack of knowledge about accreditation by key staff working in the ART clinics could compromise the adherence to standard national guidelines during service delivery.

A second source of concern is the fact that only 15% of surveyed health personnel were aware of the staffing requirements for an accredited ART facility, and only 9.7% indicated that counselling was a key department. These results also may imply that ART clinic staff are not working effectively as a team if they do not recognize the key roles of their colleagues. In addition, without clear knowledge of the staff requirement set by the accreditation standards, a health facility cannot effectively advocate for more human resources deployed to the ART department.

One intended outcome of ART accreditation is using the accreditation findings to improve quality of ART service delivery. As such, the accreditation standards require the establishment of functioning quality assurance committees in each accredited facility. Despite having ART accreditation at their health facility, only half the surveyed staff were aware of the need for quality assurance committees in facilities. Another key accreditation standard related to quality service delivery is the availability of relevant guidelines. The majority (>60%) of surveyed staff were not aware of the need to have recommended national guidelines in their accredited health facilities. Out of the 13 recommended national guidelines, only two sets of guidelines had more than 50% awareness amongst the surveyed staff. In order for accredited ART facilities to continue providing standardized quality health services, it is imperative that all staff members are not only aware of, but also make reference to, these national guidelines when attending to clients. (In fact, as discovered in questions about practices by health personnel, only 14% of staff referred to the guidelines in complicated cases.)

In summary, the study has shown that knowledge about ART accreditation in general, as well as the components required for accreditation, could be improved amongst the seven key cadres of health personnel that work in the ART department. Failure to develop an understanding of ART accreditation requirements will impede monitoring of adherence to the accreditation standards over time by the health facility, which could ultimately lead to future loss of accreditation.

Attitude: On the attitude measure, most of the surveyed respondents (81%) were of the opinion that all health facilities providing ART services in the country should be accredited. (Nine percent of respondents were unsure about this issue, which may relate to low levels of knowledge about accreditation.) Additionally, the majority of respondents were of the view that ART accreditation improves the quality of ART services offered to clients. These results indicate that there is a conducive environment in which to implement the accreditation process. The positive attitude expressed by the majority of respondents also forms a strong basis upon which HPCZ can build knowledge levels about the ART accreditation standards.

Practice: While an ART accreditation visit is infrequent at a given health facility, the maintenance of standards over time requires continuous effort within each health facility. To maintain service delivery standards, the health facility needs to have a team of skilled staff who are regularly working together in the ART department. The study results showed that the majority of surveyed health personnel had more than one year of work experience at their respective ART health facilities, a finding that implies continuity of service provision within the ART department and increasing levels of work experience by health personnel.

In addition, the accreditation standards can only be maintained if health personnel are trained to provide services according to the national guidelines. Most surveyed health personnel in the accredited ART facilities had attended relevant ART trainings (as recommended by HPCZ) within the previous five years. The trainings that had been well-attended (by more than 30% of staff) included adult HIV care, opportunistic infections, and psychosocial counselling. Other trainings attended by more than 20% of staff included PMTCT, paediatric HIV care, and management of national ARVs. Few health personnel attended DILSAT (10%) or Pharmacovigilance (6%) training because these trainings are specific to pharmacists than the full ART team. (Data analysis did not break down the percent of specific cadres of health personnel attending specific trainings). The finding re-emphasizes the importance of having a full complementary team in the ART department as per the standards, and, in particular, having a well-trained supervisor (as most health personnel sought advice of their supervisor when faced with a complicated case).

While the ART facilities may be providing the necessary spectrum of HIV services as per the accreditation standards, the perceived quality of actual service delivery is variable. Some variability in quality could be attributed to the number of patients seeking ART care at a particular health facility, particularly in facilities with a high patient-provider ratio. (The study noted that, on average, clinicians and counsellors each attended to an average of 54 clients per day, spending less than 15 minutes with each client.) Accreditation status only indicates that the ART department can and does provide services, but does not measure how well the services are provided to clients. The qualitative data on practices in the ART departments, collected through FGDs with ART clients, revealed areas in which ART sites performed well (e.g.; giving information to clients) and also identified areas where ART sites could improve service delivery (e.g., managing client appointments; attending to clients in an efficient and orderly manner; managing of long queues on ART days; and providing correct and timely CD4 results to clients). FGDs also raised the issue of unprofessional practices by health workers, such as favouritism, reporting late for and leaving early from work, or

chatting on phones or with colleagues instead of attending to clients. In addition, meeting an accreditation standard can be compromised by variability in supplies and functioning of equipment at the health facilities, such as in cases (stated by FGD participants) of CD4 reagent stock-outs or broken CD4 machines. These problems are largely a result of inefficient planning and the work culture among health workers in the accredited ART facilities, and reflect challenges pervasive across the health system that are not necessarily specific to the ART department.

6.0 Conclusion

The HPCZ commissioned this assessment in order to gain input from health facility-level perspectives about the ART accreditation process to guide future decision-making around the ART accreditation practice. With ART accreditation in practice since 2007, awareness on accreditation amongst health workers at the time of this assessment in 2012 was slightly above average (67%), although knowledge of specific requirements of accreditation was not as strong and varied by requirement and by cadre. The attitude of health professionals toward ART accreditation was positive, with most of those surveyed agreeing that all health facilities providing ART services in the country should be accredited. The study showed variation in the quality of services provided across the health facilities, despite all facilities having ART accreditation. These results imply that even after achieving ART accreditation, there is need for HPCZ to continuously monitor and evaluate accredited ART sites and give feedback for improved quality of their ART service delivery.

In order to strengthen the ART accreditation program to inform decision-making, there is need to put in place measures for continuous health service provider education on the benefits of the program as a strategy for quality improvement in ART service delivery. In addition, there is need to establish a regular system of monitoring and evaluating of ART service delivery in line with the HPCZ ART Accreditation standards.

7.0 Recommendations

1. To improve knowledge levels about accreditation across all cadres, HPCZ should work through MOH and Ministry of Community Development Mother and Child Health (MCDMCH) to provide on-going sensitization for ART department staff and facility management on the specific requirements of the ART accreditation standards (and on the accreditation program in general). Sensitization could be implemented through existing structures, such as district Clinical Care Teams (DCCTs) and district Quality Improvement (QI) Committees, and information could also be included in pre-service and in-service training activities related to ART.
2. To maintain positive attitudes toward accreditation, sensitization by HPCZ, MOH and MCDMCH, through the Provincial and District Health Offices, should include information about the benefits of accreditation as a systems strengthening strategy to improve the quality of service delivery. Sensitization can provide information about how accreditation can be a form of self-assessment that empowers the ART team to monitor and evaluate quality.
3. To address challenges with ART practice, root causes of systems-related issues related to ART practices need further exploration. For example, health facility QI committees could explore site-specific problems (e.g., long queues at ART clinics, CD test records, etc.) while MOH could identify interventions to address logistics and procurement issues (e.g., CD4 reagents).
4. The MOH/MCDMCH, in collaboration with HPCZ, should incorporate the monitoring and evaluation of health service delivery related to the ART accreditation program into the Performance Assessment process. As an initial step, the ART accreditation standards can be incorporated into the Performance Assessment tool.
5. Use existing structures within the health system (e.g., facility-level and district-level QI committees, DCCTs) to monitor and support the continued quality of ART service delivery at sites post-assessment and post-accreditation.
6. To collect additional information for decision-making, the HPCZ could consider if there is need for a study of the impact of ART accreditation on the quality of ART service delivery.

8.0 References

1. Medical Council of Zambia. (February 2009). “Accreditation of Sites for Provision of Antiretroviral Therapy: Guidelines, inspection tools, and implementation plan.” Government of the Republic of Zambia. Lusaka, Zambia.
2. Joint United Nations Programme on HIV/AIDS (UNAIDS). (2013). “Global report: UNAIDS report on the global AIDS epidemic 2013.” World Health Organization. Geneva, Switzerland.
3. IBM Corp. Released 2012. IBM SPSS Statistics for Windows, Version 17.0. Armonk, NY: IBM Corp.

Appendix A: Sampled number of survey respondents by province and health facility

Province	Facility	Target Sample Number (Health providers)	Actual Sample
Copperbelt	Ndola Central Hospital	7	7
	Wusakile Hospital	7	6
	Kamuchanga hospital	7	6
	Telnor Private Clinic	7	6
	Malcom Watson Hospital	7	7
Eastern	Chipata General Hospital	7	7
	Mwami Hospital	7	6
	Petauke District Hospital	7	6
	St. Francis Mission Hospital	7	7
	Nyanje Hospital	7	6
Northern	Kasama Health Centre	7	6
	Chilubula Health Centre	7	6
	Mporokoso District Hospital	7	7
	Mpulungu Rural Health Centre	7	4
	Mbala General Hospital	7	7
Southern	Mazabuka District Hospital	7	6
	Njomona Private Clinic	7	4
	Maramba health centre	7	6
	Chreso Ministries Clinic	7	6
	Pemba Rural Health Centre	7	5
Lusaka	Coptic Private Hospital	7	7
	University Teaching Hospital	7	7
	Chipata Clinic	7	6
	Kafue District Hospital	7	7
	Chongwe Health Centre	7	7
Total		175	155

Appendix B: General Survey Questionnaire

QUESTIONNAIRE

ID:

SECTION A: BACKGROUND INFORMATION

1. NAME OF HEALTH FACILITY: [ART CODE.....]
2. TYPE OF HEALTH PERSONNEL:
 1. Medical practitioner []
 2. Medical Licentiate []
 3. Clinical Officer []
 4. General Nurse []
 5. Counsellor []
 6. Laboratory personnel [] (Biomedical Scientific Officer, Laboratory Technologist or Technician)
 7. Pharmacy personnel [] (pharmacist or Pharmacy Technologist, or dispenser)
 8. Data Management Officer/Records Clerk []
 9. Other specify:
3. SEX:
4. AGE:
5. Province District
6. Period worked In ART Clinic:
7. Are you trained In ART Services? Yes/No
8. Which of the following trainings have you attended? **Tick Where Appropriate:**

S/N	COURSES(TRAINING)	TICK	HOW LONG AGO DID YOU ATTEND THE TRAINING?	
			Months	Years
1.	TRAINER OF TRAINERS			
2.	PMTCT			
3	PSYCHOSOCIAL COUNSELING			
4	DILSAT			
5	HMIS/SMART CARE			
6	PEADIATRICS HIV CARE			
7	ADULT HIV CARE			
8	ANTIRETROVIRAL THERAPY AND MANAGEMENT OF OPPORTUNISTIC INFECTIONS			
9	MANAGEMENT OF NATIONAL ARV LOGISTICS SYSTEM TRAINING COURSE			
10	HIV TEST LOGISTIC SYSTEM			
11	PHARMACOVIGILANCE			
12	OTHERS (Specify)			

Table 2: Please provide the following information:

S/N	COURSES(TRAINING)	WHAT WAS THE DURATION OF TRAINING?	Was MOH Signatory to your Certificate?	Which of the following have you ATTENDED in form of a refresher course?	HOW LONG AGO DID YOU ATTEND THE TRAINING?	
					Months	Years
1	TRAINER OF TRAINERS					
2	PMTCT					
3	PSYCHOSOCIAL COUNSELING					
4	DILSAT					
5	HMIS/SMART CARE					
6	PEADIATRICS HIV CARE					
7	ADULT HIV CARE					
8	ANTIRETROVIRAL THERAPY AND MANAGEMENT OF OPPORTUNISTIC INFECTIONS					
9	MANAGEMENT OF NATIONAL ARV LOGISTICS SYSTEM TRAINING COURSE					
10	HIV TEST LOGISTIC SYSTEM					
11	PHARMACOVIGILANCE					
12	OTHERS (Specify)					

SECTION B: KNOWLEDGE

9. Are you aware about the ART Accreditation Programme implemented by the Health Professions Council of Zambia? Yes / No

If No go to Section C.

10. What is your understanding of the ART Accreditation Programme implemented by the Health Professions Council of Zambia?

.....

11. Is your institution is an accredited ART site?

- 1. YES
- 2. NO
- 3. Not sure

12. What is the minimum number of health professions required in an ART site for it to be accredited?

- 1. Number.....
- 2. No idea

13. List the types of health personnel that should be available for an ART site to be accredited?

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

14. What does it take for a site to be accredited under HIV Care and Team Leadership?

- 1. It should have Supervising Medical Doctor
- 2. Should have a Focal Point Person
- 3. Other

15. What does it take for a site to be accredited under quality assurance?

- 1. Quality Focal Point Person
- 2. Quality assurance Committee
- 3. Minutes for the quality assurance meetings
- 4. Quality Assurance Tools (Wall charts, guidelines, checklists)
- 5. Support Supervisors
- 6. Other

16. What reference guidelines and protocols should be available in an accredited site?

Mandatory

- 1. National Guidelines for Adult HIV Care
- 2. HPCZ Accreditation Guidelines
- 3. National HIV and T.B Policy
- 4. National Guidelines on Management and Care of Paediatric HIV and AIDS

5. National Guidelines for HIV Counselling and Testing
6. HPCZ Accreditation Guidelines
7. Nutrition Guidelines
8. PMTCT Guidelines

Desirable

9. Integrated Technical Guidelines
10. Infection Prevention Guidelines
11. DHIS/Smart care procedures manual
12. LMIS
13. Pharmacy Standard Operating Procedures
14. Laboratory Standard Operating Procedures

17. What mandatory health services should be in an ART site to be accredited?

1. Basic Laboratory Services
2. Counselling
3. Management of STI's
4. Pharmacy
5. PMTCT ,Prophylaxis and Management of Opportunistic Infections
6. Nutritional Counselling
7. Risk Reduction
8. Family Planning

18. What recommended Tests should be in accredited ART site?

1. HIV Test, HB, WBC ,Malaria Test, T.B Screening, RPR
2. CDF ,LFT, Pregnancy
3. Viral Load, HIV Resistance, Hepatitis B

19. What does it take for a site to be accredited with regard to Health Management Information Systems and Monitoring and Evaluation

1. HIMS Smart care system
2. Smart care Procedures and Manuals
3. other.....

20. What trainings should the clinicians (Medical Doctors, Medical Licentiates, Clinical Officers, Nurses, Pharmacists) undergo for a site to be accredited does it take for a site to be accredited with regard to human?

21. What key departments are necessary for an ART site to be accredited?

1. Pharmacy
2. Laboratory
3. ART
4. OPD
5. Other

22. What are the advantages of ART Accreditation?

SECTION C: ATTITUDE OF HEALTH PROVIDERS TOWARDS ART ACCREDITATION

23. What is your personal view of the ART accreditation program?

24. Do you think all facilities that offer ART services should be accredited

1. Yes
2. No
3. Not Sure

Explain your response to the question above

<p>25. What is your response to the statement: ART accreditation in ART sites improves the quality of services offered to clients.</p>	<p>Strongly Disagree.....1 Disagree.....2 Not sure.....3 Agree.....4 Strongly Agree.....5</p>	
<p>26. What is your response to the statement: Even without accreditation ART clinics would still provide good quality health.</p>	<p>Strongly Disagree.....5 Disagree.....4 Not sure3 Agree.....2 Strongly Agree.....1</p>	
<p>27. What is your response to the statement: Accreditation of ART clinics is a waste of time and resources as it does not contribute to the improvement of quality service provision.</p>	<p>Strongly Disagree.....5 Disagree.....4 Not sure.....3 Agree.....2 Strongly Agree.....1</p>	
<p>28. What is your response to the statement: I find the assessment team from the provincial office to</p>	<p>Strongly Disagree.....1</p>	

be helpful and supportive.	Disagree.....2	
	Neutral.....3	
	Agree.....4	
	Strongly Agree.....5	
Total Score out of 20		

SECTION D: EVALUATE THE PRACTICE OF HEALTH PROFESSIONALS IN ACCREDITED ART SITES

- 29. How many clients do you attend to, on average, in a day?
.....
- 30. On average how much time do you spend on each client?
.....
- 31. For how long have you been working in this department?
.....
- 32. Have you worked in any other department before?
 - 1. Yes
 - 2. No
- 33. If yes, in which department were you working?
.....
- 34. In case of a complicated case what do you do?
 - 1. Consult supervisor
 - 2. Consult focal point person
 - 3. Refer to the guidelines
 - 4. Refer the patient
 - 5. Other
- 35. In accessing laboratory services at another site what do you do?
 - 1. Send the sample
 - 2. Send patient
 - 3. Other
- 36. Is the supervisor readily available for consultation whenever needed?
 - 1. Yes
 - 2. No
- 37. How often do you refer to guidelines?
 - 1. Very often
 - 2. Often
 - 3. Less often
 - 4. Never
- 38. What is your usual action when a patient eligible for ART refuses to take medicines?
 - 1. Get upset 2. Counselling 3. Referral 4. Allow patient to think about it 5. Other.....
- 39. . What is your usual action when you notice that a patient on ART has not disclosed to the partner but has unprotected sex?

40. Get upset 2. Counselling 3. Disclose to the spouse 4. Allow patient to think about it before disclosing 5. Others.....
41. What is your usual action when a patient on ART is not adherent to the ART medicines?
1. Get upset 2. Counselling 3. Referral 4. Stop the medicines 5. Other.....
42. What is your usual advice to women who are HIV positive and want to have children?
.....
.....
.....
43. When a patient is eligible for ART and has T.B which one do you treat first?
1. Start ART first 2. Start T.B first 3. Both at the same time 4.other-----

SECTION E: EVALUATE THE IMPACT OF ACCREDITATION ON THE QUALITY OF ART SERVICE DELIVERY

44. How do you rate the consistency of prescriptions in line with National Guidelines
1. Poor 2. Average. 3. Good 4.Very Good 5. Excellent
45. Availability of ART Focal Point Person?
1. Available 2. Not Available
46. Availability of QI team?
1. Available and Active 2. Available but not active 3. Not available
47. Which of the following mandatory clinical guidelines are available?

S/N	Guideline	Available	Not Available
1.	National Guidelines for Adult HIV Care		
2	-HPCZ Accreditation Guidelines		
3	-National HIV and T.B Policy		
4	-National Guidelines on Management and Care of Paediatric HIV and AIDS		
5	-National Guidelines for HIV Counselling and Testing		
6	-HPCZ Accreditation Guidelines		
7	-Nutrition Guidelines		
8	-PMTCT Guidelines		

48. How do you rate the practice of consulting guidelines and protocols?
1. Poor 2. Average 3. Good 4.Very Good 5. Excellent
49. How accessible are the following mandatory health services?

S/N	Services	Accessible	Not Accessible
1.	Basic Laboratory Services		
2.	Basic Counselling		
3.	Management of STI's		

4	Pharmacy		
5	PMTCT		
6	Nutritional Counselling		
7	Risk Reduction		
8	Family Planning		

50. Availability of the following physical space?

1. Reception 2. Examination, 3. Adherence 4. Pharmacy, 5. Laboratory

51. Are the records of the following tests available for laboratory internal quality control?

S/N	Laboratory Test	Records available	Records not available
1.	CD4		
2.	HIV Test		
3	T.B		

52. Are the records of the following tests available for external laboratory quality control?

S/N	Laboratory Test	Records available	Records not available
1.	CD4		
2.	HIV Test		
3.	T.B		

53. Smart care Patients records are updated every?

1. Day 2. One Week 3. Two weeks 4. One Month 5. Other.....

54. Check for inventory cards, air conditioners and proper disposal of expired medicines

S/N	Pharmaceutical Logistics	Available	Not available
1.	Inventory cards		
2.	Air conditioners		
3.	Proper System for disposal of expired medicines		

55. Storage of medicines and supplies acceptable?

S/N	Storage conditions	Yes	No
1.	Leaking Roof		
2.	Medicines stored on pallets		
3.	Cupboards available		

Appendix C: Focus Group Discussion Guide for Service Users

Instructions:

At the beginning of the session the moderator (research assistant) will introduce themselves and then ask the participants to introduce themselves. The moderator shall then introduce the purpose and the agenda for the meeting.

Introduction:

Welcome to a focus discussion group on Attitudes and Practice of health personnel at the facility where you receive services. We want you to feel free and openly discuss the issues surrounding the way you receive care, how you are handled, areas that you approve of and areas that you feel need improvement. Feel free to state the actual improvement you wish to see. We will tape record the information and keep the tapes under strict lock and key so that no unauthorized persons can have access to them.

1. How do you find the service that you receive when you come to the facility?

Hint: Were you satisfied with the services? **Probe:** Why do you say so?

2. Do you think you receive adequate information from providers?

Hint: Are all your questions answered by providers

3. Do you get attended to on time when you come to the health facility?

Hint: How much time do you spend at the facility?

4. Do you normally have enough time with service providers?

Probe: Why do you think the time you spend with the provider is or is not enough?

5. What do you think about the attitude of service providers?

Hint: Are they welcoming, understanding, encouraging, respectful, do they allow you to ask questions, etc.

Probe for explanation

6. What areas do you think providers need to improve with regards to service provision?

WE HAVE COME TO END OF OUR DISCUSSION, THANK YOU FOR YOUR TIME

