

PEPFAR Public Health Evaluation – Care and Support –



PHASE I KENYA

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April 2009

This summary was made possible by support from the U.S. Agency for International Development (USAID) under the terms of Cooperative Agreement GPO-A-00-03-00003-00. The opinions expressed are those of the authors and do not necessarily reflect the views of USAID or the United States government. TR-09-69c (4/14/09). Cover photo: (c) 2003 Lydia Martin, Courtesy of Photoshare.

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Abbreviations

AFB	Acid-fast bacillus
APCA	African Palliative Care Association
ART	Anti-retroviral therapy
ARV	Anti-retroviral
CDC	Centers for Disease Control and Prevention
CSRI	Client service receipt inventory
CTX	cotrimoxazole, Septrin
FGD	Focus group discussion
FT	Full time
HBC	Home-base care
HCW	Health care worker
GOK	Government of Kenya
IGA	Income generating activity
IQR	Inter-quartile range
ITN	Insecticide-treated net
KCL	King's College London
KEHPCA	Kenya Hospice and Palliative Care Association
LFT	Liver function test
MOH	Ministry of Health
NGO	Non-governmental organisation
OI	Opportunistic infection
OVC	Orphans and vulnerable children
PCP	Preventive care package
PEPFAR	President's Emergency Plan for AIDS Relief
PHE	Public health evaluation
PMTCT	Prevention of mother to child transmission
PT	Part-time
PWP	Prevention with positives
SD	Standard deviation
SEM	Standard error of the mean
TB	Tuberculosis
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNC	University of North Carolina
USAID	United States Agency for International Development
USG	United States government

VCT	Voluntary counselling and testing
Vol	Volunteer
WHO	World Health Organisation
2°	Secondary
3°	Tertiary

Executive summary

Rationale

A Public Health Evaluation (PHE) was commissioned to examine PEPFAR-funded HIV care and support. Phase 1 of this PHE aimed to describe the nature and scope of care and support provision according to the five PEPFAR care and support areas (HIV/AIDS Palliative Care Guidance#1 2006), including the types of facilities, clients seen, and availability of specific components of care.

Methods

A cross-sectional survey of facility configuration and activity was conducted by collecting quantitative and qualitative descriptive data directly from facilities. Of around 600 PEPFAR-funded HIV care and support facilities in Kenya, 10% (n=60) were surveyed, excluding paediatric-only facilities. At each facility, the following data collection tools were applied: 1) senior staff structured interview, 2) document collection and analysis, 3) pharmacy review, 4) patient focus group discussion.

Main findings

Facility characteristics

Nine facilities were secondary/tertiary hospitals, 15 facilities were district hospitals, 16 were health centres, 10 were dispensaries and 10 were home-based care (HBC) only facilities. The majority of the 60 facilities surveyed were government run. On the day of the survey the majority of facilities had electricity (n=46), a safe water supply (n=54) and a functioning toilet (n=52).

Staff characteristics

Fewer than half of facilities had a doctor working onsite and fewer than a third had a social worker, but over two-thirds had a clinical officer, and 90% a nurse. Twelve sites (20%) had representation of at least one staff member (either full-time, part-time or voluntary) across all of clinical, spiritual, psychological and social care designations. Voluntary staff levels were high, especially in dispensaries and HBC-only facilities, and these staff members were mainly community health workers.

Components of care offered

Of the 69 care components recorded in this survey a mean of 42 components were offered by facilities (including outward referrals). Referrals were generally rare, with twenty-two facilities not referring out for any care component surveyed. The components of care most frequently provided or referred for were prevention with positives, nutritional advice, pre- and post-test counselling, and multivitamins. The most rarely provided or referred for components of care were traditional healing, strong opioids, microfinance, isoniazid for TB prophylaxis and household provisions.

- Holistic care — Some components of clinical, psychological and preventive care were each provided or referred in over 90% of facilities. Spiritual care was provided or referred at 60% and social care at 70% of facilities. Twenty-eight facilities (47%) provided or referred at least one component of care in all of clinical, psychological, spiritual, social and prevention domains.

- ART — Nearly two-thirds of facilities offered (n=35) or referred (n=4) for ARVs, which was well supported by adherence counselling, assessment of ARV treatment failure and monitoring of ARV toxicity alongside.
- Pain management — Non-opioids were the most commonly provided or referred care component relating to pain management for palliative care. Assessment of pain, weak opioids and treatment for neuropathic pain were most commonly provided or referred by secondary/tertiary hospitals, whereas strong opioids and non-opioids were most commonly provided or referred at district hospitals. All the components of care relating to pain management examined were least commonly available at HBC-only facilities.
- Nutrition — Components of care relating to nutrition, i.e. weighing, nutritional counselling and multivitamins, were all widely available at hospitals, health centres and dispensaries. Therapeutic feeding for malnutrition was most commonly provided or referred at secondary/tertiary hospitals (75%), and more provided or referred at HBC-only facilities (50%) than at health centres (44%) or dispensaries (30%).
- Social care — The availability of the social components of care varied overall, and by facility type, with home help being most commonly provided or referred by HBC-only facilities (100%), loans/microfinance at dispensaries (20%), IGAs at district hospitals (40%) and legal services at HBC-only facilities (50%).
- Opportunistic infections and Preventive care — Finding that CTX was available at 49 facilities reflects a positive effort to reduce morbidity and mortality, including from malaria, in HIV patients and their uninfected household members. Yet a preventive care package comprising insecticide-treated bednets, safe water treatment, condoms, multivitamins and cotrimoxazole (CTX) was provided by just 5 facilities (8%). Of the five items, multivitamins were most commonly available (90% of facilities) and bednets the least commonly available (32%).

Few facilities provided or referred isoniazid to prevent TB. TB detection and AFB smear tests were commonly provided or referred at hospitals and health centres, but not at dispensaries or HBC-only facilities. TB treatment was widely available at all facilities except HBC-only facilities. The most common component of care relating to malaria was malaria treatment, provided or referred at nearly all facilities except HBC-only facilities. The least common component of care relating to malaria was mosquito bednets, although the availability of these was evenly distributed across the facility types. Thirty-two facilities provided or referred all five of the components of care that reflected the description of the package of care 'Prevention with Positives' (i.e. adherence counselling, family planning counselling, patient HIV support groups, treatment of herpes and condoms).

- Diagnostic tests — The most common diagnostic test provided or referred was a rapid HIV test (82% of facilities), with pulse oximetry being the least (18% of facilities). Other tests were most commonly provided or referred at secondary/tertiary hospitals and not provided nor referred at HBC-only facilities. Notably, the CD4 and liver function tests were provided or referred at fewer than half of facilities.

- Care provided and staff available — Few facilities provided clinical components of care without specialist trained staff, but other (non-clinical) areas of care were more commonly provided whilst employing staff without the specific training to deliver these areas of care. Twenty facilities provided psychological care without counsellors on staff, and 16 provided social care without community health workers or social workers. The findings suggest that clinical staff at facilities may be undertaking multiple tasks alongside clinical care provision, such as undertaking laboratory tests or providing social care, counselling or other psychological care, or spiritual care.

Pharmacy review

CTX and non-opioids analgesics were the most commonly stocked drugs of those recorded, isoniazid and morphine the least common. Morphine was in stock at one site only, and this was in injectable form. Non-opioid analgesics were reported as being provided at four facilities which did not stock them in the pharmacy; the same discrepancy was observed for isoniazid at six facilities, fluconazole at 16; morphine at three and CTX at three. Stock levels for named drugs were rare, and stockouts were common, e.g. in previous six months 27 sites had had a stockout of non-opioids, 22 of fluconazole and eleven of codeine.

Document analysis

Only 60% of facilities reported that they utilise a standardised form for first clinical assessment and 60% reported using a standardised form for assessment of patients for ongoing and repeated contact. The content of those analysed was nurse and doctor focused, i.e. did not record non-clinical problems or interventions. Forms, such as those used for referrals, lacked key items such as patient medical history.

Staff views

Staff felt that the strengths of their facilities included providing clinical care (especially ART, and opportunistic infection (OI) prophylaxis), having a good infrastructure (including having a range of care facilities in one place), having staff employed and trained in specialist areas, and reducing stigma. Areas for improvement desired were increasing the range of components of care available, and providing more training for staff as well as employing more specialist staff.

As well as general funding issues, staff were concerned that a lack of space, too few staff, a lack of equipment and erratic drug supplies threatened the sustainability of their services. Suggestions for reducing double counting of patients included improving the comprehensiveness of care provided on a single site, improving drug supplies, increasing patient confidentiality and increasing the number of trained staff.

Patient focus group discussions (FGDs)

Forty-nine FGDs took place, involving 242 patients.

Not all components care identified by staff were reported as received by patients, e.g. water treatment was reportedly offered by 37% of facilities but received by 14% of participants. Some reasons offered by patients for not having received care were lack of need, cost to patients and not meeting facility criteria.

Patients highly rated the counselling services, and felt facility services helped to reduce stigma and improve their quality of life. They requested more components of care to be available on site so that they did not have to travel (e.g. laboratory tests, microfinance and medications).

Patients requested more staff, increased hours of appointments, and transport to the facility. The problem of drug stockouts was frequently mentioned. Patient most frequently visited additional facilities because of the availability of medications, capacity for laboratory tests and the convenience of proximity to their home.

Recommendations

- Facility infrastructure, particularly enlarging clinic and waiting areas, requires improvement in many facilities. Some facilities also require better electricity and water supplies for better sanitation and infection control.
- We observed a low number of care components to be provided at smaller facilities, even after including availability via referral. Reliable and well-monitored referral networks for specialist HIV care and support should be established. As well as improving patient care, such networks could help to reduce the number of patients who shop around for their health care services, and the subsequent double-counting of such patients.
- In order for reliable referrals to work, comprehensive records of patients attending facilities and the care they receive, including outward and inward referrals, are needed for good patient care and efficient use of service resources. Improvements in the detail and management of patient records need to be made in all areas.
- Both an increase in the numbers of specialist staff, and a needs-assessment and delivery of specialist training in HIV care and treatment should be undertaken. Increasing specialist training and employing staff specifically to deliver non-clinical aspects of care and support, such as psychological and spiritual care, could have several effects. It could widen the availability of specialist care and support to patients. It could improve care quality across the domains by freeing up more time clinical staff to provide clinical care, as well as those with specialist training being able to deliver the other areas of care.
- Patient need should be assessed, and documented, in a multiprofessional, holistic and ongoing manner.
- The availability, as well as accessibility, of holistic care and support services should be increased.
- The provision of OI prevention should be improved. Although treatment of OIs appeared to be widespread, prevention of specific OIs and the components of the PCP were less widely offered. Specifically for CTX, although it was reported as being widely available, this was not matched by consistent pharmacy stocks or reliable sourcing by patients. Increasing the provision of reliable OI prevention and the PCP could have greater health benefits for HIV patients, and may be cheaper and/or easier to administer than treatment.
- Opioid provision in HIV care and support services should be urgently addressed.
- Social care should be provided, directly or by referral, at all facilities.
- Basic preventive and support services should be made available to as many patients as possible, without eligibility criteria, to make uptake as easy as possible for all who need them, particularly those in greatest need.
- The high frequency of stock outs, and challenges in this respect described by patients, need to

- be addressed through improving pharmacy stock supply, control, records and storage.
- Laboratory services, particularly CD4 and liver function testing, should be made more widely available. For smaller facilities, referral networks to larger facilities for such services should be efficient.

Introduction

In 2003 the United States government (USG) funded a five-year, \$15 billion initiative to combat the global HIV/AIDS epidemic: the President's Emergency Plan for AIDS Relief (PEPFAR). The money was allocated approximately as follows: treatment (55%), prevention (20%), assisting orphans and vulnerable children (10%) and care and support of individuals with HIV/AIDS (15%). PEPFAR has commissioned PHEs in these areas to evaluate programmes.

The evaluation of PEPFAR-funded care and support for HIV was led by King's College London (KCL, Principal Investigator) in collaboration with MEASURE Evaluation at the University of North Carolina (UNC), the African Palliative Care Association (APCA), and the Kenyan Hospice and Palliative Care Association (KEHPCA). The aims, methods and implementation of the evaluation were planned and agreed in consultation with members of the technical working group on care and support, USG staff in country and representatives of the Ministry of Health (MOH) in Kenya and Uganda.

Evaluation Aims and Objectives

The aims of this 2-phase care and support public health evaluation were:

- To describe the nature and scope of HIV care and support provision supported by PEPFAR in two African countries, including the types of facilities available, clients seen, and availability of specific components of care [Phase 1]
- To evaluate how programme components and costs are related to health outcomes [Phase 2]

By meeting these aims, this study will provide detailed description of the care and support services that have been delivered through PEPFAR funding and identify the effective components and costs of the services, to improve the health of patients with HIV. Dissemination of the findings is planned, in conjunction with country teams, to inform effective care and support provision within the two PHE target countries and beyond, where lessons can be transferred to other PEPFAR countries.

In order to address these aims, the study objectives were:

- To undertake a cross-sectional survey of service configuration and activity by visiting 10% of the facilities being funded by PEPFAR to provide HIV care and support in Kenya and Uganda (aim 1)
- To collect longitudinal prospective quantitative outcome data on 1200 patients at 12 facilities in Kenya and Uganda, measuring both quality of life and core palliative outcomes alongside components of care received (aim 2)
- To conduct qualitative interviews with patients and staff to explore service issues in more depth (aim 2)
- To undertake a cost measure of care provided including staff costs, overheads and lab costs (aim 2)

As part of the evaluation, results will be disseminated to report lessons learnt and best practices, and to provide recommendations to PEPFAR.

Study Overview

The evaluation design was an observational study in Kenya and Uganda using mixed methods. The design comprised two sequential periods of data collection using mixed methodologies.

- Phase 1 (2007) was a cross-sectional survey of facility configuration and activity using quantitative and qualitative descriptive data.
- Phase 2 (2008) is a longitudinal evaluation of existing care, focusing on patient outcomes of PEPFAR care and support using validated outcome tools. Supplementary interviews with staff, patients and carers aim to provide in-depth understanding of key issues. An additional cost analysis component in this phase will compare patient/family outcomes with their associated costs.

This report focuses on Phase 1 of the evaluation in Kenya. The data collection and entry was undertaken in Kenya with the support of the Kenya Hospice and Palliative Care Association (KEH-PCA). A separate report has been written for Phase 1 in Uganda. Phase 2 data collection commenced in January 2008 and due to be completed by September 2008.

Methods

Study design

Phase 1 of the care and support PHE was a cross-sectional survey of facility configuration and activity conducted by collecting quantitative and qualitative descriptive data directly from facilities.

Sampling

Of around 600 PEPFAR-funded HIV care and support facilities in Kenya, 60 were selected for inclusion in the study (approximately 10% of PEPFAR-funded facilities). According to routine monitoring patient numbers, the PEPFAR-funded care and support facilities included many smaller facilities. In order to capture a range of facility sizes within the study population, facilities were stratified by number of patients seen for HIV care in the 2006 financial year (according to national PEPFAR records) and divided into three strata (1 to 100, 101 to 500 and >500 patients seen in 2006), resulting in unequal and calculable sampling fractions. Twenty facilities were randomly sampled within each of the strata for the study population.

The criterion for facilities to be eligible for selection in Phase 1 was that they received PEPFAR funding to provide HIV care and support during 2006, excluding facilities that were paediatric-only or inaccessible (e.g. insecure, no road access). Of the 600 sites there were no exclusions made according to these criteria. Given that paediatric-only facilities were excluded, any findings relating to paediatric care reported are unlikely to represent fully the nature and scope of care and support services for HIV positive children in Kenya; however findings show that between 12 and 27% of patients at facilities surveyed were children.

Procedure

Tool development

All tools were developed by a multidisciplinary team, including medical professionals, HIV specialists and care and support researchers, in conjunction with USG Care and Support Technical Working Group and the country teams. All tools were piloted in one large and one small Phase 1 facility in Uganda. These facilities were two of the 60 selected, and data from the pilot were used in the final analyses in the Uganda report. Following piloting, the wording and structure of the tools were modified and clarified. The tools are presented in Appendices A-D and described below.

Four data collection tools were used:

- Senior staff interview — The researchers interviewed a group of senior staff, including facility managers and senior clinical staff, at each health facility to collect responses to closed and open-ended questions about patient numbers, infrastructure and staffing. This tool also included a version of the Client Services Receipt Inventory (CSRI) (Beecham and Knapp 2001) adapted for the aims of this study and the HIV setting in Africa to collect information about services offered to patients with HIV. The CSRI asked if the facilities offered various specific components of care under the five areas of care: clinical, psychological, spiritual, social and preventive. The tool (Appendix A) was designed for use across the wide range of size and type of HIV care facilities funded by PEPFAR.

- Document collection — In order to study the level of patient-level clinical information management at each facility, the existence, format and language of various clinical documents relating to care in the facility were recorded (Appendix B). Blank example documents were taken, where available, for content analysis.
- Pharmacy review — Researchers recorded the level and place of drug stock for in-date and expired drugs separately, and if there had been previous stockouts (in-date drugs only) for various formulations of drugs commonly used in HIV care and support (Appendix C).
- Patient focus group discussions — Researchers led patient discussion groups using the interview schedule (reproduced in Appendix D). The FGDs had two main aims: to act as a validation of the senior staff interview data relating to components of care offered, and to explore aspects relating to patients' care (e.g. which components of care were valued and why, any problems in obtaining medicines).

Ethical approval

Ethical approval to undertake the study in Kenya was received from the Kenyan Medical Research Institute and the College Research Ethics Committee at KCL. Subsequent tool changes following piloting were also approved. All data were anonymised from patient information and raw data stored separately from consent forms, in a locked filing cabinet in line with ethical guidance and the Data Protection Act (1998). Only anonymised data left the KEHPCA office.

Data collection

Facilities were informed of the planned survey through the MOH in Kenya and were asked to participate. Pairs of Kenyan researchers attended each sampled site to collect data on a pre-arranged day, between April and August 2007. Data were recorded on two separate sets of identical forms. One set was left with the facility while the other was taken by the researchers for data entry.

Researchers held interviews with senior facility staff (approximately three per facility) to collect staff-reported information on facility structure, service delivery, care offered and asked their views about the services they offer. These staff members were also asked to provide blank service documents (including service aim, referral forms, assessment sheets and patient information sheets), where available, for content analysis.

FGDs were held with existing patients at each facility (inclusion criteria were adult patients who had been under care for at least 6 weeks) who were known (by both the patient themselves and clinical staff) to be HIV positive and gave informed consent to participate (following provision of an information sheet and consent form). Patients were purposively selected by staff with the aim of obtaining a diverse group with respect to gender, age, disease stage and anti-retroviral (ARV) use.

Approximately five patients in each facility were invited to participate in the discussion group, led by the researcher. Researchers made notes on the responses to pre-specified questions on the interview schedule, and the FGD was digitally recorded as a back-up. During each FGD, demographic information was collected on participants' gender, location (urban, rural or peri-urban), age and household size. Participants also stated how many of them in the group had received specific key components of care including daily CTX, a mosquito bednet and nutritional counselling.

To complete the pharmacy review, researchers visited the pharmacy to review stocks and stock cards, with the assistance of the pharmacist (or dispenser or other staff who worked in the pharmacy).

Data management and entry

Data were transferred from sampled facilities to the KEHPCA offices immediately after collection. Quantitative data (i.e. closed questions from the senior staff interview and the pharmacy review) were double-entered by two different researchers, and validated, using EpiData v3.1. Errors in data entry and data recording were identified using consistency and logic checks, and followed-up by manual checking of questionnaires. Responses to open-ended questions and focus group discussions (FGDs) were entered into pre-formatted templates in MS Word 2003 and exported to NVivo for analysis. Information from the record of documents available at the facility, and their content, were entered into tables in MS Word 2003 files.

Analysis

- Senior staff interview — Analysis was conducted using STATA v10 (quantitative) and NVivo v7 (open-ended questions). Frequency tables were generated for key responses, grouped by facility type where appropriate. A Spearman's rank test for correlation was conducted to test the reliability of routine data. Thematic analysis of content was conducted on the responses to the open-ended questions. The principle themes were organised into data categories and then agreed between two researchers.

The stratified random sampling technique was undertaken because there were many small facilities (by number of patients) and so it would ensure facilities of all sizes to be surveyed. Weighted analysis would have been needed to restore the survey results to be representative of the national sample. However patient numbers provided by PEPFAR did not correlate with those provided by the facilities at the time of survey (page 27). Therefore, weighted analysis could not be undertaken and the sample should be considered as a simple random sample.

- Document analysis — To determine the availability of the various types of service documents, a matrix was developed to record the overall number of facilities who reported having such documents, and the number and percentage of facilities that reported having such documents and provided examples. Where the percentage of facilities who provided examples of documents as a proportion of those who reported such documents existed was less than 20%, or where the absolute number of documents was five or fewer, no further analysis was undertaken. Researchers conducted telephone conversations with site representatives in these cases to determine the reason for non-provision.

In those instances where the percentage of facilities who provided examples of documents as a proportion of those who reported such documents existed was equal to or greater than 20%, content analysis was undertaken to determine thematic frequency. Data were extracted to common tables, and frequencies described for the number of facilities reporting each type of recording sheet, whether a sample was obtained, the specific nature of the information in the document fields are reported, and subsequently described according to facility type.

- Pharmacy review — Analysis was conducted using STATA v10. Frequency tables were generated for each drug, grouped by facility type where appropriate. Data from the pharmacy review was compared with components of care provided, according to the senior staff interview data.
- Focus group discussions — Information on FGD participants' background and receipt of care items was entered into a predesigned table by the researchers, transferred into an Excel spreadsheet and then merged with the STATA database using a unique identifying variable. The care received by FGD participants was compared with the facility staff reports of care offered. Analysis of the FGDs was also conducted using NVivo v7. In the same way as for the open ended questions in the senior staff interviews, thematic analysis of content was conducted on the notes from the focus group discussions. The principal themes were organised independently into data categories and then agreed between two researchers.

Results

Response rate

Of the sixty facilities randomly selected for Phase 1, three could not be found and so were replaced. Replacement was conducted using the same method as the selection of the original 60, i.e. each facility was replaced with another randomly selected from the same stratum. The facilities replaced were allocated new ID numbers, as shown in Table 1 below.

Table 1: Original selected facilities that could not be found and their replacements

Original selected site	ID	Replacement site	ID
NMCK/NUR-Malindi	119	USAO Dispensary, Suba	167
NMCK/NUR-Tana River	111	Tudor District Hospital, Coast	169
NMCK/ NUR-Thika	107	Jocham Hospital, Mombasa	161

All of the facilities approached agreed to take part in the study. The facilities that were visited are listed in Appendix E, and their geographical distribution is illustrated in Figure 1. Each site visit took approximately one day, with some requiring a return visit to complete data collection.

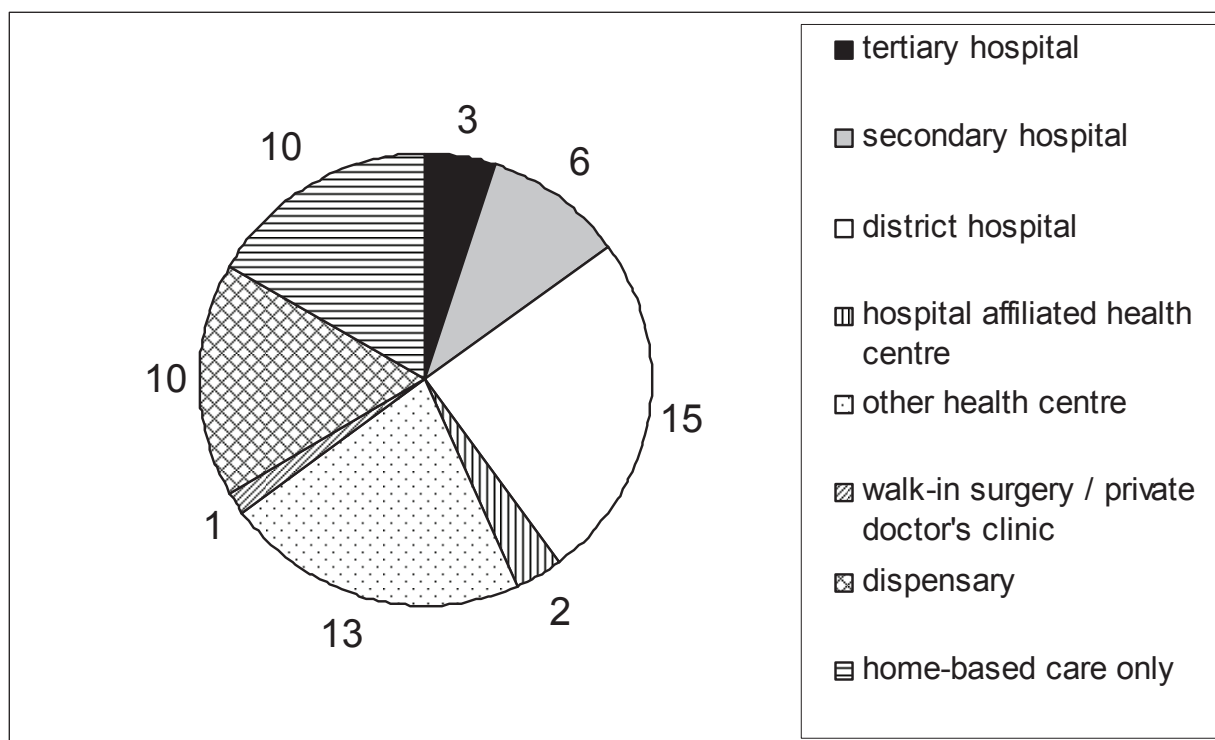
Figure 1: Distribution of facilities visited in Kenya



Facility types

Facility staff were asked to indicate which facility type most closely reflected their service from a list of eight options. Figure 2 shows that out of the 60 facilities surveyed, a quarter classified themselves as district hospitals and almost a quarter as health centres not affiliated to a hospital.

Figure 2: Self-reported facility types of those surveyed (total n=60)



Where subsequent results are grouped, this will be by the following facility types: secondary/tertiary hospital (to include tertiary hospitals, which provide training as well as specialised care, and secondary hospitals, which are generally the provincial level hospitals offering surgery and specialised care. n=9, 15%) district hospitals (to include district hospitals only, i.e. hospitals offering basic inpatient services, and may or may not offer surgery. n=15, 25%), health centre (to include hospital affiliated- and other-health centres, and the walk-in-surgery/private doctor's clinic, i.e. facilities generally offering multiple services. n=16, 27%), dispensaries (to include only dispensaries, i.e. facilities offering only a few outpatient services. n=10, 17%) and HBC-only (to include only facilities that are exclusively home-based care n=10, 17%). Appendix E shows how each facility was classified according to these five categories.

Patient characteristics

Numbers of patients

In Table 2 below the 2nd and 3rd columns show the number of patients that received any HIV care at each facility, and the number of new patients registered, according to the self-reported data from facilities in this PHE Phase 1 survey. The right hand column shows the number of patients who received HIV care according to routine data from PEPFAR (as at September 2006).

Table 2: Patient numbers from facility and PEPFAR records

Facility ID	Self-reported to survey in 2007		Routine PEPFAR data, Sept 2006
	New patients receiving HIV care in the last three months (n)	Patients receiving HIV care in the last three months (n)	Individuals provided with care and support (n)
101	639	1546	1
102	2752	4867	2
103	688	1132	2
104	295	1165	3
105	90	1281	4
106	0	20	4
108	34	184	12
109	3817	19538	13
110	251	688	20
112	943	1162	30
113	1	45	35
114	9291	13876	40
115	32	56	47
116	2533	5687	48
117	2	20	55
118	1362	4713	58
120	24	130	60
121	15	172	103
122	987	2096	105
123	251	688	108
124	472	637	119
125	155	287	131
126	1350	3712	149
127	138	1711	152
128	60	1259	185
129	167	374	192
130	100	300	231
131	113	missing	249
132	33	367	272
133	558	5305	296
134	824	2098	331
135	5934	8303	348
136	175	1114	416

Facility ID	Self-reported to survey in 2007		Routine PEPFAR data, Sept 2006
	New patients receiving HIV care in the last three months (n)	Patients receiving HIV care in the last three months (n)	Individuals provided with care and support (n)
137	87	230	418
138	35	188	420
139	169	1831	433
140	61	860	473
141	2881	4916	548
142	54	429	570
143	130	2243	635
144	365	1169	670
145	210	480	700
146	264	1802	704
147	172	843	725
148	451	985	955
149	2612	6320	1064
150	30	185	1072
151	856	1463	1146
152	25	45	1224
153	314	799	1291
154	362	3450	1933
155	246	missing	2151
156	377	3031	2288
157	463	4334	2616
158	796	1126	2733
159	547	4963	3032
160	422	5975	4666
161	445	1556	48
167	1208	2222	1
169	1476	5540	73

In the selected facilities, the number of patients receiving care in the last quarter, as reported by facility staff, ranged from 20 to over 19000 (Table 2). There was very little correlation between the routine data and the data collected in the survey for number of patients receiving care, as shown by a Spearman's rank test for correlation ($\rho = 0.107$, $p = 0.426$).

Patient numbers – gender and children

Facilities reported the total number of patients who had used the HIV services in the last quarter in total, and with breakdowns by men, women and children where available. Children were defined as aged under 18, in accordance with the policy of PEPFAR and the advice of country teams.

Table 3: Gender distribution of adult patient numbers by facility type

Facility type (n)	N (%) of facilities with:			
	0-25% female patients	25-<50% female patients	50-<75% female patients	75-100% female patients
Secondary/tertiary hospital (9)*	0 (0)	0 (0)	8 (89)	1 (11)
District hospital (15)	0 (0)	1 (8)	10 (77)	2 (15)
Health centre (16)	1 (6)	2 (13)	12 (75)	1 (6)
Dispensary (10)	0 (0)	1 (10)	9 (90)	0 (0)
HBC-only (10)	0 (0)	1 (10)	4 (40)	5 (50)
Total (58)*	1 (2)	5 (9)	43 (74)	9 (16)

*Two hospitals had missing figures for adult patient numbers (total or gender breakdown)

More women were registered at facilities than men. The mean proportion of female patients at facilities was 63% (sd 14.5, 95% confidence intervals 59-67%) and the majority of facilities of all types had 50-75% female patients (Table 3).

Table 4: Proportion of paediatric patients by facility type

Facility type (n)	Mean n (sd) patients who are children	Mean % (sd) patients who are children
Secondary/tertiary hospital (9)*	193 (108)	12 (6.7)
District hospital (15)	643 (1133)	16 (10.3)
Health centre (16)	1092 (1784)	20 (18.2)
Dispensary (10)	489 (673)	27 (16.6)
HBC-only (10)	122 (264)	20 (21.4)
Total (58)*	582 (1152)	19 (15.9)

*Two hospitals had missing figures for adult patient numbers (total or gender breakdown)

Six facilities reported to have no paediatric patients registered. Table 4 shows that the mean number of paediatric patients at the facilities overall was 582 (sd 1152), 19% of all patients. Health centres were the facility type reporting the highest mean number of paediatric patients (mean n = 1092), whereas HBC facilities reported the highest proportion of paediatric patients (27%).

Infrastructure

General

Table 5 shows the infrastructure of the facilities visited. All but three facilities reported offering HIV care alongside services for other non-HIV healthcare needs. Over half of facilities were run by

the government (n=37). Twenty-two facilities were run by NGOs, which tended to be the smaller ones surveyed, i.e. half of the dispensaries and all HBC-only facilities. Facility staff commonly said their service reported to more than one authority. Eighty-five percent of facilities reported to the MOH, and over half reported to an NGO. The row labelled 'places of care' describes all the sites of care delivered by a facility. Inpatient-, outpatient-, day- and home-based care, and consultancy were offered by over half of the facilities. Inpatient care was reported by all but one hospital (secondary/tertiary or district). Outpatient care was reported by all the hospitals, 94% of the health centres and 80% of the dispensaries. Home-based care was offered by over 75% of all hospitals and health centres. Medical consultancy was offered by all secondary/tertiary hospitals and over three-quarters of district hospitals and health centres. Offering day-care was not commonly reported; health centres most commonly offered day-care (seven out of sixteen health centres). Support groups were offered at all HBC-only facilities, at least three-quarters of hospitals and health centres, and half of dispensaries.

Table 5: Infrastructure present at different facility types

Aspect of infrastructure		Facility type n (%)					
		2°/3° hospital	District hospital	Health centre	Dispensary	HBC-only	Total
Total n (%) facilities of each type		9 (100)	15 (100)	16 (100)	10 (100)	10 (100)	60 (100)
Authority	HIV-only facility	0 (0)	0 (0)	0 (0)	0 (0)	3 (30)	3 (5)
	Government	5 (56)	14 (93)	13 (81)	5 (50)	0 (0)	37 (62)
	Private	1 (11)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)
Reports to	NGO	3 (33)	1 (7)	3 (19)	5 (50)	10 (10)	22 (37)
	MOH	9 (100)	15 (100)	15 (94)	9 (90)	3 (30)	51 (85)
	USG/PEPFAR	3 (33)	3 (20)	2 (13)	2 (20)	1 (10)	11 (18)
	NGO	6 (67)	7 (47)	9 (56)	4 (40)	5 (50)	31 (52)
Places of care	Private for-profit organisation	0 (0)	1 (7)	2 (13)	1 (10)	0 (0)	4 (7)
	Inpatient	8 (89)	15 (100)	6 (38)	1 (10)	1 (10)	31 (52)
	Outpatient	9 (100)	15 (100)	15 (94)	8 (80)	2 (20)	49 (82)
	Home based care	7 (78)	12 (80)	12 (75)	4 (40)	10 (100)	45 (75)
	Medical consultancy	9 (100)	14 (93)	12 (75)	5 (50)	1 (10)	41 (68)
	Daycare	3 (33)	2 (13)	7 (44)	2 (20)	3 (30)	17 (28)
General infrastructure	Support groups	7 (78)	13 (87)	12 (75)	5 (50)	10 (100)	47 (78)
	Staff on site 24 hrs a day	9 (100)	14 (93)	10 (63)	6 (60)	2 (20)	42 (70)
	Has functioning ambulance	8 (89)	11 (73)	5 (31)	2 (20)	0 (0)	26 (43)
	Has electricity (functioning mains or generator, inverter or solar panel)	9 (100)	14 (93)	11 (69)	7 (70)	4 (40)	46 (77)
	Has safe water supply	9 (100)	13 (87)	14 (88)	9 (90)	9 (90)	54 (80)
	Has functioning toilet	9 (100)	14 (93)	15 (94)	8 (80)	6 (60)	52 (87)

Twenty-four hour staff coverage was found in the majority of facilities, including all secondary/tertiary hospitals and all but one district hospital. Fewer than half of the facilities had a functioning ambulance, with five more facilities reporting having an ambulance that was currently not functioning. Over three quarters of facilities had a functioning electricity supply (i.e. mains or generator), 80% of facilities had a safe water supply (i.e. piped, public tap, standpipe, protected dug well, rainwater or borehole) and 87% had a functioning toilet (the condition of the toilet could not be observed for one facility).

Time and frequency of appointments

Of the 53 facilities who reported offering clinical (i.e. medicine or nursing) appointments, the number of hours per week available for patients to see a clinician ranged from three to 56. Fifty-six facilities reported that patients could see a non-clinical (i.e. not medicine or nursing) member of staff for HIV care, where the time available ranged from one to 59 hours per week. The median number of hours per week for a patient to be able to see a clinical (35 facilities) or non-clinical (34 facilities) member of staff was 40. HBC-only facilities were the facility type most commonly not able to offer clinical care, or to offer only a few hours per week to see a non-clinical staff member for HIV care (five out of ten HBC-only health facilities offered between one and fifteen hours per week to see a non-clinical member of staff).

Table 6 shows the reported frequency of regular appointments for HIV patients taking and not taking ARVs, by facility type. The most common frequency of appointment offered for most types of patient was twelve per year. The only exception was for patients taking ARVs requesting a non-clinical appointment, where the most common option facilities reported was to offer them appointments as needed. Having appointments as needed was the second most commonly reported frequency of appointment to see HIV patients not taking ARVs and HIV patients taking ARVs for a non-clinical appointment, and this was more common among the smaller facilities.

Table 6: Frequency of appointments

Type of patient, type of appointment	Frequency	Facility type n (%)					
		2°/3° hospital	District hospital	Health centre	Dispensary	HBC-only	Total
Total n (%) facilities of each type		9 (100)	15 (100)	16 (100)	10 (100)	10 (100)	60 (100)
Non-ARV, clinical	<12/year	3 (33)	3 (20)	1 (6)	1 (10)	0 (0)	8 (13)
	12/year	5 (56)	10 (67)	12 (75)	7 (70)	3 (30)	37 (62)
	>12/year	1 (11)	0 (0)	1 (6)	0 (0)	2 (20)	4 (7)
	Appointments as needed	0 (0)	2 (13)	2 (13)	2 (20)	5 (50)	11 (18)
Non-ARV, non-clinical	<12/year	4 (44)	2 (13)	0 (0)	1 (10)	0 (0)	7 (12)
	12/year	3 (33)	8 (53)	8 (50)	3 (30)	4 (40)	26 (43)
	>12/year	2 (22)	0 (0)	2 (13)	2 (20)	3 (30)	9 (15)
	Appointments as needed	0 (0)	5 (33)	6 (38)	4 (40)	3 (30)	18 (30)

Type of patient, type of appointment	Frequency	Facility type n (%)					
		2°/3° hospital	District hospital	Health centre	Dispensary	HBC-only	Total
ARV, clinical	<12/year	3 (33)	2 (13)	0 (0)	0 (0)	1 (10)	6 (10)
	12/year	5 (56)	12 (80)	11 (69)	4 (40)	1 (10)	33 (55)
	>12/year	0 (0)	0 (0)	2 (13)	1 (10)	2 (20)	5 (8)
	Appointments as needed	1 (11)	1 (7)	3 (19)	5 (50)	6 (60)	16 (27)
ARV, non-clinical	<12/year	3 (33)	2 (13)	0 (0)	0 (0)	1 (10)	6 (10)
	12/year	4 (44)	8 (53)	5 (31)	4 (40)	2 (20)	23 (38)
	>12/year	1 (11)	0 (0)	3 (19)	0 (0)	3 (30)	7 (12)
	Appointments as needed	1 (11)	5 (33)	8 (50)	6 (60)	4 (40)	24 (40)

Payment for care

Table 7 above shows that, where a particular service was available, most facilities reported to offer most types of service free to all patients. One facility charged for HIV tests, and one charged for ARVs. There were few facilities that reported removing service fees for those taking ARVs or those who had lower incomes. There were other reasons that patients may pay for care that were not captured in this survey, such as 20 facilities charging some patients for medicines (other than CTX), and 22 facilities charging patients for lab work according to other unspecified criteria.

Table 7: Payment for services

Payment routine	Type of service (number facilities offering service)						
	Appointment (46)	x-ray (20)	HIV test (49)	ARVs (35)	Laboratory work (39)	CTX (50)	Other medicines (52)
All pay	0	5	1	1	4	2	4
Free to all	30	3	48	32	8	38	23
Free to those taking ARVs	3	0	0	2	1	5	0
Means- tested	2	1	0	0	4	0	5
Other (unspecified)	11	11	0	0	22	5	20

Facility Staff

Staffing levels

Facility staff were asked to report the number of paid (full-time and part-time) and volunteer staff they had working in their HIV care for a number of different staff designations. The designation recorded was that for which each person was primarily employed, although this may not reflect all the tasks each individual undertakes. Tables 8 and 9 show the number of facilities reporting to have each category of each staff designation, and the range of staff numbers of each designation reported.

Table 8: Number of facilities employing at least one staff member, by designation and facility type

Staff designation	Number (%) facilities																	
	2°/3° hospital (n=9)			District hospital (n=15)			Health centre (n=16)			Dispensary (n=10)			HBC-only (n=10)			Total (n=60)		
	FT	PT	Vol	FT	PT	Vol	FT	PT	Vol	FT	PT	Vol	FT	PT	Vol	FT	PT	Vol
Doctor	9 (100)	3 (33)	0 (0)	14 (93)	1 (6)	1 (6)	4 (25)	1 (6)	1 (6)	0 (0)	0 (0)	4 (40)	0 (0)	0 (0)	27 (45)	6 (10)	7 (12)	
Clinica officer	8 (88)	1 (11)	0 (0)	15 (100)	3 (20)	0 (0)	14 (88)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	40 (67)	6 (10)	1 (2)	
Nurse	9 (100)	2 (22)	0 (0)	15 (100)	0 (0)	0 (0)	14 (88)	0 (0)	1 (6)	9 (90)	2 (20)	2 (20)	2 (20)	1 (10)	49 (82)	5 (8)	3 (5)	
Pharmacist/ dispenser	9 (100)	0 (0)	0 (0)	14 (93)	1 (6)	0 (0)	4 (25)	1 (6)	1 (6)	1 (10)	0 (0)	2 (20)	1 (10)	0 (0)	29 (48)	2 (3)	3 (5)	
Laboratory staff	9 (100)	2 (22)	1 (11)	15 (100)	1 (6)	2 (13)	10 (63)	2 (13)	3 (19)	2 (20)	0 (0)	1 (10)	0 (0)	0 (0)	36 (60)	5 (8)	7 (12)	
Community health worker	2 (22)	0 (0)	3 (33)	1 (6)	1 (6)	7 (47)	1 (6)	3 (19)	11 (69)	2 (20)	3 (30)	6 (60)	0 (0)	0 (0)	6 (10)	7 (12)	34 (57)	
Social worker	5 (55)	0 (0)	1 (11)	3 (20)	0 (0)	0 (0)	1 (6)	0 (0)	2 (13)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	9 (15)	1 (2)	8 (13)	
Spiritual leader	0 (0)	0 (0)	4 (44)	0 (0)	1 (6)	2 (13)	0 (0)	0 (0)	3 (19)	0 (0)	0 (0)	4 (40)	0 (0)	0 (0)	0 (0)	1 (2)	21 (35)	
Traditional healer	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (20)	0 (0)	0 (0)	0 (0)	0 (0)	3 (5)	
Nutritionist	8 (88)	0 (0)	2 (22)	13 (87)	1 (6)	1 (6)	4 (25)	0 (0)	2 (13)	0 (0)	3 (30)	6 (60)	0 (0)	0 (0)	25 (42)	4 (7)	13 (22)	
Counsellor	4 (44)	2 (22)	2 (22)	8 (53)	2 (13)	2 (13)	7 (44)	2 (13)	4 (25)	3 (30)	4 (40)	4 (40)	2 (20)	0 (0)	24 (40)	10 (17)	19 (32)	
Physio-therapist	6 (66)	0 (0)	0 (0)	13 (87)	0 (0)	0 (0)	2 (13)	1 (6)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	21 (35)	1 (2)	1 (2)	

Table 9: Median number of staff members employed under each designation, by facility type (only includes those where number of staff > 1)

Staff designation	Median number of staff employed																				
	Secondary/tertiary hospital						District hospital			Health centre			Dispensary			HBC-only			Total		
	FT	PT	Vol	FT	PT	Vol	FT	PT	Vol	FT	PT	Vol	FT	PT	Vol	FT	PT	Vol	FT	PT	Vol
Doctor	4	2	-	3.5	1	1	1	1	1	1	1	1	2	-	1	2	-	1	2	1	2
Clinical officer	9	2	-	9	2	-	1	-	-	-	-	1	2	-	1	2	-	1	3.5	2	1
Nurse	40	12.5	-	45	-	-	8.5	-	3	2	2.5	2	2	2	2.5	1	6	-	13	5	3
Pharmacist/ dispenser	3	-	-	3	1	-	1	1	1	1	1	2	-	1	1	1	-	-	2	1	1
Laboratory staff	6	1.5	2	5	1	1	2.5	1	1	1	1	1	-	1	1	-	-	4	1	1	1
Community health worker	7	-	30	4	2	5	2	11	5	1	20	18	-	-	-	-	-	14	3	11	6
Social worker	2	-	1	1	-	-	2	-	2.5	-	1	-	-	-	-	-	-	5	2	1	2.5
Spiritual leader	-	-	1	-	1	1	-	-	2	-	-	6	-	-	-	-	-	2.5	-	1	2
Traditional healer	-	-	-	-	-	-	-	-	-	-	-	30	-	-	-	-	-	1	-	-	30
Nutritionist	2	-	1	2	2	1	1	-	1.5	-	2	1.5	-	2	1.5	-	-	2	2	2	1
Counsellor	2.5	6	4.5	6	5	1	4	2.5	2.5	2	8	3	2	2	3	2	-	3	2	3.5	2
Physio-therapist	3.5	-	-	2	-	-	1	3	-	-	-	1	-	1	-	-	-	-	2	3	1

--no facilities employ staff on this basis

Table 8 and 9 show that the majority of staff of most designations were employed on a paid, full-time basis. Part-time staff were not often employed, or only found in small numbers. The few exceptions to this trend will be highlighted. Fewer than half of facilities reported employing a full-time doctor. All secondary/tertiary hospitals and 93% of district hospitals employed a full time doctor, but only 25% of health centres and none of the dispensaries or HBC-only facilities employed a full time doctor. Over two thirds of facilities employed a full time clinical officer, including all the district hospitals and 88% of both secondary/tertiary hospitals and health centres. Nearly 90% of facilities employed a full time nurse. Full time pharmacists or dispensers and laboratory staff were employed in around half of facilities. Counsellors and nutritionists were present in just under two thirds of facilities. Facilities rarely reported having traditional healers (n=3) or social workers (n=18) amongst their staff.

Voluntary staff were rarely reported for most clinical staff designations. However, the majority of facilities that had community health workers or spiritual leaders employed them as voluntary staff (34 out of 47 facilities and 21 out of 22 facilities respectively). Community health workers were the designation most commonly employed on a voluntary basis, at over half of facilities including a third of secondary/tertiary hospitals, nearly half of district hospitals and at least 60% of health centres, dispensaries and HBC-only facilities.

The median number of many staff designations employed ranged greatly. Many of the smaller facility types employed a median of 1 or 2 staff members (full-time, part-time or voluntary) for the key clinical designations. The most numerous staff employed were full time nurses at secondary/tertiary hospitals and district hospitals (median =40 and 45 respectively), volunteer community health workers at secondary/tertiary hospitals and volunteer traditional healers at dispensaries (median = 30 in both cases), and part-time community health workers at dispensaries (median =20). One facility had no staff of any of the designations listed in Tables 8 and 9.

Staffing categories

In order to explore the types of specialist care being offered, different staff designations (i.e. job title) were combined into clinical (doctor, clinical officer, nurse, physiotherapist), spiritual (spiritual leader and traditional healer), psychological (counsellors) and social (community health worker and social worker) staff. Each member of staff was assigned a unique designation.

Table 10 shows the number of facilities that had any number of staff (fulltime, part-time or volunteer) within each category.

Clinical staff were employed at all hospitals and dispensaries and all but one health centre. Spiritual staff were employed at fewer than half of hospitals, health centres and dispensaries, but 80% of HBC-only health facilities. Psychological staff were present at over half of facilities, most frequently in HBC-only facilities (9 out of 10). Social staff were employed at over 70% of all facilities, most commonly at health centres (81%). A minority of facilities employed staff trained in all 4 specialised areas of care and support, most commonly health centres and dispensaries (30% each). Laboratory staff were present at all hospitals and the majority of health centres, but rarely at dispensaries and at no HBC-only facilities.

Table 10: Staffing categories by facility type

Staffing category	Facility type n (%)					
	Secondary/ tertiary hospital	District hospital	Health centre	Dispensary	HBC-only	Total
Total number of facilities of each type	9 (100)	15 (100)	16 (100)	10 (100)	10 (100)	60 (100)
Clinical	9 (100)	15 (100)	15 (94)	10 (100)	3 (30)	52 (87)
Spiritual	4 (44)	3 (20)	3 (19)	4 (40)	8 (80)	22 (37)
Psychological	5 (55)	10 (67)	11 (69)	5 (50)	8 (80)	39 (65)
Social	7 (77)	9 (60)	13 (81)	7 (70)	7 (70)	43 (72)
All of the above staff categories combined	1 (11)	2 (13)	3 (19)	3 (30)	3 (30)	12 (20)
Laboratory	9 (100)	15 (100)	12 (75)	2 (20)	0 (0)	38 (63)

Reliance on volunteers

Table 11 below shows that the number of facilities where all the staff are represented solely by volunteers varies greatly by staff type. For example one facility has only volunteer physiotherapists whereas 28 facilities have only voluntary community health workers. A comparison with the data from Table 8 (repeated below for easy comparison) shows that for most designations, where staff are employed on a voluntary basis there are usually few paid staff. Exceptions include laboratory staff, community health workers and counsellors where there is more commonly a mix of paid and voluntary staff.

Table 11: Number of facilities where staffing represented solely by volunteers, by staff designation

Staff designation	Number of facilities with solely volunteer staff	Staff employment (from Table 8)		
		FT	PT	Vol
Doctor	6	27 (45)	6 (10)	7 (12)
Clinical officer	1	40 (67)	6 (10)	1 (2)
Nurse	2	49 (82)	5 (8)	3 (5)
Pharmacist	3	29 (48)	2 (3)	3 (5)
Laboratory staff	1	36 (60)	5 (8)	7 (12)
Community Health worker	28	6 (10)	7 (12)	34 (57)
Social worker	7	9 (15)	1 (2)	8 (13)
Spiritual leader	21	0 (0)	1 (2)	21 (35)
Traditional healer	3	0 (0)	0 (0)	3 (5)
Nutritionist	8	25 (42)	4 (7)	13 (22)
Counsellor	10	24 (40)	10 (17)	19 (32)
Physiotherapist	1	21 (35)	1 (2)	1 (2)

In order to understand the extent to which facilities rely on volunteers, the proportion of voluntary staff (any designation) out of the total number of staff (fulltime, part-time and voluntary, any type) were calculated for each facility type (Table 12, below). The results show that the reliance on volunteers varied widely and volunteers comprised over half of staff in dispensaries (median of 65.6%) and usually all staff at HBC-only facilities (median of 100%).

Table 12: Median percentage of staff who were volunteers by facility type

Facility type	Median percentage of staff who are volunteers (IQR)
Total	22.0 (0.9 – 70.6)
Secondary/tertiary hospital	2.3 (0.4-38.1)
District hospital	2.2 (0.1-3.8)
Health centre	24.0 (11.1-39.8)
Dispensary	65.6 (11.8-74.6)
HBC-only	100 (89.6-100.0)

Comparing Tables 11 and 12 above, it can be seen that the great reliance on voluntary staff found at dispensaries and HBC-facilities is spread between a number of staff designations; mainly community health workers, nutritionists, spiritual leaders and counsellors.

Patient load

The number of patients registered at a facility (in the previous quarter, see Table 2) was divided by the number of staff employed under each designation to indicate patient load (although actual patient contact time was not recorded in this survey). To calculate patient loads for different staff designations, part-time and volunteer staff counted as 0.5 fulltime equivalent. The results are shown in Table 13.

Table 13 shows that patient load varied considerably between staff types. It was high for social workers (median of 916 patients/staff member) and physiotherapists (median of 844 patients/staff member), and low for traditional healers (median of 46 patients/staff member, although only three facilities employed this staff designation) and community health workers (median of 140 patients/staff member). Out of the clinical staff listed, patient load was highest for physiotherapists and lowest for nurses. Some clinical staff, such as doctors, may have less patient contact than others, such as nurses, which is not reflected in this table.

Components of care

Individual components of care

Facilities were asked to indicate whether or not they offered (either directly or by outward referral) a variety of components of care that fall under the umbrella of PEPFAR HIV care and support. With reference to components of care, components will be described as being ‘provided’ (meaning reported as offered by the facility and at the facility), ‘referred’ (meaning a patient is formally or informally referred out for the component according to the facility) or ‘provided or referred’ (meaning the component is provided or referred, as before). In most cases the term ‘provided or referred’ is used, meaning referrals are included in the figures presented.

Table 13: Patient load per staff member by type, when that staff member is present

Staff designations	Number of facilities that employ staff designation	Median patient load per staff member (inter-quartile range (IQR))*
Doctor	34	559 (196, 1692)
Clinical officer	41	412 (137, 1429)
Nurse	50	161 (32, 439)
Pharmacist	32	808 (311, 1765)
Laboratory staff	36	428 (162, 1476)
Community health worker	36	140 (34, 1098)
Social worker	17	916 (404, 2734)
Spiritual leader	22	476 (237, 2667)
Traditional healer	3	46 (46, 2926)
Nutritionist	35	688 (367, 1856)
Counsellor	38	274 (56, 1181)
Physiotherapist	22	844 (287, 2540)

* Facilities that have missing patient numbers are excluded

Table 14: Components of care offered by facilities

Type of care	Component of care	Provided here	Referred formally	Referred informally	Not provided
General clinical	Nursing care	50	0	0	10
	Adult diagnostic HIV testing	40	4	2	14
	ARVs	35	3	1	21
	Weighing	51	1	0	8
	Assess ARV treatment failure	36	1	0	23
	Monitor ARV toxicity	37	2	0	21
	Wound care	46	3	1	10
	Physiotherapy	21	4	1	34
Pain control	Assessment of pain	43	2	0	15
	Strong opioids	3	1	0	56
	Weak opioids	16	1	0	43
	Non-opioids	50	1	0	9
	Treatment for neuropathic pain	36	3	0	21
Symptom control	Anxiety/depression treatment	41	1	0	18
	Treatment for nausea/vomiting	48	1	0	11
	Treatment for skin rash/itching	49	0	0	11

Type of care	Component of care	Provided here	Referred formally	Referred informally	Not provided
Symptom control con't	Treatment for diarrhoea	50	1	0	9
	Laxatives	35	5	0	20
	Treatment for thrush	49	0	0	11
	Treatment for oral candidiasis	49	0	0	11
	Treatment for cryptococcus	38	3	1	18
	Treatment for other fungal infections	49	0	0	11
	Treatment for herpes	45	3	0	12
	Treatment for malaria	50	0	0	10
	Tuberculosis (TB) detection	38	4	0	18
	TB treatment	43	2	0	15
	Therapeutic feeding for malnutrition	31	2	0	27
	Treatment for other opportunistic infections	50	1	0	9
	Management of cancer	14	8	0	38
Psychological	Pre- and post- test counselling	54	0	0	6
	Adherence counselling	51	1	1	7
	Family planning counselling	51	1	1	7
	Patient HIV support groups	45	1	0	14
	Family care-givers support group	20	0	0	40
	Family counselling	43	1	2	14
	Psychiatric therapy	15	11	4	30
Spiritual	Visit by pastor	15	0	4	41
	Prayer with patients	27	1	0	32
	Contact with traditional healer/herbalist	2	0	0	58
Social	Home help	27	0	0	33
	Transport to care centre	16	1	1	42
	Employment training/income generating activities (IGA)	16	1	1	42
	Provide household items	9	0	1	50
	Legal services	15	5	5	35
	Memory book work	14	0	1	45
	Family home help	27	0	0	33
	Loans/microfinance	5	0	2	53
	Infection control training	45	0	2	13
HIV prevention	Support for family testing	53	0	0	7
	Circumcision	28	1	1	30
	Prevention with positives	58	0	0	2

Type of care	Component of care	Provided here	Referred formally	Referred informally	Not provided
Prophylaxis & preventive care	Multivitamins	54	0	0	6
	Nutritional advice	59	0	0	1
	Access to safe drinking water at home (safe water treatment)	22	1	1	36
	Septrin/CTX	49	0	0	11
	Isoniazid	10	0	0	50
	Condoms	50	0	1	9
	Mosquito bednets	19	0	0	41
Laboratory	Liver function test	18	6	0	36
	Malaria film	40	1	0	19
	AFB smear	38	2	0	20
	CD4 count/test	20	8	0	32
	Rapid HIV test	49	0	0	11
	Pulse oximetry	10	1	0	49
	Dried blood spot for early infant diagnosis	18	7	1	34
	Viral load	6	11	0	43
Paediatric	Paediatric ARVs	29	3	0	28
	Infant testing and counselling	31	2	0	27
	Children testing and counselling	39	0	1	20

Table 14 shows that the most common components of care were:

- nutritional advice (59 facilities provided),
- prevention with positives (58 facilities provided),
- pre- and post-test counselling (54 provided), and;
- multivitamins (54 provided).

The components most rarely provided, including on site and referrals, were:

- contact with a traditional healer (2 facilities provided),
- strong opioids (3 facilities provided, 1 facility referred),
- loans or microfinance (5 facilities provided, 2 facilities referred),
- provision of household items (9 facilities provided, 1 facility referred), and;
- isoniazid.

Referrals were generally rare. Twenty-two facilities did not refer out for any care listed. The components of care for which facilities most commonly formally referred were:

- CD4 test (28 facilities),
- management of cancer (22 facilities),
- viral load test (17 facilities), and;
- psychiatric therapy (15 facilities).

The paediatric services (paediatric ARVs, infant testing and counselling, and child testing and counselling) were provided or referred by approximately half of facilities. The availability of components of care by facility type is examined under various themes in section d below.

Numbers of components of care offered

Table 15 shows the mean number of components of care provided was 39 (42 provided or referred) out of a possible total of 69. Hospitals provided or referred the greatest number of components of care, followed by health centres then dispensaries, with wide variations in the number of components offered at each level. Referrals increased the number of components of care available at each facility type by between one and four.

Table 15: Mean number of components of care offered by facility type

Type of facility	Mean number (sd) of components of care provided (total n components of care=69)	Mean number (sd) of components of care provided or referred (total n components of care =69)
Secondary/tertiary hospital	50 (5)	53 (5)
District hospital	50 (6)	51 (6)
Health centre	38 (9)	42 (10)
Dispensary	34 (11)	38 (12)
HBC-only	20 (11)	21 (12)
All types	39 (14)	42 (14)

PEPFAR care and support provision

According to PEPFAR there are five areas of care and support (OGAC 2006b):

- Clinical care – including HIV counselling and testing, prevention and treatment of opportunistic infections, HIV prevention and behaviour change counselling, alleviation of HIV symptoms and pain, support for malnourishment, monitoring of need and adherence to ARVs, CTX, safe water, nutritional counselling
- Psychological care – including mental health counselling, family care and support groups, support for status disclosure, bereavement care, treatment of psychiatric illnesses
- Spiritual care - The interventions should be sensitive to the culture, religion(s) and rituals of the individual and community, and can include (but are not limited to): life review and assessment; counselling related to hopes and fears, meaning and purpose, guilt and forgiveness; and life-completion tasks.
- Social care – including legal services, links to food support and IGAs
- Prevention – including community and clinical-based support groups, condoms and partner testing.

Several components of care in Table 13 were re-categorised based on these definitions, and the proportions of facilities providing or referring care in each area were calculated. The results are presented in Table 17 and the components listed under each heading for this section are listed in Appendix F. Within this study we investigated pain and symptom management as the cornerstone of palliative care provision.

Table 16: Proportion of facilities offering different types of care and support

Type of care	Number (%) of facilities providing or referring at least one element of care in this category (n=60)	Most common component provided or referred of those recorded (n facilities provided or referred component)
Clinical	59 (98)	Nutritional advice (59)
Psychological	56 (93)	Family counselling (46)
Spiritual	36 (60)	Prayer with patients (28)
Social	42 (70)	Home help (27)
Prevention	59 (98)	Prevention with positives (58)
All 5 areas above	28 (47)	Nutritional advice (59)

When looking at which areas of care and support were available in the facilities surveyed, Table 16 shows that clinical care, psychological care and preventative care were very commonly provided or referred. Social care was provided or referred in 70% of facilities and spiritual care in 60% of facilities. Care in all five areas of PEPFAR care and support were provided or referred in just under half of the facilities surveyed.

HBC-only facilities most commonly provided or referred care in all five areas of PEPFAR care and support (90%). Whereas 44% of secondary/tertiary hospitals, 47% of district hospitals, 40% of dispensaries and only 25% of health centres provided or referred a component of care in each of the five PEPFAR care and support areas.

Table 17: Most commonly provided or referred component of care under each area of PEPFAR care and support, by facility type

Component of care	Facilities providing or referring care, n (%)					
	2°/3° hospital	District hospital	Health centre	Dispensary	HBC-only	Total
N	9 (100)	15 (100)	16 (100)	10 (100)	10 (100)	60 (100)
Nutritional advice (clinical)	9 (100)	15 (100)	16 (100)	10 (100)	9 (90)	59 (98)
Family counselling (psychological)	9 (100)	12 (80)	15 (94)	10 (100)	5 (50)	46 (77)
Prayer with patients (spiritual)	6 (67)	3 (20)	6 (38)	5 (50)	8 (80)	28 (47)
Home help (social)	3 (33)	5 (33)	6 (38)	3 (30)	10 (100)	27 (45)
Prevention with positives (prevention)	9 (100)	15 (100)	16 (100)	9 (90)	9 (90)	58 (97)

When looking at the availability of the most common component of care under each area of PEPFAR care and support by facility type (Table 17), it can be seen that prevention with positives (prevention) and nutritional advice (clinical) were provided or referred at nearly all facilities. The spiritual and social components were most commonly provided or referred at HBC-only facilities. Family counselling (psychological) was widely provided or referred at hospitals, health centres and dispensaries, but only half of HBC-only facilities.

Components of care by themes

In order to explore the provision of care in different areas, and to help identify potential gaps, components of care were grouped in different ways according to various areas of interest. Some components are repeated under different headings for completeness, e.g. availability of malaria film is shown under malaria (Table 24) and laboratory services (Table 26).

- ART — Facilities were asked if they provided or referred ARVs, as well as the care to support patients in taking their ARV medication, such as adherence counselling, assessment of ARV treatment failure and monitoring of ARV toxicity (collectively known as antiretroviral therapy (ART)).

Table 18: Components of ART provided or referred, by facility type

ART component	Facilities providing or referring care, n (%)					
	Secondary/ tertiary hospital	District hospital	Health centre	Dispensary	HBC-only	Total
N	9 (100)	15 (100)	16 (100)	10 (100)	10 (100)	60 (100)
ARVs	9 (100)	15 (100)	12 (75)	2 (20)	1 (10)	39 (65)
Adherence counselling	9 (100)	15 (100)	15 (94)	8 (80)	6 (60)	53 (88)
Assessment of ARV treatment failure	9 (100)	14 (93)	8 (50)	4 (40)	2 (20)	37 (62)
Monitor ARV toxicity	9 (100)	15 (100)	10 (63)	4 (40)	1 (10)	39 (65)

Thirty-three out of the sixty facilities provided or referred for all four ART care components. When the availability of the ART components was divided up by facility type, it can be clearly seen (Table 18) that secondary/tertiary hospitals provided the most complete ART package (all components being provided or referred at 100% of secondary/ tertiary hospitals) and HBC-only facilities the least (all four components were provided or referred at two out of ten HBC-only facilities).

Of the facilities surveyed, ARVs were provided or referred by 39 facilities, adherence counselling by 53 facilities, assessment of ARV treatment failure by 37 facilities and monitoring of ARV toxicity by 39 facilities. Looking more closely at the combinations of ART care components it was found that all but one of the facilities providing or referring ARVs also provided or referred adherence counselling, and a further 14 facilities provided or referred adherence counselling even though they did not supply ARVs. Six of the 39 facilities providing or referring ARVs did not offer assessment of ARV treatment failure, and three facilities were providing or referring ARVs but not monitoring of toxicity. There were four facilities that assessed ARV treatment failure but did not provide or refer ARVs, and three facilities monitored ARV toxicity but did not provide or refer ARVs. Facilities were also asked to indicate how many of their patients had received ARVs in the last quarter. Of the 39 facilities offering ARVs, 31 gave numbers of patients receiving it. The mean percentage of patients receiving ARVs was 25.1 (sd 28.1).

- Pain management — Table 19, above, shows that non-opioids were the most commonly provided or referred care component relating to pain management for palliative care. Assessment of pain, weak opioids and treatment for neuropathic pain were most commonly provided or referred by secondary/tertiary hospitals, whereas strong opioids and non-opioids were most commonly provided or referred at district hospitals. All the components of care relating to pain management examined were least commonly available at HBC-only facilities.

Table 19: Components of care relating to management of pain provided or referred, by facility type

Pain component of care	Facilities providing or referring care, n (%)					
	Secondary/tertiary hospital	District hospital	Health centre	Dispensary	HBC only	Total
N	9 (100)	15 (100)	16 (100)	10 (100)	10 (100)	60 (100)
Assessment of pain	9 (100)	13 (87)	11 (69)	8 (80)	3 (30)	43 (72)
Strong opioid, e.g. morphine	1 (11)	2 (13)	1 (6)	0 (0)	0 (0)	4 (7)
Weak opioid, e.g. codeine	6 (67)	8 (53)	3 (19)	0 (0)	0 (0)	17 (28)
Non-opioid, e.g. paracetamol	8 (89)	15 (100)	14 (88)	9 (90)	5 (50)	51 (85)
Treatment for neuropathic pain	9 (100)	13 (87)	12 (75)	5 (50)	0 (0)	39 (65)

- Psychological health — Out of the numerous counselling/support group care components examined, pre- and post-test counselling was chosen from this group as a key component relating to the psychological well-being of HIV patients. Its availability was analysed by facility type, along with anxiety/depression treatment and psychiatric therapy (Table 20). The results show that pre- and post-test counselling was the most commonly provided or referred component of the three. The three components examined were provided or referred most commonly at secondary/tertiary hospitals and least commonly at HBC-only facilities.

Table 20: Components of care relating to psychological health provided or referred, by facility type

Psychological component of care	Facilities providing or referring care, n (%)					
	Secondary/tertiary hospital	District hospital	Health centre	Dispensary	HBC-only	Total
N	9 (100)	15 (100)	16 (100)	10 (100)	10 (100)	60 (100)
Pre- and post-test counselling	9 (100)	15 (100)	15 (94)	9 (90)	6 (60)	54 (90)
Anxiety/depression treatment	9 (100)	13 (87)	12 (75)	6 (60)	2 (20)	42 (70)
Psychiatric therapy	7 (78)	11 (73)	7 (44)	3 (30)	2 (20)	30 (50)

- Nutrition and social care — Table 21 shows that weighing, nutritional counselling and multivitamins were all widely available at hospitals, health centres and dispensaries. Therapeutic feeding for malnutrition was most commonly provided or referred at secondary/tertiary hospitals (75%), and more provided or referred at HBC-only facilities (50%) than at health centres (44%) or dispensaries (30%).

Table 21 includes only the social components of care included in the PEPFAR description of care and support, although others were measured in the survey and are included in Table 14. The availability of the social components of care varied overall, and by facility type, with home help being most commonly provided or referred by HBC-only facilities (100%), loans/microfinance at dispensaries (20%), IGAs at district hospitals (40%) and legal services at HBC-only facilities (50%). The availability of social components of care was generally lowest at hospitals.

Table 21: Components of care relating to nutrition provided or referred, by facility type

Component of care	Facilities providing or referring care, n (%)					
	Secondary/ tertiary hospital	District hospital	Health centre	Dispensary	HBC-only	Total
N	9 (100)	15 (100)	16 (100)	10 (100)	10 (100)	60 (100)
Weighing	9 (100)	15 (100)	14 (88)	9 (90)	4 (40)	51 (85)
Nutritional counselling	9 (100)	15 (100)	16 (100)	10 (100)	9 (90)	59 (98)
Multivitamins	9 (100)	15 (100)	16 (100)	9 (90)	5 (50)	54 (90)
Therapeutic feeding for malnutrition	7 (78)	11 (73)	7 (44)	3 (30)	5 (50)	33 (55)
Home help	3 (33)	5 (33)	6 (38)	3 (30)	10 (100)	27 (45)
Loans/microfinance	0 (0)	1 (7)	3 (19)	2 (20)	1 (10)	7 (12)
I GA	3 (33)	6 (40)	4 (25)	2 (20)	3 (30)	18 (30)
Legal services	3 (33)	4 (27)	9 (56)	4 (40)	5 (50)	25 (42)

- Opportunistic infections (OIs) and preventive care — Care components that aimed to prevent patients from contracting OIs and transmitting HIV, and the treatment of OIs were explored. Some care components prevent HIV transmission and the spread of some OIs, e.g. condoms, so these 2 areas were examined together.

1. Preventive care package (PCP) – The purpose of the PCP is to serve as a short list of components of care that every person with HIV should receive as a preventative measure, to protect them from water-borne infections and malaria, as well as to prevent them from transmitting HIV. There is ongoing discussion regarding which interventions should be included in a ‘preventive care package’ (PCP), and recognition that a package cannot be standardised for all situations and countries (OGAC 2006a). However, some commonly included components are CTX, bednets, treatment to make safe water, multivitamins and condoms. The availability of these components was examined by looking at

the number of facilities providing (i.e. excluding referrals) each component and various combinations of the components.

In Table 22 below it can be seen that of the 60 facilities surveyed, 82% provided CTX, 32% bednets, 40% access to safe water at home, 90% multivitamins, and 83% condoms. Breaking down the availability of PCP components by facility type it can be seen that multivitamins were the most commonly available PCP care component, provided at all hospitals and health centres and 90% of dispensaries. CTX was also commonly available, at hospitals (100%), and all but one health centre. Bednets were not widely available and were most commonly provided at dispensaries (40%). Safe water treatment was most commonly provided at secondary/tertiary hospitals (67%). Multivitamins were provided at all hospitals and health centres, and all but one dispensary, but only 50% of HBC-only facilities. Condoms were also widely available, being provided at nearly all hospitals, health centres and dispensaries and 60% of HBC-only facilities.

Table 22: PCP components provided by each facility type

PCP component of care	Facilities providing care, n (%)					
	Secondary/tertiary hospital	District hospital	Health centre	Dispensary	HBC-only	Total
N	9 (100)	15 (100)	16 (100)	10 (100)	10 (100)	60 (100)
CTX	9 (100)	15 (100)	15 (94)	7 (70)	3 (30)	49 (82)
Bednets	2 (22)	5 (33)	5 (31)	4 (40)	3 (30)	19 (32)
Safe water	6 (67)	5 (33)	6 (38)	4 (40)	1 (10)	22 (37)
Multivitamins	9 (100)	15 (100)	16 (100)	9 (90)	5 (50)	54 (90)
Condoms	7 (78)	14 (93)	15 (94)	8 (80)	6 (60)	50 (83)

Table 23: Combinations of elements of the PCP provided

Care provided	Number of facilities
CTX (n=49)	49
Bednets (n=19) and CTX	18
Safe water (n=22) and CTX	20
Multivitamins (n=54) and CTX	49
Condoms (n=50) and CTX	44
Bednets, safe water, multivitamins, condoms and CTX	5 (8%)

When looking at some combinations of CTX with other PCP components available, Table 23 shows that all the facilities providing CTX also provided multivitamins. Only five facilities (8%) provided CTX, bednets, condoms, multivitamins and safe water, i.e. a preventive care package. Of those five facilities, three were hospitals, one was a health centre and one was an HBC-only facility.

2. Malaria and TB – Table 24 shows that few facilities provided or referred isoniazid to prevent TB. TB detection and AFB smear tests were commonly provided or referred at hospitals and health centres, but not at dispensaries or HBC-only facilities. TB treatment was widely available at all facilities except HBC-only facilities. The most common component of care relating to malaria was malaria treatment, provided or referred at nearly all facilities except HBC-only facilities. The least common component of care relating to malaria was mosquito bednets, although the availability of these was evenly distributed across the facility types.

Table 24: Components of care relating to malaria and TB provided or referred, by facility type

Component of care	Facilities providing or referring care, n (%)					
	Secondary/ tertiary hospital	District hospital	Health centre	Dispensary	HBC- only	Total
N	9 (100)	15 (100)	16 (100)	10 (100)	10 (100)	60 (100)
Isoniazid to prevent TB	2 (22)	5 (33)	2 (13)	1 (10)	0 (0)	10 (17)
TB detection	9 (100)	15 (100)	13 (81)	5 (50)	0 (0)	42 (70)
AFB smear	9 (100)	15 (100)	12 (75)	4 (40)	0 (0)	40 (67)
TB treatment	8 (89)	15 (100)	14 (88)	8 (80)	0 (0)	45 (75)
Mosquito bednets	2 (22)	5 (33)	5 (31)	4 (40)	3 (30)	19 (32)
Malaria treatment	9 (100)	15 (100)	15 (94)	9 (90)	2 (20)	50 (83)
Malaria film	9 (100)	15 (100)	12 (75)	5 (50)	0 (0)	41 (68)

3. Other specific opportunistic infections – Table 25 shows that all the components of care to treat other specific opportunistic infections were provided or referred at all hospitals. The availability of these components was also high in health centres and dispensaries, at over 80% for all components. Few HBC-only facilities offered these components of care.

Table 25: Components of care provided or referred for other specific opportunistic infections, by facility type

Component of care	Facilities providing or referring care, n (%)					
	Secondary/ tertiary hospital	District hospital	Health centre	Dispensary	HBC- only	Total
N	9 (100)	15 (100)	16 (100)	10 (100)	10 (100)	60 (100)
Treatment for nausea/vomiting	9 (100)	15 (100)	15 (94)	8 (80)	2 (20)	49 (82)
Treatment for skin rash/itching	9 (100)	15 (100)	14 (88)	8 (80)	3 (30)	49 (82)
Treatment for diarrhoea	9 (100)	15 (100)	15 (94)	9 (90)	3 (30)	51 (85)
Treatment for thrush	9 (100)	15 (100)	14 (88)	9 (90)	2 (20)	49 (82)
Treatment for oral candidiasis	9 (100)	15 (100)	14 (88)	9 (90)	2 (20)	49 (82)
Treatment for herpes	9 (100)	15 (100)	15 (94)	5 (50)	1 (10)	45 (75)

4. Prevention with positives – PEPFAR’s care and support initiative includes promoting healthy living and reducing risky behaviours (i.e. transmission) for people living with HIV/AIDS. Prevention with positives promotes healthy living and reduction in risk behaviours among HIV-positive people, with the aims of improving quality of life and reducing HIV transmission to sex partners, injecting drug use partners, and infants born to HIV-infected mothers (Gerbert et al 2006).

Facilities were asked if they provided or referred ‘prevention with positives’ care. This is an approach to reduce HIV transmission and includes providing condoms and promoting their use, counselling HIV-positive persons to prevent transmission, providing STI diagnosis and treatment, prevention of mother to child transmission services, etc (Gerbert et al 2006) as these aim to reduce risky behaviours. A range of these components of care were also explored individually in the CSRI: adherence counselling, family planning counselling, patient HIV support groups, treatment of herpes, and condoms.

Thirty-two facilities provided or referred all five of the components of care listed above and one facility offered none. District hospitals were the facility type most commonly providing or referring all five prevention with positives care components (87%). The most common components of prevention with positives provided or referred were adherence counselling and family planning counselling, each by 53 facilities (Table 14). The component of prevention with positives least commonly provided or referred, as recorded in the CSRI, was treatment for herpes (Table 14). All but one facility that reported providing ‘prevention with positives’ as a component of care also provided or referred one or more of the five components of care listed as part of the prevention with positives package.

- Diagnostic tests — Table 26 shows the most common diagnostic test provided or referred was a rapid HIV test (82% of facilities), with pulse oximetry being the least (18% of facilities). The other tests listed were most commonly provided or referred at secondary/ tertiary hospitals and not provided nor referred at HBC-only facilities. It is notable that although 39 provide or refer for ARVs, CD4 and liver function testing were provided or referred at fewer than half of facilities, although the availability was considerably higher at secondary/tertiary hospitals (78% and 89% respectively), district hospitals (67% and 60%) and health centres (50% and 31%).

Table 26: Diagnostic tests provided or referred, by facility type

Component of care	Facilities offering test including referrals, n (%)					
	Secondary/ tertiary hospital	District hospital	Health centre	Dispensary	HBC-only	Total
N	9 (100)	15 (100)	16 (100)	10 (100)	10 (100)	60 (100)
Liver function test	8 (89)	9 (60)	5 (31)	2 (20)	0 (0)	24 (40)
Malaria film	9 (100)	15 (100)	12 (75)	5 (50)	0 (0)	41 (68)
AFB smear	9 (100)	15 (100)	12 (75)	4 (40)	0 (0)	40 (67)
CD4 count/test	7 (78)	10 (67)	8 (50)	3 (30)	0 (0)	28 (47)

Component of care	Facilities offering test including referrals, n (%)					
	Secondary/ tertiary hospital	District hospital	Health centre	Dispensary	HBC-only	Total
Rapid HIV test	9 (100)	15 (100)	15 (94)	9 (90)	1 (10)	49 (82)
Pulse oximetry	4 (44)	3 (20)	3 (19)	1 (10)	0 (0)	11 (18)
Dried blood spot for early infant diagnosis	6 (67)	9 (60)	8 (50)	3 (30)	0 (0)	26 (43)
Viral load	2 (22)	6 (40)	7 (44)	2 (20)	0 (0)	17 (28)

Care provided and staff available

In order to explore the types of specialist care available, the staff categories from Table 10 were compared with the different types of care provided (i.e. on site care, types according to care components described for each PEPFAR area of care, Appendix F). Laboratory components were not classified by PEPFAR, so the category is based on the components in Table 14. Table 27 above shows that in most areas of care, where facilities provided components of care they had staff employed with specialist training in the same area, and there were few cases where staff with specialist training were present but care in that area was not provided, particularly clinical care. However, there were a large number of facilities providing other specialisms without staff with the relevant specialist training being present. For instance, twenty facilities provided psychological care without any counsellors working at the facility (N.B. psychiatrists were not separated from doctors in this survey) and ten facilities provided social care without any community health workers or social workers present at the facility.

Table 27: Components of care provided with and without specialised staff

Type of care	Components of care provided	Specialist staff are working	Specialist staff are not working
Number of facilities			
Clinical	None	0	1
	1 or more	56	3
Psychological	None	3	1
	1 or more	36	20
Spiritual	None	2	22
	1 or more	20	16
Social	None	11	7
	1 or more	32	10
Laboratory	None	0	11
	1 or more	38	11

Number of patients receiving components of care

Facility staff were asked to report the numbers of HIV patients provided with specific components of care in the last quarter (ARVs, TB detection, TB treatment, treatment to make water safe, CTX

and mosquito bednets). The rationale for asking these questions was that most of these components of care should be offered to all patients. However, each component of care was not provided by all facilities, and of those that did there were several missing values (either for total patient numbers or number of patients receiving the care). Furthermore, in a few cases the number of patients receiving the care was greater than the total number of patients reported by the facility. The reason given by facilities for this was that patients come from elsewhere to receive this care but are not counted in the patient numbers for that facility, and so the proportion of patients at that facility who received the component of care could not be calculated. The number of facilities that had valid numbers, and therefore a proportion of patients receiving the care could be calculated, ranged from 15 facilities for water treatment to 42 facilities for CTX. Of those facilities that offered the care and had the patient figures, the range of proportions of patients receiving each component of care was wide (from less than one percent to 100%). Therefore, due to comparatively low quality and completeness, these data have not been analysed.

Document analysis

Availability of documents

The proportion of facilities reporting having specific documents ranged between 33 and 87% (see Table 28), with the least common reported being referral follow-up forms, and the most common being patient records. Most documents were reported in use by over half of facilities, and examples include service aim (72%); incoming (60%) and outgoing (75%) referral forms; stock control sheet (80%); and patient information (75%). The proportion of facilities providing examples of their service documents ranged between 3% and 89%, with the least common provided being care protocols, and the most commonly provided being a first clinical assessment sheet.

Table 28: Availability of Documents

Document Type	Facilities reporting document in use, n (%)	Facilities from which example document obtained, n (% of those reported)	Further analysis conducted
Service aim	43 (72)	7 (16)	No
Referral criteria (inwards)	39 (65)	2 (5)	No
Incoming referral forms	36 (60)	14 (39)	Yes
Outgoing referral forms	45 (75)	32 (71)	Yes
Patient charging	21 (35)	3 (14)	No
ARV protocol	37 (62)	2 (5)	No
Care protocols	34 (57)	1 (3)	No
First clinical assessment sheets	36 (60)	32 (89)	Yes
Ongoing contact assessment sheets	36 (60)	27 (75)	Yes
Patient record sheet	52 (87)	13 (25)	Yes
Referral follow up forms	20 (33)	2 (10)	No
Stock control sheet	48 (80)	13 (27)	Yes
Patient information	45 (75)	26 (58)	Yes

The contents were examined of the seven document types for which sufficient examples were obtained. Table 29 shows that for most document types, district hospitals most commonly had documents for which they were able to provide examples for analysis. Dispensaries and HBC-only facilities were least often able to provide examples of documents for analysis.

Table 29: Document examples obtained by facility type

Document type	Facility type, n (%) facilities providing example of document					
	Secondary/ tertiary hospital	District hospital	Health centre	Dispensary	HBC-only	Total
Incoming referral forms	0 (0)	5 (36)	7 (50)	2 (14)	0 (0)	14 (100)
Outgoing referral forms	3 (9)	12 (37)	10 (32)	4 (13)	3 (10)	31 (100)
First clinical assessment sheets	6 (19)	14 (44)	10 (31)	2 (6)	0 (0)	32 (100)
Ongoing contact assessment sheets	6 (22)	12 (44)	8 (30)	1 (4)	0 (0)	27 (100)
Patient records	0 (0)	4 (31)	8 (62)	0 (0)	1 (7)	13 (100)
Stock control sheet	4 (31)	2 (15)	4 (31)	2 (15)	1 (8)	13 (100)
Patient information sheet	5 (19)	8 (31)	7 (27)	5 (19)	1 (4)	26 (100)

Staff were later asked why they had not been able to provide example documents for analysis of content. Reasons given included facilities not keeping some documents in a hand-out form (e.g. service aim), having few or no copies in stock (and in some cases facilities were improvising forms whilst waiting for more copies to arrive) or none spare to hand out, and that documents were confidential.

Analysis of content

Those documents that have had their content analysed are presented below:

- Incoming referral form — Table 30 shows that most facilities captured the basic socio-demographic characteristics of their patients and key referral information (date of referral, source of incoming and outgoing referral, and the reasons for the referral) in the incoming referral forms that they used. Fewer facilities requested patients' medical history (e.g. diagnosis, WHO disease stage, CD4 counts, ARV history). Facilities with multiple services (data not shown) captured more patient medical history details when compared to district hospital facilities and other facility types.
- Outgoing referral form — As Table 31 shows, whilst most facilities included basic socio-demographic and referral information on their outgoing referral forms, relatively few facilities included patients' medical history in detail (especially the dates of first consultation, first HIV test, and when CTX started, opportunistic infections, treatment given to date, and a diagnosis confirming staging). Centres providing multiple services captured more medical history information (data not shown), while all district hospitals used standardised forms supplied by the MOH.

Table 30: Content of incoming referral forms

Incoming referral form features	Number of facilities	
	Information present on form	Information absent from form
Registration details		
Patient registration number	4	10
Socio-demographics		
Patient name	10	4
Age	14	0
Sex	10	4
Patient Address	5	9
Medical History		
Diagnosis	2	12
WHO stage	4	10
Oldest CD4 count and date	4	10
Recent CD4 count and date	4	10
Previous ARV history, ARV uptake, ARV regimen	4	10
Date ARVs started	2	12
Other medications	4	10
Investigations done	7	7
Brief clinical summary(temperature, weight, height, pulse)	3	11
Referral details		
Referring centre	10	4
Referred to	14	0
Details of officer referring	14	0
Details of officer receiving the patient	14	0
Referral date	14	0
Reason for referral	14	0
Other details		
Action taken	10	4
Form serial number	4	10
Introductory note	4	10
Suggested investigations	4	10
Suggested treatments	4	10
Comments	4	10
Footnote	1	13

Table 31: Content of outgoing referral forms

Outgoing referral form features	Number of facilities	
	Information present on form	Information absent from form
Facility and patient registration details		
Facility name	10	22
Facility contacts	8	24
Reference number	9	23
Patient number	12	20
Socio- demographic information		
Name	28	4
Age	23	9
Sex	20	12
Physical address	13	19
Contacts	5	27
Marital status	2	30
Next of kin	2	30
Medical history		
Date of 1st consultation	2	30
Current medication/other medication	7	25
Date of 1st HIV test	2	30
Date of most recent CD4 count	7	25
Date CTX started	3	29
Opportunistic infections	2	30
Laboratory investigations done and results	7	25
WHO stage	9	23
Treatment given so far	3	29
Current ARV uptake	8	24
ARV regimen	5	27
Diagnosis confirming staging	3	29
ARV No.	3	29
Registration. Date	2	30
Date of last prescription	3	29
Referral details		
Referred from	23	9
Referred to	22	10
Reason for referral	25	7
Profile of person referring	28	4
Profile of person receiving	4	28

Outgoing referral form features	Number of facilities	
	Information present on form	Information absent from form
Date of referral	28	4
Other details		
Introductory note	4	28
Remarks / comments	16	16
Brief clinical summary	3	29
State of urgency	4	28
Suggested investigations	4	28

- First clinical assessment sheet — This document, sometimes referred to as a HIV care enrolment sheet, is completed by a nurse and clinician (who undertakes the physical examination and documents patients' medical history) for each new patient at their first visit. As Table 32 shows, most reporting facilities captured the core information required by the MOH. Twelve of the 32 facilities providing examples of first clinical assessment sheets used the official MoH documents. Some facilities captured additional information to address other information needs, e.g. those involved in research or requiring information on local service providers to avoid service overlap.
- Ongoing contact assessment sheet — This document is completed by a clinician at every clinical appointment visit. Table 33 shows that most facilities captured the key information for ongoing contact assessment (e.g. name, age, ID, WHO clinical stage, investigations, treatment given, hospitalisation history, ARV history [regimens and dates for start / stop] and reason for regimen change). There is, however, some variability in information collected.
- Patient record sheet — These are handheld health service records retained by patients that contain basic information on individual patients (e.g. name, the unique patient ID, and health facility name). As Table 34 shows, most facilities recorded the minimum information requirements of the MOH (i.e. patient ID, service centre number, patient contact details, patient name and age, and next appointment date).
- Stock control sheet — This document, central to effective stock management systems for drugs used at all levels of the health care system, is ordinarily a small record-keeping system made from cardboard. There is normally one stock card per item, with the card usually retained close to the stock it refers to (e.g. on the same shelf). As Table 35 shows, whilst most facilities captured the key information on stock movement (i.e. quantity received, issued and the remaining balance), there was limited information to capture stock inventory (e.g. minimum and maximum stock, monthly consumption and the forecasted stock requirements).

Table 32: Content of first clinical assessment sheets

First clinical assessment sheet features	Number of facilities	
	Information present on form	Information absent from form
Facility Details		
Facility name	7	25
Facility contacts	4	28
Comprehensive care clinic number	6	26
Hospital number	2	30
Site code	3	29
Socio-demographic (adults)		
Name / initials	32	0
Age / Date of birth	32	0
Sex	28	4
Patient ID	27	5
No. of children	8	24
Physical Address	19	13
Tribe	5	27
Contacts	17	15
Buddie's name / contacts	6	26
Education level	7	25
Care giver's name / treatment supporter	14	18
Occupation	12	20
Primary language	1	31
Occupation status (full-time, part-time etc)	1	31
Dependants	1	31
Household members	8	24
Medical history		
Baseline data	10	22
Source of emotional support	9	23
WHO clinical stage	32	0
Diagnosis	28	4
ARV eligibility criteria	22	10
HIV disclosure	10	22
Investigations / lab tests	29	3
Treatment given	29	3
Date HIV test was taken	27	5
ARV history (previous regimens and dates)	24	8
Other medical conditions	28	4

First clinical assessment sheet features	Number of facilities	
	Information present on form	Information absent from form
Current ARV regimen and date	28	4
ARV interruptions and reasons why	26	6
Symptoms screen	26	6
Pregnancy status? PMTCT	26	5
Anthropometry	17	15
Physical exam	32	0
Prophylaxis	32	0
Alcohol and drug use	4	28
History of hospitalisations	18	14
Sexual history	14	18
Family planning method	19	13
Referral services		
Referred from	16	16
Referred to	24	8
Profile of person referring	26	6
Reason for referral	2	30
Other services		
Date of next appointment	26	6
Reason for regimen change	23	9
Additional comments / comments	8	24
Patient type / category	3	29
Source of fund	2	30

Table 33: Content of ongoing contact assessment sheets

Ongoing contact assessment sheet features	Number of facilities	
	Information present on form	Information absent from form
Facility details		
Facility name and contact details	8	19
Registration details		
Hospital number	4	23
Site code CCC No/support centre No.	5	22
Socio-demographic		
Name/initials	25	2
Age/Date of birth	24	3
Sex	18	9
Patient identification number	24	3

Ongoing contact assessment sheet features	Number of facilities	
	Information present on form	Information absent from form
Physical address/contacts	13	14
Care giver's name/treatment supporter	14	13
Employment status	2	25
Marital status	13	14
School attendance	2	25
Parental survivorship/orphanhood	3	24
ARV No.	4	23
Person bringing patient	2	25
Medical history		
Baseline data	8	19
Pregnancy status	16	11
WHO clinical stage	21	6
Diagnosis	19	8
ARV eligibility criteria	13	14
Investigations / lab tests	22	5
Treatment given	21	6
HIV test taken	14	13
ARV history, regimens and dates for start/stop	19	8
Reason for regimen change	23	4
Other medical conditions	19	8
Symptoms screen	8	19
PMTCT	18	9
Anthropometry	16	11
Physical exam	10	17
Prophylaxis and dates	10	17
Hospitalisations	20	7
Sexual history	5	22
Family planning method	15	12
Referral services		
Referred from / to	12	15
Profile of person referring	24	3
Other services		
Date of next appointment	23	4
Additional comments/comments	11	16
Patient type/category	2	25

Table 34: Content of patient record sheets

Patient record sheet features	Number of facilities	
	Information present on form	Information absent from form
Facility details		
Facility name	3	10
Facility contact	3	10
Registration details		
Patient identification number	13	0
Service number	10	3
Other hospital number	3	10
Patient contact	10	3
Socio-demographic information		
Name	13	0
Age	8	5
Gender	7	6
Occupation	2	11
Residence (physical address)	5	8
Number of spouses/partners	3	10
Number of children	3	10
Medical history		
Diagnosis	3	10
Immunisation	2	11
Medications (duration and dosages)	3	10
Whether or not on ARV	3	10
HIV status	4	9
Relevant past medical history	3	10
Other details		
Patient knowledge and attitude assessment	3	10
Follow-up/appointment dates	7	6
Comments/notes	6	7
Footnote	5	8
Profile of person filling form	4	9

Table 35: Content of stock control sheets

Stock control sheet features	Number of facilities	
	Information present on form	Information absent from form
Facility details		
Facility name and contact details	5	8
Facility contacts	4	9
Physical address	4	9
Other details		
Date	10	3
Card Number	6	7
Item	8	5
Item Code /Number	5	8
Unit of issue	8	5
Unit pack	4	9
Unit price	3	10
Reference Number	4	9
Department / Branch	4	9
Supplier	2	11
Profile of Officer in charge of stock	2	11
Stock movement		
Beginning balance/Balance brought forward	5	8
Quantity received	13	0
Quantity issued out	13	0
Balance after Issue	13	0
Amount	5	8
Invoice number	5	8
Batch Number	1	12
Description of Item/drug	6	7
Voucher number	5	8
Reference/Notes	7	6
Stock inventory		
Date	6	7
Minimum stock	4	9
Maximum Stock	4	9
Average / monthly consumption	5	8
Forecast requirements (Av. monthly usage, buffer		
stock, re-order levels, quantity)	5	8
Receiving officer's signature	6	7

Stock control sheet features	Number of facilities	
	Information present on form	Information absent from form
Auditors profile	1	12
Pharmacist profile	1	12
Lead times	2	11
Stock checks	3	10

- Patient information sheet — All facilities offer information about who they are, what they do and their contact addresses. All facilities offered information on ARVs in adults (including regimens, care centres and side-effects) (Table 36). Fewer than two-fifths of facilities provided information on opportunistic infections in HIV, and condom usage as a preventative method, with less than one-fifth providing information on TB and HIV facts, voluntary counselling and testing, youth and AIDS and HIV and breastfeeding and information for young people. Among the 54 facilities that reported having information sheets for patients, 33 (61%) were written in English, whilst in 13 facilities (24%) information was provided in a minimum of two languages, i.e. English and a local language; most common being Kiswahili. Only one site provided information in a local dialect.

Table 36: Content of patient information sheets

Patient information sheet features	Number of facilities	
	Information present on form	Information absent from form
ARVs in children		
ARVs help people live longer, test early, role of counselling	10	16
Positive living in children	10	16
HIV transmission in children and preventive measures,	12	14
Caring for HIV+ children and use of daily septrin	10	16
HIV care and prevention in adults		
TB and HIV facts	5	21
ARVs in adults, regimens , care centres and ARV side effects	26	0
HIV and breast feeding	1	25
Voluntary counselling and testing, it's role in HIV	4	22
Youth and AIDS	2	24
Opportunistic infections in HIV and where to seek help from	10	16
Sexually transmitted infections and HIV	8	18
Condoms use as a preventative measure in HIV	10	16
PMTCT for expectant mothers	5	21
Use of treated mosquito nets and positive living	8	18
What to do to prevent HIV when raped	2	24

Pharmacy review

A review of the supply and storage of key drugs for HIV care was undertaken at each facility by visiting the onsite pharmacy. In this survey ARV stocks were not recorded as this is being undertaken in detail by another PHE.

Amount of drugs stored and care components provided

The majority of drugs were available in tablet form (Table 37) and other forms were extremely rare. The exceptions to this were morphine, where the only facility to stock it had it in injectable form, and paediatric CTX which was most commonly found in syrup form. Also, non-opioid analgesics were commonly stocked in tablet (47 facilities) and syrup (40 facilities) form, and 39 facilities had them in both forms. Owing to the rarity of powder and syrup formulations, of the 21 drug/formulation combinations listed in the pharmacy review, only twelve were ever found in the 60 facilities visited.

CTX and non-opioid painkillers were the most commonly stocked drugs. Fluconazole was also stocked by over half of facilities. Isoniazid and morphine were rarely stocked. Expired drugs were found in the pharmacy of seven facilities: five hospitals and two HBC-only facilities. Five facilities stocked one expired formulation and two stocked two. The type of expired drug that was found in stock varied; seven of the twelve drug/formulation combinations surveyed were still being stored after their expiry date in these cases. The amounts of drug found in the pharmacy indicate that although some drugs were very commonly available in some facilities, in others stocks were low even for treating the small number of attending patients.

Table 38 shows the availability of the drugs recorded by facility type. Secondary/tertiary hospitals were the facility type most commonly stocking each drug (except codeine, which was marginally found more commonly at district hospitals). The drugs available at dispensaries and HBC-only facilities were mainly limited to non-opioid analgesics and CTX, which were available in 90% of dispensaries but only 20% of HBC-only facilities in each case. A small number of facilities had stocks of expired drugs.

Table 39 shows a comparison of drugs stocked and facilities that reported to provide the drug or treatment to HIV patients (using data from the CSRI). The table shows that for every drug examined in the pharmacy review, there was found to be at least one facility where the drug was provided as a component of care, but it was not found in the pharmacy on the day of the survey. The proportion of facilities that reported providing the drug on site and had the drug in stock ranged from over 90% of facilities for codeine and non-opioid analgesics down to 40% facilities for isoniazid. Furthermore, three facilities reported to provide strong opioids for pain management, but verification at the pharmacy found that none of them had morphine in stock at the time of the visit. Morphine is the most likely available strong opioid in Africa (Harding et al 2007, Logie & Harding 2005). There were also cases where the component of care was not reported as provided by the facility to HIV patients, and yet the corresponding drug was in stock. For example, only 65% of facilities stocking codeine reported providing it to HIV patients, 8 of the 23 facilities (35%) that had codeine in stock did not provide it to HIV patients. In most cases, where the drug was stocked, facilities also provided it to HIV patients.

Table 37: Type and amounts of in-date drugs stored in pharmacies

Drug	Formulation	N facilities where in-date drug stocked (expired)	Amount of in-date drug found in pharmacy*		
			Mean	Lowest	Highest
Non-opioid analgesic	Tabs	46 (1)	21331	200	120000
	Syrup	39 (0)	61239	900	950000
	Powder	0 (1)	0	0	0
Codeine	Tabs	23 (0)	2860	10	48020
	Syrup	0 (1)	0	0	0
	Powder	0 (1)	0	0	0
Morphine	Tabs	0 (0)	0	0	0
	Syrup	0 (0)	0	0	0
	Powder	0 (0)	0	0	0
	Injectable	1 (0)	10	10	10
Isoniazid	Tabs	6 (0)	2923	79	9600
	Syrup	0 (0)	0	0	0
	Powder	0 (0)	0	0	0
Fluconazole	Tabs	34 (0)	800	28	6048
	Syrup	1 (2)	315	315	315
	Powder	4 (2)	1833	3	7000
Adult CTX	Tabs	45 (1)	46583	500	450000
	Syrup	1 (0)	2500	2500	2500
	Powder	0 (0)	0	0	0
Paediatric CTX	Tabs	4 (0)	1604	258	4030
	Syrup	45 (0)	57260	100	308000
	Powder	0 (0)	0	0	0
Total	–	140 (9)	–	–	–

* Amounts are number for tablets, mls for syrup, grams for powder and number of vials for injectable

Table 38: Drugs found in pharmacy by facility type

Drug, all formulations	Facilities stocking drug n (%)					
	Secondary/ tertiary hospital	District hospital	Health centre	Dispensary	HBC-only	Total
N	9 (100)	15 (100)	16 (100)	10 (100)	10 (100)	60 (100)
Non-opioid analgesic	9 (100)	15 (100)	13 (81)	9 (90)	2 (20)	48 (80)
Codeine	7 (78)	12 (80)	4 (25)	0 (0)	0 (0)	23 (38)
Morphine	1 (11)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)
Isoniazid	3 (33)	1 (7)	2 (13)	0 (0)	0 (0)	6 (10)
Fluconazole	9 (100)	14 (93)	11 (69)	1 (10)	0 (0)	35 (58)
CTX (adult or child)	9 (100)	14 (93)	15 (94)	9 (90)	2 (20)	49 (82)

Table 39: Drugs found in pharmacy compared to drugs provided¹ by facilities

Drug, all formulations	N facilities stocking in-date drug	N facilities reporting that they provide care component	Proportion (%) of facilities providing care with appropriate in-date drug in stock	Proportion (%) of facilities with in-date drug in stock providing care
Non-opioid analgesic	48	50	46/50 (92)	46/48 (96)
Codeine	23	16	15/16 (94)	15/23 (65)
Morphine	1	3	0/3 (0)	0/1 (0)
Isoniazid	6	10	4/10 (40)	4/6 (67)
CTX (adult or child)	49	49	46/49 (94)	46/49 (94)

* Fluconazole was excluded from this comparison as there were likely to be topical fungal treatments commonly available in pharmacies for the treatment of fungal infections that were not recorded in this survey.

Stock levels and stockouts

Facilities were asked if they had a 'stock level' for each drug, i.e. the amount of a drug whereby, if stocks fall below it, more is ordered. They were also asked if they had a record of running out of any of the drugs in the previous six months (a recorded stockout).

Stock levels were rarely given; only nine facilities had a stock level for any of their drugs, which covered only seven of the drugs in any formulation. Four facilities had stock levels for adult CTX tablets. In most cases when a drug was present in the pharmacy there was no stock level to indicate when more should be ordered. Existing stocks and stock level information were required in order to estimate the duration that their drug stocks would last (estimated from these figures, patient numbers and standard doses of drugs). However, as very few facilities had stock levels, no analysis of duration of drug supplies could be conducted.

¹ Number of facilities providing components of care excludes referrals

Table 40 shows the number of facilities reported running out of the drugs they had in their pharmacy. For commonly stocked drugs, such as non-opioid painkillers and codeine, the frequency of stockouts was high. For example, stockouts in the previous 6 months were reported by:

- 27 out of 47 facilities stocking non-opioid analgesic tablets,
- 11 out of 23 facilities stocking codeine tablets,
- 25 out of 45 facilities stocking adult CTX tablets, and
- 22 out of 40 facilities stocking non-opioid syrup

Hospitals most commonly reported stockouts, although they also stocked a greater variety of drugs and so had more drugs of which they could run out.

Table 40: Frequency of stock outs for stocked drugs in pharmacy

Drug, form	n (%) of facilities with recorded stock out in last 6 months
Codeine tablets	11 (48)
Non-opioid tablets	27 (57)
Isoniazid, tablets	3 (50)
Fluconazole tablets	22 (63)
Adult CTX, tablets	25 (56)
Paediatric CTX, tablets	3 (75)
Non-opioid, syrup	22 (55)
Fluconazole, syrup	1 (100)
Adult CTX, syrup	1 (100)
Paediatric CTX, syrup	22 (48)
Fluconazole, powder	3 (75)
Morphine, injectable	0 (0)

Table 41, below, shows that of the twelve drug/formulation combinations found stocked in pharmacies (see Table 21), six facilities had recorded a stockout for one combination in the last quarter, nearly 25% of facilities with a stockout had run out of three combinations in the last quarter, and two facilities had run out of seven combinations. Thirty-eight facilities had a recorded stockout of at least one drug, making a total of 140 recorded stockouts. This means that, of the 249 individual drug stocks as described in Table 19, 56.2% of individual drug stocks had had a recorded stockout in the last six months.

Table 42 below shows that all facility types faced the problem of stockouts. Even the most common drugs had been out of stock in over half of district hospitals and health centres, including non-opioid tablets and syrup, fluconazole tablets, and adult CTX tablets.

Table 41: Number of drugs for which facilities had recorded stockouts

Number of drug/formulation combinations (of 12 recorded)	Number (%) of facilities recording a stockout	Number of stockouts
1	6 (16)	6
2	3 (8)	6
3	9 (24)	27
4	7 (18)	28
5	7 (18)	35
6	4 (11)	24
7	2 (5)	14
Total	38 (63)	140

Table 42: Drug stockouts by facility type

Drug	Formulation	Number (%) facilities stocking the drug, with recorded stockout in last 6 months				
		Secondary/ tertiary hospital	District hospital	Health centre	Dispensary	HBC-only
Non-opioid analgesic	Tabs	3 (33)	9 (60)	9 (69)	5 (56)	1 (100)
	Syrup	4 (50)	6 (50)	8 (67)	3 (43)	1 (100)
	Powder	-	-	-	-	-
Codeine	Tabs	3 (43)	5 (42)	3 (75)	-	-
	Syrup	-	-	-	-	-
	Powder	-	-	-	-	-
Morphine	Tabs	-	-	-	-	-
	Syrup	-	-	-	-	-
	Powder	-	-	-	-	-
	Injectable	1 (100)	-	-	-	-
Isoniazid	Tabs	0 (0)	1 (100)	2 (100)	-	-
	Syrup	-	-	-	-	-
	Powder	-	-	-	-	-
Fluconazole	Tabs	4 (44)	11 (79)	7 (63)	0 (0)	-
	Syrup	1 (100)	-	-	-	-
	Powder	1 (50)	2 (100)	-	-	-
Adult CTX	Tabs	4 (44)	9 (64)	8 (62)	3 (38)	1 (100)
	Syrup	-	-	-	-	1 (100)
	Powder	-	-	-	-	-
Paediatric CTX	Tabs	1 (100)	0 (0)	1 (100)	1 (100)	3 (75)
	Syrup	2 (22)	6 (43)	10 (67)	3 (43)	1 (100)
	Powder	-	-	-	-	-

- No facilities had the drug in stock at time of visit; Cross reference this table with Table 38 for total availability of drugs

Storage

When conducting the pharmacy review, a record of where each drug was stored was taken. The majority of in-date drugs and all expired drugs were kept locked in the pharmacy. At three facilities (two hospitals and one health centre) some drugs were stored unlocked in the clinic; these were codeine tablets, non-opioid tablets, fluconazole tablets, adult CTX tablets, non-opioid syrup and paediatric CTX syrup.

Facility strengths and areas for improvement

The senior staff at each facility were asked to indicate the perceived strengths of their facility, ways in which the services offered could be improved for adults and children, threats to sustainability and their ideas on ways to avoid double-counting of patients. A total of 159 staff members were involved in the senior staff interviews, a mean of three people per facility, and their views are represented in these results. The responses are presented firstly by question and subsequently according to themes cutting through all the questions.

Strengths

Facilities commonly referred to the care that they offered as a strength. The provision of a wide range of specific components of care was reported; the availability of ARVs was mentioned as a strength by 19 facilities, and the availability of CTX and opportunistic infection prophylaxis or treatment mentioned by 21 facilities. Facility staff additionally noted the provision of specific services, particularly ARVs, free of charge as a strength. References to infrastructure were mentioned as a strength by fifteen facilities. These references included having all facilities in one place, having a well equipped laboratory and having good supplies of stationery, enough space, and a phone.

Thirty-one facilities mentioned aspects of staffing as strong points. Most commonly this meant having trained staff on site. Other references to staff strengths included having specialized staff on site, e.g. a nutritionist, or motivated staff and sufficient numbers. Four facilities reported that they had reduced stigma in the community, which they described as a strength of their care provision.

Areas for improvement

Facility staff made many references to different components of care that they would like to improve for adults. Nine facilities said they would like to provide, or improve the provision of, ARVs for patients. Provision of food to patients was the single most common service requested by facility staff (n=16). Another service commonly mentioned by staff to be improved was laboratory services. This included being able to do lab tests on site, having sufficient equipment, reagents or reagent supply, and having a fridge in which to keep the reagents. Weaknesses relating to staffing were reported by 38 facilities. Issues included needing more numbers of staff generally, needing more specialised staff, and desiring more staff training.

From the majority of facilities that offered paediatric care, many issues were raised about paediatric service provision that were similar to those mentioned for adults. These included wanting better provision of ARVs and other medications in paediatric formulae, better facilities to conduct laboratory tests (i.e. having sufficient equipment and paediatric diagnostic kits), and provision of nutritional supplementation (n=18). Similar issues as for adult care were also raised with respect to staffing paediatric care (i.e. more numbers, specialised paediatric staff and training) and services offered.

As well as a desire for more space generally, similar to adult services, facility staff frequently reported a desire for separate buildings or clinics to enable them to provide better care in a child-friendly environment. The creation of orphan and vulnerable children (OVC) centres was also mentioned as a means to improve services.

Sustainability

The most frequent issues regarding the sustainability of the facilities reported related to staffing, infrastructure and finance (mainly general funding). Forty-four facilities reported staffing concerns, most commonly desiring more numbers of staff. The infrastructure issues raised by 37 facilities were often about needing more space to conduct clinics, but inadequate/erratic supplies of drugs and lack of equipment, e.g. laboratory equipment, were also reported, as well as problems with water and power supplies.

Double counting

Staff were asked to suggest ways to avoid double-counting of patients, which has been identified as a particular challenge by country teams. Many of the responses given related to the previous themes, such as:

- Provide all care components adequately at all facilities
- Have good drug supplies
- Increase staff numbers and improve training
- Increase facility space
- Offer home visits
- Give services free
- Ensure confidentiality

In addition, other suggestions included:

- Increase networking
- Ask patients why they go to other services in order to understand their reasons and improve services accordingly
- Improve referral systems
- Improve relationships between facilities
- Remove stigma
- Give patients unique identification numbers

Cross-cutting staff open question themes

A number of themes arose across all questions, and these are outlined below.

Financial matters were mentioned in response to a number of questions. Staff at seven facilities mentioned free services as a strength of the service they provide, and another two facilities reported that they would like to improve the service they provide by offering services free of charge to those who cannot afford them. Financial aspects were most commonly mentioned when referring to the sustainability of the service. Inadequate or short-term funding was mentioned as a threat to sustainability by over half of facilities. Although staff had mentioned the provision of free services as a strength of their facility, they also viewed it as a threat to its sustainability.

Responses relating to staffing also arose across the questions. Respondents reported that having sufficient and specialised staff with ongoing training provided were facility strengths and motivational to staff members. Similar aspects of staffing were suggested as ways to improve facilities. High staff turnover was another aspect of staffing mentioned; this was interpreted by staff as the facility not being cost-effective. Staff at 43 facilities made references to aspects of staffing as threats to sustainability of their facility, most commonly insufficient numbers.

Many facilities made frequent references to aspects of infrastructure as ways to improve the services delivered and as threats to sustainability. Most commonly, staff reported a desire for more space; for clinics, for patients to wait and to provide laboratory services (a need for laboratories and equipment to conduct tests). Other aspects of infrastructure that staff wanted to improve were water and electricity supplies, and having computers. Staff also mentioned these aspects as strengths of the facilities when space, staff or water supplies were adequate, showing that they were valued.

Reducing stigma was mentioned as a way to improve the services provided and avoid double counting of patients, and achieving this was reported as a strength by four facilities. Stigma in the community was also mentioned as a threat to the sustainability of ten facilities.

Having good transport to provide services closer to the community was mentioned as a strength by some facilities. More commonly, facility staff reported that they would like to improve transport in various ways to improve their facility and make the facility more sustainable. The ways improved transport would help the facility mentioned were by providing emergency transport to the facility, providing care closer to the community, facilitating follow-up visits, and helping patients reach the facilities for appointments or to collect drugs.

Patient focus group discussions

FGDs took place in 49 facilities in order to explore patient perceptions of the HIV care they receive. Signed consent to participate was obtained from each patient who participated. In the other (n=11) facilities they did not take place because patients were unwilling. Information was collected on basic patient characteristics and receipt of some selected components of care, which is reported below. The participant responses are presented by question firstly (questions are grouped where appropriate) and subsequently by cross-cutting themes.

Characteristics of patients participating in FGDs

The 49 FGDs were conducted with a total of 242 patients. Each focus group had between two and ten participants, with a mean of five. Of the 242 participants, 238 participants had their demographic information recorded. In addition, for one focus group personal details were recorded but no question responses were recorded so these participants have been excluded from analysis.

Eighty-three men and 156 women participated in the 48 analysed focus groups. Two groups were male-only, six female-only, and the remainder mixed gender. Participants were aged from 17 to 69 years with a mean of 37.4 years and median of 36 years. Of the participants, 121 lived in rural areas, 14 in peri-urban areas and 103 in urban areas. Household size ranged from one to seventeen people, with a mean of five.

Services received, comparison of patient data with facility staff data

FGD participants were also asked if they had received a number of components of care from the facility where the FGD was held (CTX, mosquito bed net, test for TB, treatment for drinking water, post-test counselling, nutritional counselling, and family counselling).

During the analysis of the FGD data (both notes and recordings), and facility staff interviews of care offered, it was apparent that many patients responded to these questions without considering whether the care was obtained from the facility where the FGD was being held or by another facility. Therefore, the information in this table can be reliably used only to identify facilities where patients had not obtained the care either at this facility or elsewhere.

Table 43 below summarises the proportion of facilities providing care (taken from Table 14 above) and the number of FGD participants receiving the care (now taken to mean from any facility). This table shows that for most components of care, those that are more commonly provided were also more commonly received. The services most commonly provided and received were post-test counselling (provided by 54 facilities and received by 96% of FGD participants) and nutritional advice (provided by 59 facilities and received by 93% of FGD participants). The exceptions to the trend were condoms, which were provided by 83% of facilities but received by only 59% of FGD participants, and safe water treatment, which was reported to be provided by 37% of facilities but received by only 14% of participants.

Table 43: Number of facilities providing and number of FGD participants receiving selected components of care

Component of care	Facilities providing care N (%)	FGD participants receiving care* N (%)
Total	60 (100)	242 (100)
CTX	49 (82)	203 (84)
Mosquito bed net	19 (32)	52 (22)
TB test	38 (63)	147 (61)
Safe water treatment	22 (37)	34 (14)
Post-test counselling	54 (90)	233 (96)
Nutritional advice	59 (98)	225 (93)
Condoms	50 (83)	142 (59)
Support for family testing	53 (88)	196 (81)

* FGDs took place in 48 out of the 60 facilities

Table 44 helps to identify the extent of provision of specific components of care (where all participants received the care this may represent the care being received at the facility where the FGD was held or elsewhere). Most notably, bednets and water treatment were not received by any participants in FGDs at over two-thirds of facilities where FGDs were held. Mostly these were facilities where the care was not offered, but in several cases the components of care were offered but participants were not receiving them. Furthermore, in a third of facilities offering CTX, two-thirds of facilities offering TB tests and nearly half of facilities offering condoms, some FGD participants did not receive the component of care.

Reasons for non-receipt of these components of care were explored in the FGDs, and the results of the discussion are presented below.

Table 44: Number of facilities providing, and proportion of FGD participants receiving, selected components of care

Care component	Care component provided or referred by facility	n (%) of FGDs (Section of FGD participants receiving care)			
		All	Some*	None	Total**
CTX	Yes	25 (66)	12 (32)	1 (3)	38 (100)
	No	6 (67)	3 (33)	0 (0)	9 (100)
Bednets	Yes	2 (14)	4 (29)	8 (57)	14 (100)
	No	5 (15)	6 (18)	23 (68)	34 (100)
Water treatment	Yes	0 (0)	8 (40)	12 (60)	20 (100)
	No	2 (7)	4 (14)	22 (79)	28 (100)
TB test	Yes	7 (21)	26 (76)	1 (3)	34 (100)
	No	2 (14)	11 (79)	1 (7)	14 (100)
Post-test counselling	Yes	40 (93)	2 (5)	1 (2)	43 (100)
	No	4 (80)	1 (20)	0 (0)	5 (100)
Nutritional counselling	Yes	40 (85)	6 (13)	1 (2)	47 (100)
	No	1 (100)	0 (0)	0 (0)	1 (100)
Support for family testing	Yes	22 (60)	15 (41)	0 (0)	37 (100)
	No	5 (46)	5 (46)	1 (9)	11 (100)
Condoms	Yes	17 (43)	19 (48)	4 (10)	40 (100)
	No	1 (14)	3 (43)	3 (43)	7 (100)

* Care received by at least one, but not all, participants in the FGD

**FGD data obtained from 48 facilities

Why were services not received?

With reference to Tables 43 and 44 above, participants were asked to indicate why they had not received the services listed. For condoms the most common reasons given for not receiving them were not related to lack of provision. Reasons cited included patients not actually needing condoms, or their spouse not being aware of the patient's status. However, although condoms were commonly available at facilities, several reasons for not receiving condoms were attributed to the facilities. For example, some participants said that condoms were only available to couples, or only available if they asked so if the person was shy they would not receive them, and some participants said female condoms were not available. With reference to mosquito nets, although these were not commonly available, several reasons for not obtaining them were attributed to the facilities. Reasons included the nets being too expensive (reported at four facilities) and nets only being available to pregnant women and children (reported at nine facilities).

For the other services, most commonly participants were patients not being aware that the service was available, and in many cases the services was not in fact available, (for example, treatment to make water safe).

Main HIV services and medicines received

The medicines most commonly received by FGD participants were CTX (reported by 36 FGDs), multivitamins (reported by 30 FGDs) and ARVs (reported by 28 FGDs). Other medicines commonly reported included treatment for opportunistic infections, non-opioid analgesics (including paracetamol and ibuprofen), and treatment for malaria. Participants reported receiving a wide variety of other services. A variety of types of counselling and support groups were mentioned, e.g. support for positive living, adherence counselling. Some participants reported receiving food, assistance with school fees for their children, nutritional advice, laboratory services or training/education.

Strengths and weaknesses of services received & issues in receiving medication

Participants were asked to indicate which services they ranked as the best and why, what services could be improved, problems with obtaining medicines from the facility and how the facility could potentially attract more HIV positive patients. Participants mentioned that various counselling services were good; reasons given included decreasing stigma and 'living a good life'. Participants often referred to the medications they received in response to this question. Reasons they thought the medicines they received were good included them being free and because they maintained or improved their health.

When asked about ways services could be improved or attract more HIV positive patients, participants most commonly mentioned services they would like to see available at their facility. The most common service requested by far was for food to be provided for patients by the facility. Other services commonly requested were for lab services to be available on site (especially to conduct CD4 counts), financial or social support (including loans/microfinance, employment training or IGAs and help with school fees or uniform costs) treatment for opportunistic infections, and ARVs.

Ways patients suggested to improve services included having more staff (as well as more consistent and friendly staff), longer opening hours, providing transport (either to enable patients to get to the facility or to enable home-based care services), and more space for clinics. In order to attract more patients to come to the facility, participants specifically suggested increasing community outreach, having mobile clinics, and improving transport to the facilities. The most common problem participants reported with obtaining medicines was them being out of stock (mentioned by twelve FGDs). This problem appeared to result in additional costs for patients as they had to get a prescription and buy their drugs elsewhere, if they could afford them. Long queues at the pharmacy were another problem mentioned in relation to obtaining medicines.

Services received elsewhere and reasons for going there

FGD participants reported a wide variety of services that they received from other facilities. A number of medicines were reportedly received elsewhere. Most commonly participants said that they obtained ARVs from elsewhere (reported by participants in 17 FGDs). Other medications mentioned included treatment for OIs, CTX and multivitamins. Participants also frequently said

they went elsewhere to get laboratory tests done, or to get testing or treatment for TB. Reasons given for seeking care elsewhere often included pragmatic ones, such as the service being close to home or the service offering everything required in one place.

FGD participant reasons for seeking care elsewhere also frequently related to the services provided at the other facilities. These included the availability of services per se, such as nutritional, laboratory tests, and drugs. Also, several other reasons given related to the quality of the care the patients received. For example, participants mentioned that at other facilities it was quicker to be seen, the facilities were less congested, staff were caring, and the services were private or confidential. Participants in six FGDs mentioned that they sought services elsewhere because they were free/cheaper.

Cross-cutting FGD themes

Patients often referred to aspects of staffing as ways to improve the services and to attract more people to the facility, i.e. increase staff numbers and improve staff attitude and privacy with patients. Aspects of staffing, such as receiving a fast and friendly service, were also cited as reasons some patients sought care elsewhere.

The issue of finance was a theme that emerged from responses to several questions, either directly or indirectly. Patients made frequent references to free services being a strength of the facility, or a reason they sought services elsewhere. The cost of travel (or distance) to a facility was frequently mentioned as a problem in accessing services and patients commonly requested IGAs or vocational training or micro finance schemes to be established at facilities.

As well as direct financial services, other services requested by patients were related to finance indirectly. On several occasions patients reported that medicines were frequently out of stock. In these instances patients reported that they incurred additional costs in order to obtain medicines elsewhere (such as transport and prescription costs). Receiving food at facilities was the most frequently requested service. Patients also expressed wishes to receive assistance with other costs such school fees and uniform.

Cross-cutting themes: Integration of data from staff open-ended questions and patient FGDs

Staff responses to the open ended questions and notes from the patient FGDs provided insight into several issues from the two perspectives, and these two data sources are now integrated.

Sustainability

Staff and patients had mixed views of the issue of facility sustainability. Staff at many facilities raised concerns about the sustainability of various aspects of their service (e.g. financial supplies and staffing). In addition they often reported providing care or medicines free of charge as a strength. At only one facility did staff report concerns over the provision of free ARVs in the long term, even though it was desirable to do so. Patients also often reported that reasons for seeking care in the places they attended was because it was free. In one FGD patients were anxious because they had heard that the drugs were expensive, and although ARVs were free currently, they worried about having to pay in the future.

Services desired

The most commonly requested services by both staff and patients were the provision of food and to have the facilities to conduct laboratory tests on-site. Patients often wanted to have IGA or microfinance available at the facility they attended, yet staff made few references to such areas of social care.

Medication

Patients and staff made references to free medication as a strength. Patients made many references to drugs not being in stock and so having to buy them elsewhere (and this was found to be the case in the pharmacy review). However, staff made few references to this issue.

Other areas for service improvement

During the staff open-ended questions and the patient FGDs, references were made to aspects of staffing and infrastructure as ways to improve facilities. There were similarities and differences between patients and staff in the themes that arose relating to each aspect. Both staff members and patients wanted to have greater staff numbers generally. In addition, staff members wanted to provide more training for those already employed at the facility, and to bring in more specialised staff (e.g. paediatricians). Patients specifically requested more trained counsellors and for staff to have a caring attitude.

Staff made many references to aspects of infrastructure that they would like to see improved, including more space, and better water and electricity supplies. Several facilities went into more detail about the issue of space; requests included needing space for clinics, for wards, for offices, for patient waiting areas, to conduct counselling and to conduct laboratory tests. Patients also wanted to have more space and the provision of services in one place, but made fewer references to more detailed aspects of facility infrastructure.

Double counting

Staff made numerous suggestions for ways to avoid duplicating the services provided to patients. Several of these related to general improvements in care provision that have been mentioned previously, such as having a good drug supply, ensuring confidentiality, improving staff training, or providing all services in one place.

A desire to receive all care at one facility was a theme that also arose in the FGDs. Reasons for desiring this approach were mainly related to the difficulties and costs of travel to facilities. Reducing stigma was suggested by staff as another way to avoid double counting. Although the way this would operate to achieve the intended outcome was not specified, patients also made several references to stigma, noting reduction of stigma as a positive achievement by some facilities, and requesting a reduction of stigma as a way to attract patients to use the service in FGDs.

Discussion

Selected facilities and patient numbers

Figures from 2006 provided by PEPFAR demonstrated that there were a large number of facilities that were reported as each providing care for a relatively small number of patients. For this reason, facilities were selected at random from three strata based on PEPFAR 2006 patient numbers with

the aim of obtaining a sample of facilities that represented the range of facility sizes (defined as patient numbers seen) in the country. Analysis of patient numbers from the participating facilities demonstrated that the survey data rarely matched with the PEPFAR figures, neither exactly nor proportionally. This result shows that the routine data used to stratify facilities by size for subsequent random selection were not able to predict facility size according to figures provided by the facilities. The routine data provided were a year old when the sampling was conducted, however, either set of figures (routine data or the numbers collected) could be inaccurate. This finding means, in the light of the present data, the selected facilities were not a stratified random sample, but rather a simple random sample. However, selected facilities still had a wide range of patient numbers and there was representation of facilities with low, medium and large numbers of patients. Selected facilities also represented the variety of facility types funded by PEPFAR.

Patient characteristics

Service users were more likely to be female (63%), and HBC-only facilities had the highest number of paediatric patients. This gender difference reflects the population distribution of HIV infection in Kenya where 62% of people with HIV were female in 2006 (National AIDS Control Council 2008).

Staffing

In terms of staff retention and facility sustainability, it is notable that across the entire survey sample volunteers were providing a significant amount of care, both professional and lay. Staffing levels at health centres were comprised of approximately 24% voluntary staff, and at dispensaries 65%. At HBC-only facilities nearly all staff were volunteers. The designations most commonly staffed by volunteers were spiritual staff (35% of centres), community health workers (57%), and counsellors (32%). Volunteering is a positive reflection of commitment to HIV care by a community, and enables facilities to extend their reach with limited resources. However, further research into volunteer staff specifically would enable better understanding of training received and required, staff supervision, and influences on staff retention. Given the high reliance on voluntary staff found in the smaller facility types, understanding such aspects of care delivery and staff motivation are crucial to care quality and continuity of provision.

The availability of appointment time to see non-clinical staff is of potential concern. HBC-only facilities commonly offered no clinical contact time and very minimal non-clinical contact time, with around half offering only 1-15 hours per week. It is not clear what type of contact is offered at facilities where neither clinical nor non-clinical care is available. Both staff and patients often requested more staff members and more staff training. This was viewed as a way to improve facility sustainability through improved care provision and staff motivation. The combination of components of care offered by facilities and staff able to deliver such care is explored below.

Components of care and referrals

Of the 69 care components recorded in this survey a mean of 42 components were provided or referred by facilities. As might be expected, the number of components provided or referred varied greatly by facility type, with hospitals provided or referred the most components (mean of 53 components by secondary/tertiary hospitals and 51 by district hospitals) and dispensaries and HBC-only facilities the least (mean of 21 and 38 components respectively). Referrals were generally rare,

with twenty-two facilities not referring out for any care component surveyed. The elements of care most commonly referred were psychiatric therapy, viral load testing, CD4 testing and cancer management. The low levels of referrals may explain why few facilities had referral documents (inwards or outwards), but given the low number of care components provided at smaller facilities, even when taking referrals into consideration, it seems that referral networks for specialist care should be more commonly in place.

Looking at the specific components that were provided or referred, certain gaps in provision can be noted. It is of great concern that a number of key components of care were not provided nor referred in numerous facilities: spiritual visits (not provided or referred at 41 facilities), psychiatric therapy (30 facilities), ARVs (21 facilities), physiotherapy (34 facilities), strong opioids (56 facilities), weak opioids (43 facilities), anxiety/depression treatment (18 facilities) bednets (41 facilities), or HIV testing for children (20 facilities). It is unclear why facilities would not even refer informally for many of these components, unless there were no facilities that provided such services within a reasonable distance. For the components of care rarely provided or referred, the onus is on the patient or carer to identify a provider.

Facilities were analysed according to whether they provided or referred any components of care from each of the PEPFAR domains of care and support: clinical, psychological, spiritual, social or preventive care. Fewer than half of facilities surveyed provided or referred at least one component in every domain. It is noteworthy that HBC-only facilities were the facilities most often providing or referring holistic care and support according to this analysis.

Considering the lack of holistic care and support provision combined with low levels of outward referral (whether formal or informal), it appears that co-ordinated and planned holistic care is uncommon, and so patients are likely to have to expend time and money in having (often related) needs met. Furthermore, clinical records may not reflect patient status if services are received from non-linked facilities without referral criteria, and patients are likely to be double-counted for some related components of care.

A conflicting argument against increasing the availability of care via referral is evidence from the patient focus group discussions which suggested that patients find time and cost significant challenges to travel. Nonetheless, reasons given by patients for choosing a facility were not exclusively related to geographical ease of accessibility. Receiving all care at one site, having all required medications available and receiving private and confidential care were all important considerations. Clearly if the latter criteria were not met in one facility then further travel/time costs would be required. In rural settings the lack of alternative facilities means making referrals is a problem, highlighting the need to provide holistic multidimensional care on site. In staff interviews, the ability to offer a full range of comprehensive care was also seen as a strength.

- Staffing and care provision — Although HIV care and support is seen as holistic, whereas most facilities had clinical staff onsite (especially nurses, and mostly doctors/clinical officers), traditional healers, social workers and spiritual care staff were rarely employed. Only 20% of facilities had clinical, spiritual, psychological and social staff all present, of any designation.

There were few facilities providing clinical components of care without employing staff who had specialist clinical training. One might have expected more facilities to be providing basic clinical care without clinical staff employed, as numerous and varied clinical components of care were recorded that may not all require specialist staff to administer, e.g. weighing or multivitamins. However, care was being provided in several other areas of care without staff specifically employed to deliver such care where it may have been beneficial to other staff designations. Psychological care was provided at 20 facilities that had no counsellors present, and 16 facilities provided social care without any community workers or social workers employed.

The findings suggest that staff at facilities may be undertaking tasks within multiple areas of care and support. These staff may or may not have specialist training to deliver these areas of care; although an investigation of training received by staff was beyond the scope of this survey. Nevertheless, if multi-tasking is taking place this could overburden staff or reduce the quality of care in specialist areas. For example, clinical staff may be required to deal with clinical and non-clinical problems with which patients present in clinic time. Staff members themselves stated their desire for more specialist staff to be employed and further staff training in order to improve care.

Additionally, patient problems may be compounded or unresolved either through provision of specialist care by existing staff untrained in such areas, or forcing patients to attend at another facility, with the associated financial time and money costs in travel to attend. It also makes patient 'shopping around', double counting, and loss to follow-up more likely. The outcome implications of this may be discovered in Phase 2.

Patient loads were particularly high for some types of staff who are likely to have a great deal of patient contact time, e.g. counsellors who had a median of 274 patients each. This leads one to question how much time a counsellor gets to spend with a patient, the depth and quality of intervention and subsequent outcomes. However, the patient loads calculated from the data in this survey are limited for several staff types. Firstly patient contact time was not measured: although the number of patients attending a facility and the number of doctors and clinical officers employed might suggest a high patient load for these designations, at 559 and 412 patients respectively, these staff may in fact undertake only a small amount of clinical work/patient contact as a proportion of their working day, so their patient loads may have been exaggerated. Secondly, staff members were recorded as the designation for which they were employed, but they may undertake a variety of tasks, e.g. a nurse who primarily delivers clinical care may also undertake counselling and dispensing. For these people the patient loads calculated may be an under-representation. Further work could assess the details of patient load on different staff designations, and how this affects the care provided. In order to understand the implications of patient load on access to care it would be useful to gain further understanding of the monitoring and gate keeping procedures through which patients pass in order to gain access to a clinical staff member, or staff with other areas of specialist training.

Components of care by theme

In order to help identify the strengths and weaknesses of care provision, the survey results from all data sources will be discussed under a number of care themes.

- **ART** — Thirty-nine of the sixty facilities surveyed provided or referred ARVs, and the vast majority of these provided or referred adherence counselling, toxicity monitoring and assessment of ARV treatment failure, demonstrating good support of ARV drug provision. Few facilities provided or referred ARVs without such support services, although several other facilities provided or referred ARV support services but not ARVs themselves. This reported availability of ARVs and the support services, without charge, was viewed as a service strength by many facility staff. The availability of CD4 testing at fewer than half of facilities is of concern and may limit the effectiveness of ART provision.
- **Pain management** — Pain is a common (Solano, Gomes & Higginson 2006) and distressing symptom for people living with HIV, which can affect other areas of a person's wellbeing, such as psychological and spiritual wellbeing, mobility and social activities. Yet, it can be cheaply and easily controlled. As people in Africa are commonly cared for at home, and the most effective way to provide opioids is orally (World Health Organization 1990), the low availability of oral opioids found in this survey is concerning. Only three facilities reported to provide morphine (from the staff interviews), but only one of these facilities was found to have any in stock when the pharmacy was reviewed, and this was in injectable form. It is far less feasible and effective to manage home care analgesia through injectable morphine than through oral liquid forms that can be managed by the patient/family. Pain management should be by the mouth, by the clock and by the Pain Ladder (World Health Organisation 1990), and this is hard to achieve with no strong opioids/one site with an injectable opioid.

Further down the analgesic ladder, the availability of other analgesics was variable. Although 51 facilities provided or referred non-opioid analgesics, only 23 provided or referred a weak opioid (e.g. codeine). The high number of facilities reportedly providing non-opioids was found to be closely matched by the high availability of the medication in the pharmacies reviewed. However, far more facilities had codeine stocks in the pharmacy than provided it to HIV patients (65% of facilities with codeine in stock reported providing it). Furthermore, the stock levels of analgesics found in some pharmacies were concerning with respect to pain management of HIV patients. One site had only 10 codeine (weak opioid) tablets, and another only 200 non-opioid analgesic tablets in stock. These low stock levels for analgesics and the high levels of stockouts recorded for many drugs raise questions about the sustainability of analgesia for patients.

- **Psychological health** — The psychological care components examined appeared to be widely available. Pre- and post-test counselling was provided or referred in 90% of facilities, and anxiety/ depression treatment at 70% of facilities. The availability of pre- and post-test counselling appeared to be corroborated by patients who often reported receiving various forms of counselling or attending support groups. Patients also appeared to value and feel the benefits of the counselling/support group sessions they received.

There is evidence of great psychological distress among patients newly diagnosed as HIV positive, and that these needs continue and change over time (Meursing & Sibindi 2000). Therefore, finding wide availability of psychological care is encouraging. However, psychological care was provided at 20 facilities that employed no counsellors. Although clinical staff may have training to deliver psychological care, the time available for doing so remains unknown from this survey. These findings further increase the importance of employing staff with specialist training in psychological care.

- Nutrition and social care — The area of nutrition and social care in HIV is broad, and the two areas closely linked. Although nutritional counselling and multivitamins were commonly available, patients' desires for more food provision and transport to facilities appeared to indicate a financial need. The link between wealth and health inequalities has been demonstrated in many areas of health, and HIV is no exception (Ainsworth & Over 1997). An HIV patient's ability to earn their own income may be reduced through a number of mechanisms including more frequent illnesses resulting from a compromised immune system, the large amount of time required to attend health facilities (Hardon et al 2007), needing to care for more dependent family members with HIV, and stigma affecting their employability. The knock-on effects of this social situation are potentially many. Patients in this study and elsewhere (Hardon et al 2007) reported difficulties in affording the cost of transport to the facility, which could reduce their access to care, treatment and monitoring. A lack of ability to provide themselves with sufficient nutrition will reduce patients' general health status and increase their likelihood of succumbing to illnesses. In addition certain drugs such as ARVs can increase appetite, thus exacerbating the nutritional need and potentially affecting adherence to ARVs (Au et al 2006). Improvement in transport to facilities and provision of food could overcome these issues, but does not solve the problem of few financial resources. Another finding was that of poor provision and a great demand for IGAs and microfinance. Providing IGAs and microfinance could help patients find their own way to overcome the financial barrier of accessing care and ensuring good nutrition described above, as well as maintaining their independence and involvement in society.

This study also surveyed the availability of care at home. Forty-five facilities provided or referred some care in patients' homes, although the content and delivery of that care was not explored in this survey. More specifically, home help for the patient or family was provided by 27 facilities. When looking at the PEPFAR areas of care and support, HBC-only facilities most commonly provided or referred care in all five areas; one of the key reasons for this was the provision of social care that was often lacking in other facility types. It seems that the availability of social care could be increased, given that in eleven facilities community health workers were employed but none of the PEPFAR components of social care were being provided.

- Opportunistic infections and preventive care — This survey examined the provision of preventive and curative care of general OIs and some specific HIV-related infections, in particular malaria, TB and sexually transmitted infections. People with HIV are more vulnerable to malaria infection and experience worse symptoms (Slutsker & Marston 2007). STIs cause high morbidity in the HIV-positive population and are also associated with increased infec-

tiousness and greater probability of HIV transmission (Wasserheit 1992). Coinfection with TB is the single highest cause of mortality for HIV-positive Africans (Corbett et al 2003), while HIV is the single biggest risk factor for activating TB (Bock & Reichman 2004). The synergy between the two has led to TB/HIV being described as a 'dual epidemic'.

The availability of care items to prevent OIs varied between care items and between the providers and recipients. Finding that CTX was available at 49 facilities reflects a positive effort to reduce morbidity and mortality, including from malaria, in HIV patients and their uninfected household members (Mermin et al 2004). However, problems of stockouts and accessing this medication, as reported by patients (discussed further below), could limit the effectiveness of this intervention. Condoms were provided or referred at 50 of the 60 facilities, although some FGD participants reported that condoms were not available to all patients.

The purpose of the PCP is to serve as a short list of components of care that every person with HIV should receive as a preventative measure, to protect them from water-borne infections and malaria, as well as to prevent them from transmitting HIV. Even though the elements of the PCP examined have been shown to reduce morbidity and mortality in people with HIV in Africa (Mermin et al 2005), and there was common availability of some of the components of the PCP (e.g. CTX, multivitamins and condoms), it is of concern that only five facilities provided a package of preventive care according to the simple definition of bednets, treatment to make water safe, condoms, multivitamins and CTX. In light of the low referral activity in situations where not all care is provided, and patient reports of non-receipt of some items, this suggests that patients were either not receiving a preventive package of care where necessary, or were travelling between facilities to access it.

The results of this survey show that malaria, TB and STIs could be treated at the majority of hospitals and health centres. However, interventions specifically to prevent these diseases, such as mosquito bednets (also part of the PCP) and isoniazid to prevent TB, were not commonly provided or referred (at 32% and 17% of facilities respectively).

The availability of the components of Prevention with Positives (PWP) seems good. All five components (adherence counselling, family planning counselling, patient HIV support groups, treatment of herpes and condoms) were offered at 32 facilities. However, there may be some differences in understanding as to what constitutes 'PWP' at both the facility and public level, as there were differences in the reported availability of the PWP constituent components and the availability of PWP itself.

- Laboratory services — Many of the laboratory services necessary for HIV care were commonly provided at the hospitals, but not commonly provided or referred at smaller facilities. Notably, the CD4 and liver function tests were provided or referred at fewer than half of facilities, and these were primarily hospitals. Where laboratory services were not available, both staff and patients often expressed a desire to provide such services on site. However, as other facilities with the necessary equipment reported problems in maintaining laboratory supplies, highlighting the need for good supply and maintenance networks to be provided alongside laboratory infrastructure and equipment.

Infrastructure

A number of issues arose relating to facility infrastructure that may potentially impact on all aspects of care and support provision. The data demonstrated a wide range of authorities to which centres must report, including the MOH, PEPFAR, and NGOs. Further research may offer insight into the convergence and divergence in data requested by these authorities and where economies of effort may be achieved.

It is notable that a minority of care-providing facilities lacked some basic elements of infrastructure, including a functioning toilet (13%), a safe water supply (20%) and electricity (23%). There are clear implications for infection control and efficiency. Staff and patients also expressed desires for improvements in patient waiting areas and more facility space, and that these improvements would make the facility more sustainable. Improvements to laboratory (as described above) and pharmacy supplies were also requested; pharmacy stocks are discussed in more detail below.

Medication stocks, supply, and use

As alluded to in several areas of care provision described above, findings primarily from the pharmacy review, but also from the staff interviews and patient FGDs, highlighted a number of issues with respect to medications.

Firstly, the stocks of some medications were low. For example, only one facility was found to stock morphine, which was in injectable form and therefore less useful in pain management than oral formulations. One site had only 10 weak opioid tablets, and another only 200 non-opioid analgesic tablets in stock. Some improvements to the efficacy and safety of drugs could be made; expired drug stocks were found on nine occasions and weak opioids were found to be stored in an unlocked location at three facilities.

In addition to a lack of drug stocks, a number of drugs named in the research tool were not described by staff as available for their HIV patients, even though they were in stock in the pharmacy. This finding may be due to a validity problem of the interview data, or clinical staff not assessing that particular clinical need and therefore not being aware of the appropriateness of certain drugs in HIV management, or certain drugs not being made available to HIV patients.

Drug supplies appear to be erratic and unreliable and the lack of stock levels found is problematic. Only nine facilities had stock levels to guide re-ordering for any medications in the pharmacy, which was corroborated by a lack of stock level records found in the pharmacy reviews. In addition, the number of individual drug stocks that had been out of stock in the last six months was very high (63% of all drug stocks surveyed). For some drugs there are clear risks of running out of medication to the patient (e.g. prophylaxis), and the lack of reliable and continuous supply was noted by patients in the FGD. To illustrate this, data show that of the 49 facilities that reported providing CTX, tablet stockouts were reported by 25. Within the FGDs 84% of patients reported having received CTX, but then proceeded to report one of their most common problems in obtaining medicines being medicines being out of stock. A total of 56.2% of drug labels surveyed had had a stockout in the previous six months. Stockouts can lead to unnecessary suffering and necessitates patients “shopping around”, which facility staff and FGD participants reported happening, with subsequent double-counting of patients increasingly likely. Reasons for the high level of stockouts,

lack of stock levels and keeping expired drugs were not explored. However, these findings imply a lack of control over drug supplies at the facility level, rather than poor in-house stock management. Facility staff also highlighted drug supplies as problematic.

Facility strengths and weaknesses

When exploring facility strengths and how services could be improved, including reducing double-counting, a number of cross-cutting themes emerged from across the data sources, including both patients and staff viewpoints. FGD data in practice probably refer to services received from numerous facilities, rather than the site at where the FGD was held. This is indicative of “real world” practice and is supported by other data sources in this study on the patchy comprehensiveness of components of care, poor referral networks, and stockouts. If the outcome of interest is receipt of services, rather than source of receipt, then these data are useful when interpreted in light of the other data sources in this survey, which is a usual facet of the multi-methods design.

The results indicated that not only did patients access a number of services, but that this was due to both the limited care range available from individual facilities and the manner in which it is provided. In a survey of this size it is too complex to evaluate and analyse service uptake at the multiple site level, and further network analysis studies would be appropriate. However, Phase 2 will highlight receipt, and sources, of components of care.

The comparison of FGD and staff interviews showed that although a component of care was described as available, in some cases it was received by comparatively few patients (e.g. condoms and water treatment). Although this is not a needs analysis (i.e. patients in the group may not have needed those specific interventions, as for example not all patients will need CTX, TB testing, condoms) the FGD data were illuminating in describing why patients believed they did not receive the service. For example, limitations were allegedly placed on eligibility for condoms and bednets, which had not been explored in the staff interviews. These criteria suggest that provision of care by a facility does not necessarily equate to accessibility for patients, and so such criteria should be subjected to greater examination. Further, as this analysis was of patient receipt of services irrespective of site, the data are concerning in that they show that at some facilities several components of care were not received by any focus group participant, e.g. condoms, water treatment, and bednets.

Patients requested longer facility opening hours, which supports the finding that in some facilities the number of hours for both clinical and non-clinical staff appointments was apparently low. This request may also help patients to attend clinics whilst maintaining their employment. The reported need for transport and outreach/mobile clinics is suggestive of rural patients having difficulties attending for care, a problem that would be far worse for those attending facilities without comprehensive care. It is therefore unsurprising that patients stated a preference for facilities that provide comprehensive care in a single place.

Within the discussions about strengths and comprehensiveness of care, several facilities noted their ability to reduce stigma as a strength of their facility, and stigma reduction was also mentioned in the patient FGD, but is unclear how, and to what extent, this is achieved.

As mentioned above, although receiving care at one place was important to patients, it was not the only consideration made when deciding which clinic to attend. Patients identified a need for facilities that were private/ confidential, and that the search for these aspects of care led them to “shop around.” This also slightly conflicts with the facility view that they reduce stigma, and merits further auditing of clinic procedures.

Document analysis

In terms of the number of clinical documents reported as in existence, it is notable that the following documents were not used: outgoing referral forms (not used at 25% of facilities) used to communicate current health status, specific referral need and existing care provision; first assessment sheet (40%) to identify and monitor presenting health status and needs; ongoing assessment sheets (40%) to monitor response to care and changes in health status/need; patient records (any format, 13%) and patient information (any form, 25%) to monitor care, contact details, prescribing, intervention etc. In the absence of the last two forms it is unclear how activity is recorded or continuity of care is provided.

In terms of completeness of information on which to base clinical care, there are many potential improvements to be made in record contents. For example, medical history was often not captured on incoming or outgoing referral forms.

Although 40% of facilities did not have first assessment sheets (which are an opportunity to undertake holistic assessment, and to refer on for elements of care not available) it appears that MOH-led core data recording facilitates the recording of some essential data, and working with Ministries is clearly a useful way to proceed in agreeing essential patient history-taking. Further, not only were ongoing assessment sheets not used in 40% of facilities but there was variability in the apparent completeness of information (e.g. treatment, symptom screening, sexual history, referrals). It is reasonable for a patient document record to contain such information, and again it is useful here that a MOH standard dataset is collected, but potentially essential information such as treatment history and immunisation do not have specified fields.

Provision of accurate, appropriate and timely information is a cornerstone of health promotion in HIV care. Such basic information is complementary to patient contact and support, and can address essential areas of care such as ARV adherence, side effects, infection control and prevention. Clearly, in many contexts this method of information and support provision is limited by patient literacy and so we focus less on blanket coverage than on content of existing materials. Therefore, it is notable that only one site had information in a local language, and the majority of documents (615) were in English.

Strengths and Limitations

There are a number of strengths and limitations to this Phase 1 survey. The facilities were selected at random from three strata based on patient numbers. However, routine patient numbers were unrelated to patient numbers reported by facilities, which meant the strata were unreliable and so the sample could not claim to represent proportionally different facility sizes. Nevertheless, the facilities surveyed were still a simple random sample and included a variety of facility sizes by patient numbers, thus allowing cautious generalisation to other PEPFAR-funded care and support

services in Kenya to be made. There were low numbers of care components for which facilities referred patients elsewhere. From this finding alone it is not possible to know whether the low level of referrals reflects the normal procedures of PEPFAR-funded care and support services in Kenya, or if the facilities randomly selected were not well-located (e.g. there may have been many rural facilities) to be able to refer patients elsewhere.

Every facility was visited in person by a Kenyan researcher trained to use the data-collection tools. The researchers double-entered data into a purpose-designed electronic database, and conducted validation to minimise errors. These steps ensured high quality data collection and entry. The PEPFAR categories of care used in the analysis did not contain all the care components captured in the questionnaire. Furthermore, the number of components included within each area of care varied greatly, with most areas containing about four components but clinical care containing over 30. This means the likelihood of facilities providing or referring any element of clinical care is far higher than any element of the other areas of care. This may explain the apparent lower availability of spiritual or social care, although psychological and preventative care were commonly provided or referred even though these categories also contained only small numbers of care components. Also, the non-clinical areas of care and support according to the PEPFAR definitions may not include components that the facilities offer, yet which may be considered to fall in these areas.

Data collected were a combination of self-reported information (e.g. components of care offered) and information collected directly by the researcher (e.g. analysis of document contents and pharmacy stocks). The self-reported data may be subject to bias as staff may have reported a component of care being provided or referred for that was in fact not available (especially with respect to knowledge about receipt of care for which a patient is referred), or staff may not have been aware of certain elements of care being available to patients. In addition, the understanding of some questions or items could have been interpreted differently by different staff or facilities. The provision of care items such as 'prevention with positives' or 'management of cancer' could manifest in different ways. Unfortunately the scale of the survey did not allow for discussion of what each care item comprised for individual facilities. A number of senior staff were asked to participate in the staff interview process, which had the likely additional benefit of minimising some of these sources of bias. Although the self-reported information could not be accurately validated, the patient FGDs allowed some validation to be undertaken to establish receipt of certain components of care.

Some of the data requested from facilities were not commonly available. For example, the calculation of proportion of patients receiving care could not be conducted as patient numbers were often available or had been estimated to give numbers that seemed unreliable.

Also, despite many documents reportedly being available at the facilities, a large proportion of facilities could not supply the researchers with an example document in order to undertake analysis of content. In some cases this was due to the facility having only one copy in use (e.g. service aim), but in other cases facilities had few or no copies to spare of documents that would be needed in multiple numbers, e.g. patient record sheets. These situations suggest issues with recording clinical data, but were not investigated further in this study. Low document availability also limited the depth of the analysis of content that could be undertaken and raises the risk of bias.

In the patient FGDs, participants were patients who were present at the facility on the day of the visit and were asked to participate by facility staff. The participants were not necessarily representative of the wider HIV positive patient population, although a purposive sampling frame was proposed to staff. Participants were selected from patients who were more likely to be present at the facility, so they may be more sick than average. Alternatively, in a number of facilities, patients were encouraged to become peer counsellors or play other roles in the facility. These people were therefore more likely to have been at the facility on the day of the visit, and could have taken part in the FGDs. These people are likely to have received training to do this role and so be more informed about issues relating to HIV care. This may have resulted in them having a perspective more closely aligned to the facility than to a lay patient view.

FGDs were undertaken in every facility where there were sufficient patients who agreed to participate. This part of data collection acted as a process to validate staff reports of care offered, as well as providing the patient view of the services they received. However, owing to the high number of FGDs undertaken and the timescale; it was not possible to record verbatim, transcribe, translate and analyse the FGDs in the usual way. Instead notes were taken by the researcher during the FGDs, and these were analysed for content. This method is likely to have limitations, such as less detail being noted on paper than by recording the discussion, which may have meant that some views or opinions were overlooked.

With respect to the pharmacy review, it is possible that drugs with another label, or a less common formulation than the one asked about, were in use. We reviewed those most commonly used, and identified them through wide consultation, although we chose not to include ARVs. Also, pharmacies may have stocked additional drugs not listed in our review sheets, as the study needed to choose common specific drugs, especially as some pharmacies were general medical.

Lastly, when research is commissioned to investigate care where resources are scarce, there are always potential desirability biases among respondents who provide that care (Harding et al 2008). The use of triangulated data (staff, patients and pharmacy) have reduced that bias in the interpretation and the subsequent Phase 2 study will be useful in appraising the effect of the data described here on patient outcomes.

Recommendations

The findings of this study highlight a number of areas where services may be able to be improved in order to improve facility sustainability and patient care.

Facility infrastructure

- Facility infrastructure requires improvement in many facilities, particularly enlarging clinic and waiting areas. Some facilities also require improved electricity and water supplies for sanitation and infection control.

Health management information systems

- We observed a low number of care components being provided at smaller facilities, even after including availability via referral. Reliable and well-monitored referral networks for specialist HIV care and support should be established. As well as improving patient care, such networks may help to reduce the number of patients who 'shop around' for their health care services, and the subsequent double-counting of such patients.
- In order for reliable referrals to work, comprehensive information on patients attending facilities and the care they receive, including outward and inward referrals, are needed for good patient care and efficient use of service resources. Improvements in the detail and management of patient records need to be made.

Staffing

- An increase in the numbers of specialist staff (ie staff of specific designation) is needed to ensure that staff are not reliant on operating outside their speciality. Generalist skills are important for all staff, but specialists are required for more complex cases. Increasing specialist training and employing staff to deliver non-clinical aspects of care and support, such as psychological and spiritual care, could improve care quality by freeing up more time for clinical staff to provide clinical care.

Care provision

- Patient status should be assessed and documented in a multiprofessional, holistic and ongoing manner.
- The availability and accessibility of holistic care and support services should be increased within facilities.
- The provision of OI prevention should be improved. Although treatment of OIs appeared to be widespread, prevention of specific OIs and the components of the PCP were less widely offered. Specifically for CTX, although it was reported as being widely available, this was not matched by consistent pharmacy stocks or reliable sourcing by patients. Increasing the provision of reliable OI prevention and the PCP could have greater health benefits for HIV patients.
- Provision of weak and strong opioids in HIV care and support services should be urgently addressed.
- Social care should be provided, directly or by referral, at all facilities.

- Basic preventive and support services should be made available for all who need them to as many patients as possible.

Drug supplies

- The high frequency of stock outs, and challenges in this respect described by patients, need to be addressed through improving pharmacy stock supply, control, records and storage.

Laboratory services

- Laboratory services, particularly CD4 and liver function testing, should be made more widely available at facilities providing ART. For smaller facilities, referral networks to larger facilities for such services should be examined and strengthened.

Further research

In light of this survey there were a number of areas of exploration that could yield useful findings to better understand care and support provision.

- An investigation of the training available and received in the area of HIV care and support received should be undertaken. A study of the content of patient contact time would also improve understanding of how different aspects of care are delivered. Knowledge of both areas is essential to understand the extent and quality of multidisciplinary care and the confidence with which staff deliver it.
- Further study of referral networks from individual facilities would help understand where, as well as why, patients obtain care that is not provided at the principal facility of study.
- Further investigation of which staff members deliver which areas of care in what location (facility, home, outreach), and the content of various care components (e.g. nutritional counselling or home help) would provide a more detailed picture of how care is delivered (this will be explored in more detail in Phase 2).
- Given the high levels of stockouts found in this survey, a more detailed investigation of how drugs are supplied would be beneficial to help improve this aspect of care.
- Volunteer staff provided a significant amount of clinical and non-clinical care. Further research should investigate the motivation and needs of voluntary staff in order to sustain this cadre.
- Several potential gaps between facility provision and patient receipt of care were highlighted during this survey, such as drug availability, a requirement to meet criteria before receiving certain components of care, and accessing facilities. Further research is needed to determine the frequency, nature and effects of these gaps.
- Findings here suggest that provision of care does not necessarily equate to accessibility for patients. The extent and effects of criteria for accessing care, and other potential barriers to care, should be further investigated.
- A study of the care and support services (both specialist and alongside adult services) available to children should be undertaken.

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Acknowledgements

The study benefited from the involvement of a wide range of partners, medical professionals, HIV specialists and care and support researchers. The authors are grateful for the guidance provided by the United States Government Care and Support Technical Working Group for its careful guidance and to Dr. Rick Berzon (USAID), Dr Marta Ackers (CDC), Dr Maurice Maina (USAID), and Dr David Elkins (USAID). We also thank the technical and administrative staff at MEASURE Evaluation, through which the project is funded, especially Dr. Sian Curtis and Dr. Scott Moreland. The research also benefited from the assistance of Dr Lyndon Marani (NASCOP) and Dr Emily Koech (NASCOP). Thanks to Agatha Mbollo and Juliana Cheruiyot who undertook data collection. Finally we are grateful to the staff and patients at the surveyed facilities without whom the research would have been possible and for whom we believe the results will be useful in continuing to provide and to improve care and support services.

Appendix A

Senior staff interview questionnaire

Facility name _____ ID

Interviewer _____

Date of interview
d d m m y y

Respondents

Name _____	Position _____
Name _____	Position _____
Name _____	Position _____
Name _____	Position _____
Name _____	Position _____

A1	facility type	tertiary hospital (training, specialised care) =1 secondary (referral) hospital=2 district hospital (basic inpatient)=3 hospital affiliated health centre=4 other health centre (multiple services)=5 health post/dispensary (few services)=6 walk-in surgery/private doctor's office/clinic = 7 home-based care only=8	<input type="checkbox"/>															
A2	is the facility just for people with HIV or is it also for other people?	HIV only=1 HIV and non-HIV=2	<input type="checkbox"/>															
A3	managing authority	government=1 private for profit=2 private non-profit (eg NGO, faith-based)=3	<input type="checkbox"/>															
	number of patients receiving care in the last quarter	<table border="1"> <thead> <tr> <th></th> <th>A men</th> <th>B women</th> <th>C children</th> <th>D total</th> </tr> </thead> <tbody> <tr> <td>A4 new patients</td> <td><input type="text"/><input type="text"/><input type="text"/><input type="text"/></td> <td><input type="text"/><input type="text"/><input type="text"/><input type="text"/></td> <td><input type="text"/><input type="text"/><input type="text"/><input type="text"/></td> <td><input type="text"/><input type="text"/><input type="text"/><input type="text"/></td> </tr> <tr> <td>A5 all patients</td> <td><input type="text"/><input type="text"/><input type="text"/><input type="text"/></td> <td><input type="text"/><input type="text"/><input type="text"/><input type="text"/></td> <td><input type="text"/><input type="text"/><input type="text"/><input type="text"/></td> <td><input type="text"/><input type="text"/><input type="text"/><input type="text"/></td> </tr> </tbody> </table>		A men	B women	C children	D total	A4 new patients	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	A5 all patients	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	
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A6	hours per week when patients can see a clinical member of staff for HIV care		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>															
A7	hours per week when patients can see a non-clinical member of staff for HIV care		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>															
A8	For someone who is HIV-positive but not sick, and does not receive ART, how many times per year would they have regular appointments with clinical staff? 777= no regular appointments, as required		<input type="text"/> <input type="text"/> <input type="text"/>															
A9	For someone who is HIV-positive but is not sick, and does not receive ART, how many times per year would they have regular appointments with non-clinical staff? 777= no regular appointments, as required		<input type="text"/> <input type="text"/> <input type="text"/>															
A10	For someone who is HIV-positive but not sick, and does receive ART, how many times per year would they have regular appointments with clinical staff? 777= no regular appointments, as required		<input type="text"/> <input type="text"/> <input type="text"/>															
A11	For someone who is HIV-positive but is not sick, and does receive ART, how many times per year would they have regular appointments with non-clinical staff? 777= no regular appointments, as required		<input type="text"/> <input type="text"/> <input type="text"/>															

	places of care delivery provided by this facility for HIV positive patients		yes=1, no=2	
A12a	inpatient			
A12b	outpatient			
A12c	home-based care			
A12d	medical consultancy for other facilities			
A12e	daycare			
A12f	support groups			
A13	number of inpatient beds in whole facility:			
Number of staff in whole facility				
		A full-time paid	B part-time paid	C volunteer
A14a	doctor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A14b	clinical officer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A14c	medical assistant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A14d	nurse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A14e	pharmacist/dispenser	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A14f	lab staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A14g	community health worker	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A14h	social worker	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A14i	spiritual leader	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A14j	traditional healer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A14k	nutritionist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A14l	counsellor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A14m	physiotherapist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Which patients pay for the following services:		all patients pay=1 means-tested=2 free to patients on ART = 3 free to all patients=4 free to children=5 restricted by other criteria=6 not available=8		
A15a	clinical appointment i.e. to see doctor			
A15b	x-rays			
A15c	HIV test			
A15d	ARVs			
A15e	Laboratory work			
A15f	cotrimoxazole/Septrin			
A15g	other medicines			

Does your facility report to:			
A16a	Ministry of Health	yes=1, no=2	<input type="checkbox"/>
A16b	PEPFAR/US agency		<input type="checkbox"/>
A16c	NGO including FBO		<input type="checkbox"/>
A16d	Private for-profit organisation		<input type="checkbox"/>
Infrastructure			
A17	Does your facility have staff available 24 hours a day?	yes, roster observed or staff live onsite=1 yes, no roster and no staff live onsite=2 no=3	<input type="checkbox"/>
A18	does the facility have a functional ambulance, bicycle or other vehicle onsite for patient emergency transport?	yes, functioning (and with fuel)=1 yes, but not functioning or no fuel=2 no=3	<input type="checkbox"/>
A19	Is the electricity working? (Check)	yes=1 usually but not now=2 never have electricity=3	<input type="checkbox"/>
A20	Does the facility have a backup electrical power supply (generator, inverter, solar panels)? (Accept response)	yes, functioning (and with fuel)=1 yes, but not functioning or no fuel=2 no=3	<input type="checkbox"/>
A21	What is the most commonly used source of water for the facility, for all purposes, at this time?	safe (piped, public tap, standpipe, protected dug well, rainwater, borehole)=1 other (unprotected dug well, tanker-truck, cart, jerry can, river/pond surface water etc)=2 bottle water (enough for handwashing)=3 no water source=4	<input type="checkbox"/>
A22	Is there a latrine/toilet available for outpatients to use?(Check)	yes, improved (flush/pour flush to sewer system/ septic tank, pit with slab, VIP, composting)=1 yes, other (flush/pour flush to field, pit without slab, open pit, hanging, bucket)=2 no=3	<input type="checkbox"/>
A23	condition of the latrine/toilet	functioning=1 not functioning=2 unable to observe=3	<input type="checkbox"/>

if F26=3 go to F28

Evaluation (include top 5 for each question)		
A24	What are the strengths of your facility in terms of HIV care service delivery for both adults and children?	
A25	What would improve the way your facility offers services to HIV-infected adults?	
A26	What would improve the way your facility offers services to HIV-infected children?	
A27	As manager, what main challenges do you face in terms of sustainability for your facility?	
A28	What do you think might be potential strategies to avoid patients receiving duplicate HIV-related services at your facility and elsewhere?	

Senior staff questionnaire section B: components of care									
Facility name _____		Facility ID <table border="1"><tr><td> </td><td> </td><td> </td><td> </td></tr></table>							
Interviewer _____		Date <table border="1"><tr><td>d</td><td>d</td><td>m</td><td>m</td><td>y</td><td>y</td></tr></table>		d	d	m	m	y	y
d	d	m	m	y	y				
type of care	service provided? 1=yes, by this facility 2= yes, formally referred 3=yes, informally referred 4=service not provided	currently able to provide to all who need it? yes=1, no=2	# people receiving this care here in the last quarter 9999=missing						
Question part:	A	B	C						
Question number		If A = 1 complete B and C. Otherwise cross through boxes							
Spiritual facility arranges for:									
B1 visit by pastor etc	<table border="1"><tr><td> </td></tr></table>		<table border="1"><tr><td> </td></tr></table>						
B2 staff prayer with patients	<table border="1"><tr><td> </td></tr></table>		<table border="1"><tr><td> </td></tr></table>						
B3 contact with traditional healer	<table border="1"><tr><td> </td></tr></table>		<table border="1"><tr><td> </td></tr></table>						
Psychological									
B4 pre and post test counselling	<table border="1"><tr><td> </td></tr></table>		<table border="1"><tr><td> </td></tr></table>						
B5 adherence counselling	<table border="1"><tr><td> </td></tr></table>		<table border="1"><tr><td> </td></tr></table>						
B6 family planning counselling	<table border="1"><tr><td> </td></tr></table>		<table border="1"><tr><td> </td></tr></table>						
B7 patient HIV support groups	<table border="1"><tr><td> </td></tr></table>		<table border="1"><tr><td> </td></tr></table>						
B8 family care-givers support group	<table border="1"><tr><td> </td></tr></table>		<table border="1"><tr><td> </td></tr></table>						
B9 family counselling	<table border="1"><tr><td> </td></tr></table>		<table border="1"><tr><td> </td></tr></table>						
B10 psychiatric therapy	<table border="1"><tr><td> </td></tr></table>		<table border="1"><tr><td> </td></tr></table>						
Clinical									
Prevention									
B11 support for family testing	<table border="1"><tr><td> </td></tr></table>		<table border="1"><tr><td> </td></tr></table>						
B12 circumcision	<table border="1"><tr><td> </td></tr></table>		<table border="1"><tr><td> </td></tr></table>						
B13 prevention with positives	<table border="1"><tr><td> </td></tr></table>		<table border="1"><tr><td> </td></tr></table>						
General									
B14 nursing care	<table border="1"><tr><td> </td></tr></table>		<table border="1"><tr><td> </td></tr></table>						
B15 adult diagnostic HIV testing	<table border="1"><tr><td> </td></tr></table>		<table border="1"><tr><td> </td></tr></table>						
B16 ART	<table border="1"><tr><td> </td></tr></table>		<table border="1"><tr><td> </td></tr></table>						
B17 weighing	<table border="1"><tr><td> </td></tr></table>		<table border="1"><tr><td> </td></tr></table>						
B18 assess ART treatment failure	<table border="1"><tr><td> </td></tr></table>		<table border="1"><tr><td> </td></tr></table>						
B19 monitor ART toxicity	<table border="1"><tr><td> </td></tr></table>		<table border="1"><tr><td> </td></tr></table>						
Pain									
B20 assessment of pain	<table border="1"><tr><td> </td></tr></table>		<table border="1"><tr><td> </td></tr></table>						
B21 strong opioids eg morphine	<table border="1"><tr><td> </td></tr></table>		<table border="1"><tr><td> </td></tr></table>						
B22 weak opioids eg codeine	<table border="1"><tr><td> </td></tr></table>		<table border="1"><tr><td> </td></tr></table>						
B23 non-opioids eg paracetamol	<table border="1"><tr><td> </td></tr></table>		<table border="1"><tr><td> </td></tr></table>						
B24 treatment for neuropathic pain	<table border="1"><tr><td> </td></tr></table>		<table border="1"><tr><td> </td></tr></table>						

Facility name _____		Facility ID <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center; width: 40px; height: 20px;"><tr><td style="width: 10px; height: 10px;"></td><td style="width: 10px; height: 10px;"></td><td style="width: 10px; height: 10px;"></td><td style="width: 10px; height: 10px;"></td></tr></table>									
Interviewer _____		Date <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center; width: 100px; height: 20px;"><tr><td style="width: 15px; height: 10px;">d</td><td style="width: 15px; height: 10px;">d</td><td style="width: 15px; height: 10px;">m</td><td style="width: 15px; height: 10px;">m</td><td style="width: 15px; height: 10px;">y</td><td style="width: 15px; height: 10px;">y</td></tr></table>				d	d	m	m	y	y
d	d	m	m	y	y						
type of care	service provided? 1=yes, by this facility 2= yes, formally referred 3=yes, informally referred 4=service not provided	currently able to provide to all who need it? yes=1, no=2	# people receiving this care here in the last quarter 9999=missing								
Question part:	A	B	C								
Question number											
Symptom management											
B25 anxiety/depression treatment	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>									
B26 treatment for nausea/vomiting	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>									
B27 treatment for skin rash/itching	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>									
B28 treatment for diarrhoea	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>									
B29 laxatives	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>									
B30 treatment for thrush	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>									
B31 treatment for oral candidiasis	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>									
B32 treatment for cryptococcus	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>									
B33 treatment for other fungal infections	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>									
B34 treatment for herpes (e.g. acyclovir)	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>									
B35 treatment for malaria	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>									
B36 TB detection	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>				<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center; width: 30px; height: 20px;"><tr><td style="width: 10px; height: 10px;"></td><td style="width: 10px; height: 10px;"></td><td style="width: 10px; height: 10px;"></td></tr></table>					
B37 TB treatment	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>				<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center; width: 30px; height: 20px;"><tr><td style="width: 10px; height: 10px;"></td><td style="width: 10px; height: 10px;"></td><td style="width: 10px; height: 10px;"></td></tr></table>					
B38 therapeutic feeding for malnutrition	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>									
B39 treatment for other opportunistic infections	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>									
B40 management of cancer	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>									
Prophylaxis											
B41 multivitamins	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>									
B42 nutritional advice	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>									
B43 access to safe drinking water at home	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center; width: 30px; height: 20px;"><tr><td style="width: 10px; height: 10px;"></td><td style="width: 10px; height: 10px;"></td><td style="width: 10px; height: 10px;"></td></tr></table>								
B44 septrin/cotrimoxazole	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center; width: 30px; height: 20px;"><tr><td style="width: 10px; height: 10px;"></td><td style="width: 10px; height: 10px;"></td><td style="width: 10px; height: 10px;"></td></tr></table>								
B45 isoniazid (INH) to prevent TB	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>									
B46 condoms	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>									
B47 mosquito bednets	<input style="width: 20px; height: 20px;" type="text"/>	<input style="width: 20px; height: 20px;" type="text"/>			<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center; width: 30px; height: 20px;"><tr><td style="width: 10px; height: 10px;"></td><td style="width: 10px; height: 10px;"></td><td style="width: 10px; height: 10px;"></td></tr></table>						

Facility name _____		Facility ID		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Interviewer _____		Date		d	d	m	m
				y	y		
type of care		service provided? 1=yes, by this facility 2= yes, formally referred 3=yes, informally referred 4=service not provided		currently able to provide to all who need it? yes=1, no=2		# people receiving this care here in the last quarter 9999=missing	
Question part:		A		B		C	
Question number							
Support							
B48	wound care	<input type="checkbox"/>	<input type="checkbox"/>				
B49	physiotherapy	<input type="checkbox"/>	<input type="checkbox"/>				
Social							
For the patient							
B50	home help e.g. help with bathing, housework, cooking	<input type="checkbox"/>	<input type="checkbox"/>				
B51	transport to care centre	<input type="checkbox"/>	<input type="checkbox"/>				
B52	employment training/IGA	<input type="checkbox"/>	<input type="checkbox"/>				
B53	provide household items	<input type="checkbox"/>	<input type="checkbox"/>				
B54	legal services	<input type="checkbox"/>	<input type="checkbox"/>				
B55	memory book work	<input type="checkbox"/>	<input type="checkbox"/>				
For the family							
B56	home help e.g. help with bathing, housework, cooking	<input type="checkbox"/>	<input type="checkbox"/>				
B57	loans/microfinance	<input type="checkbox"/>	<input type="checkbox"/>				
B58	infection control training	<input type="checkbox"/>	<input type="checkbox"/>				
Laboratory							
B59	liver function test (LFT)	<input type="checkbox"/>	<input type="checkbox"/>				
B60	malaria film	<input type="checkbox"/>	<input type="checkbox"/>				
B61	AFB smear	<input type="checkbox"/>	<input type="checkbox"/>				
B62	CD4 count/test	<input type="checkbox"/>	<input type="checkbox"/>				
B63	rapid HIV test	<input type="checkbox"/>	<input type="checkbox"/>				
B64	pulse oximetry	<input type="checkbox"/>	<input type="checkbox"/>				
B65	dried blood spot (early infant diagnosis)	<input type="checkbox"/>	<input type="checkbox"/>				
B66	viral load	<input type="checkbox"/>	<input type="checkbox"/>				
Paediatric (0-14 years)							
B67	paediatric ART	<input type="checkbox"/>	<input type="checkbox"/>				
B68	infant testing and counselling	<input type="checkbox"/>	<input type="checkbox"/>				
B69	children testing and counselling	<input type="checkbox"/>	<input type="checkbox"/>				

Appendix B

Document analysis record

Facility name _____ Date _____
 Interviewer _____
 Facility ID

Document analysis

If A = 1, complete B-E. Otherwise cross through boxes

	reported yes=1 no=2	observed yes=1 no=2	format paper=1 computer=2 both = 3	example taken yes=1, no=2	language English=1 other=2
Question section:	A				
Question number	D				
D1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please list all languages:
 E1 _____
 E2 _____
 E3 _____
 E4 _____
 E5 _____

Appendix D

Patient focus group discussion schedule

Question number	Question	Number
1	Total number in group	
	How many from the group, from this facility:	
2A	Receives cotrimoxazole, to take every day	
2B	Has been given an ITN for personal use	
2C	Has been tested for TB by sputum or X-ray	
2D	Has received anything to make sure your drinking water is clean	
2E	Receives counselling about how to prevent transmitting HIV to others	
2F	Receives nutritional counselling	
2G	Received condoms for you or your partner	
2H	Been encouraged to bring your spouse/children for HIV counselling and testing	

3. How do you feel today?
4. For those of you who did not receive the items mentioned from this service, can anyone tell me a reason why?
5. What are the main HIV services you receive from here?
6. Which services have been the best and why?
7. Are there any services which could be improved?
8. Apart from this facility, where else do you go for HIV services?
9. What are the main HIV services you receive from other places?
10. How do you choose where to go for different things?
11. Which medicines do you get from this facility?
12. Have you had any problems getting medicines from this facility? Please tell us about them.
13. What would you like an HIV care service to do for you, what things would you need?
14. How can this facility attract more HIV-positive people to access services here?
15. Is there anything we haven't asked about that is important to you?

Appendix E

Facilities surveyed

ID	Facility Name	Region	Self-reported Facility Type
115	Muriranjas SDH	Central	Secondary/tertiary hospital
127	Holy family Nagina mission hospital	Western	Secondary/tertiary hospital
136	Gatundu SDH	Central	Secondary/tertiary hospital
139	St Joseph hospital, Nyabondo	Nyanza	Secondary/tertiary hospital
154	Kakamega PGH	Western	Secondary/tertiary hospital
156	Nyeri PGH	Central	Secondary/tertiary hospital
157	Thika DH	Central	Secondary/tertiary hospital
158	Bomu	Coast	Secondary/tertiary hospital
161	Jocham hospital, Mombasa	Coast	Secondary/tertiary hospital
109	Naivasha	South Rift	District hospital
118	Marsabit DH	Eastern	District hospital
124	Tana river DH	Coast	District hospital
126	Lamu DH	Coast	District hospital
128	St Luke's kaloleni hospital	Coast	District hospital
131	Keroka SDH	Nyanza	District hospital
132	Othaya SDH	Central	District hospital
137	Gilgil h/c	South Rift	District hospital
140	Kapenguria	North Rift	District hospital
144	Karatina SDH	Central	District hospital
146	Rondo SDH	Nyanza	District hospital
149	Teso	Western	District hospital
153	Vihiga DH	Western	District hospital
155	Sindo SDH	Nyanza	District hospital
159	Kdh	South Rift	District hospital
102	Modogashe SDH	North Eastern	Health centre
105	Ngorongo health centre	Central	Health centre
114	Jericho HC	Nairobi	Health centre
116	Mbooni SDH	Eastern	Health centre
120	Ugina	Nyanza	Health centre
129	Ukwala sub district hospital	Nyanza	Health centre
130	Nephak - makadara	Nairobi	Health centre
134	Mtobanga bi	Coast	Health centre
135	Embakasi - Nairobi	Nairobi	Health centre

ID	Facility Name	Region	Self-reported Facility Type
138	Rera health centre	Nyanza	Health centre
141	Rwambwa health center	Nyanza	Health centre
142	St Johns ambulance	Nairobi	Health centre
143	Ogongo	Nyanza	Health centre
147	St Vincent	Nairobi	Health centre
160	Chulaimbo	Nyanza	Health centre
169	Tudor district hospital	Coast	Health centre
101	Ndithini mission hospital	Eastern	Dispensary
103	Makwasinyi dispensary	Coast	Dispensary
104	Kitobo dispensary	Coast	Dispensary
110	Nomadic community trust - Charda		Dispensary
112	Nyache health center	Coast	Dispensary
122	Kibos prison dispensary	Nyanza	Dispensary
123	Nomadic community trust - Ikwasi		Dispensary
133	Kapsumbeiyo tea estate	North Rift	Dispensary
150	Nephak - city centre	Nairobi	Dispensary
167	Usao dispensary, Suba	Nyanza	Dispensary
106	NMCK/NUR - Migori	Nyanza	HBC-only
108	Nephak - Garissa	N Eastern	HBC-only
113	Kenepote – teso	Western	HBC-only
117	Nephak – karachuonyo	Nyanza	HBC-only
121	Nephak – mwingi	Eastern	HBC-only
125	Nephak – Nyeri	Central	HBC-only
145	Nephak - Nakuru	South Rift	HBC-only
148	Raag	Central	HBC-only
151	Bucoss	Western	HBC-only
152	Nephak - Embakasi	Nairobi	HBC-only

Appendix F

Care components categorised for PEPFAR care and support areas

Area of PEPFAR care and support	Care components included from CSRI	Area of PEPFAR care and support	Care components included from CSRI	
Clinical	Pre and post test counselling	Clinical con't	Nutritional advice	
	Adherence counselling		Access to safe drinking water at home	
	Nursing care		CTX	
	Adult diagnostic HIV testing		Isoniazid to prevent TB	
	Weighing		Mosquito bednets	
	Assessment of pain		Wound care	
	Strong opioids		Physiotherapy	
	Weak opioids		Psychological	Family care-givers support group
	Non-opioid analgesics			Family counselling
	Treatment for neuropathic pain			Psychiatric therapy
	Treatment for nausea/vomiting	Anxiety/depression treatment		
	Treatment for skin rash/itching	Spiritual	Visit by pastor	
	Treatment for diarrhoea		Staff prayer with patients	
	Laxatives		Contact with traditional healer/herbalist	
	Treatment for thrush		Memory book work	
	Treatment for oral candidiasis	Social	Home help	
	Treatment for cryptococcus		Employment training	
	Treatment for other fungal infections		Legal services	
	Treatment for herpes		Loans/microfinance	
	Treatment for malaria	Prevention	Family planning counselling	
TB detection and treatment	Patient HIV support groups			
Therapeutic feeding for malnutrition	Support for family testing			
Treatment for other opportunistic infections	Prevention with positives			
Management of cancer	Condoms			
Multivitamins				

Appendix G

Results sharing with facilities

Introduction

Part of the objective of this evaluation is, in conjunction with Measure Evaluation, to build commitment to utilising the findings and lessons learnt from the study. As a step towards meeting this objective a meeting was held in Nairobi in May 2008 with the research team and participating facilities. The purposes of this half-day meeting were:

- To share the results of the phase 1 survey with participants;
- To gain insight into the findings from those involved in service delivery to improve the presentation of the findings in the report;
- To discuss the recommendations made, with the option of facilities making additional recommendations if desired; and
- To identify the organisations who may be able to implement the recommendations.

Representatives from all 60 facilities and the country team attended the half day workshop.

Meeting outline

Participants were given a summary of the findings. Presentations from the research team explained:

- The parties involved and the aims, objectives and design of the evaluation.
- Methods and data collection experiences
- Survey results

Participants were then divided into 5 groups in order to explore key themes that arose from the data in more details. In addition to the summary report and presentation handouts already received, each group was given relevant supplementary data (i.e. report tables) to aid discussions. Group participants were asked to discuss the main findings relating to the theme allocated. Prompts to aid discussion included: Were any findings surprising? What are the areas where things are doing well or are on track and why? What areas need improvement and why? Participants were then asked to review and discuss the recommendations contained in the summary report, and finally to draft their own set of recommendations for action in this thematic area using the attached format. Discussion summaries were shared with all.

Meeting feedback — general

Participants expressed their appreciation at being informed of the survey findings, as well as having an opportunity to contribute to the report itself. Although participants were given a lot of data in a short half-day meeting, they were able to form their own views of the findings.

Meeting feedback – Main findings, recommendations from discussion groups

ART, Preventive care package, pain management, malaria, TB and other OIs

- Main findings:
 1. ART – the figures on the table are a reflection of what is happening on the ground. It may be so because scaling of ARTs is going on up to health centre level and adherence counselling is done to all eligible patients.
 2. PCP – most components assessed did well except in the provision of bed nets and safe water.
 3. Pain management – the scaling is fair.
 4. Malaria, TB and other OIs – it was noted that the screening of TB in early stages is not done.
- Recommended Actions
 1. ART – Strengthen monitoring of toxicity and treatment failure
 2. PCP – Improve provision of bednets and safe water treatment
 3. TB – Train more staff in early detection and diagnosis
 4. Pain – Improve pain management and provide strong opioids in medical kits

Nutrition, social care and psychological care

- Main findings
 1. According to the statistics, all the high level facilities provided weighing, nutritional counselling and multivitamins
 2. Therapeutic feeding is poorly done especially in low level facilities.
 3. Home help services is poor in high level facilities but excellent (100%) in HBC facilities.
 4. Few facilities, especially high level ones are giving loans, while the provision of IGAs is the same at all levels.
 5. Pre and post test counselling is done in almost all facilities (90%), including 60% of HBC facilities, while most components of psychological care are available at higher level facilities. At lower level facilities psychiatric and depression treatment was less widely available, although 20% of HBC facilities provided antipsychotic treatment and participants wondered whether the providers of such care at these facilities were trained in the area.
 6. A higher number of home based care facilities were doing pre and post test counselling (60%)
 7. Only few HBC were giving multivitamins
- Recommended Actions

Recommended Actions	Beneficiaries
CARE <ul style="list-style-type: none"> • Improve provision of IGAs, loans and microfinance, and feeding programmes for the malnourished • Strengthen support groups 	Patients

Recommended Actions	Beneficiaries
STAFF <ul style="list-style-type: none"> • Attach spiritual leaders to health facilities • Improve the quantity and quality of staff training • Reimburse volunteers • Increase staff motivation (including through above recommendations) • Link volunteers to community strategy • Train CHWs and PLWHA in business management 	

Infrastructure and medication stocks, supply and use, laboratory services

- Main findings:
 1. There are no lab services in small facilities and both the patients and staff would like to have the services to be available in these facilities
 2. The sustainability of supplies and the lack of trained laboratory trained staff were also identified as issues that needed to be addressed.
 3. It was only in few facilities the patients on ARVs paid for laboratory services.
 4. 87% of facilities have a functioning toilet.
- Surprise findings:
 1. At the initial stages, clients are paying for laboratory services but after registration into the CCC they don't pay.
- Areas that are doing well:
 1. In the lab, malaria, acid fast bacteria tests, liver function tests and rapid HIV tests are on track.
- Reasons why these areas are doing well:
 1. Rapid HIV test since this is done even at the community level.
 2. Malaria is common and hence there is need for frequent diagnosis
 3. AFB test since there is a correlation between TB and HIV
 4. LFT test as the liver test is a requirement when initiating one on ARVs
- Areas that need improvement:
 1. Improvement of LFT, CD4 count and viral load at the low level facilities.
- Factors that are impeding progress:
 1. Lack of equipment, supplies and electricity
 2. Stigma associated with some of the tests.
 3. On Medication, low stocks of morphine, discrepancy between physical count and staff report, stock outs, expired drugs and not observing DDA policies were also identified as impediments.

- Recommended Actions

Recommended Actions	Beneficiaries	Priority	Lead Organisation	Other stakeholders
INFRASTRUCTURE				
Increase ambulances at rural facilities, including via redistribution	Dispensaries and facilities at rural level	High	Government of Kenya (GOK), PEPFAR	USAID, Gates Foundation
Improve infrastructure, inclu electricity and water supplies	Dispensaries	Medium	GOK PEPFAR	USAID, Gates foundation, PEPFAR
Provision of regular supplies and equipment	Patients	Medium	GOK	
PHARMACY				
Bill cards should be maintained	Dispensaries	High	GOK	PEPFAR, USAID, APCA, KEHPCA
Review DDA (Dangerous Drug Act)	Health centres			
Maintain expiry drug chart	District pharmacies			
Regular/continuous supply of commodities and training on commodity management	NGO facilities			
Provide creatinine tests				
LABORATORY				
Improve human resources	Implementing staff	High	GOK	PEPFAR, USAID
Expand lab services	Health centres and dispensaries			
Ensure sustainable procurement of lab supplies	District hospitals, health centres, dispensaries			
Improve availability of LFT, CD4 count and viral load tests at lower level facilities				

Staffing

- Main findings — Across all the facility levels, the provision of holistic care was low (average 20%).

- Recommended Actions

Recommended Actions	Beneficiaries	Priority	Lead organisation	Other stakeholders
Employment of staff	Patients and staff	Urgent	GOK	NGOs
Capacity building of care and support providers	Patients	High		PEPFAR
Networking and building linkages	Patients and staff	High		USAID

Cross-cutting issues

- Main Findings:

1. There was a relationship between the level of the facility and number of components of care it provided. E.g. the higher the level of facility the higher the number of components of care it provided
2. There was no pattern of referral at all levels
3. Some components of care had not been given adequate attention i.e. spiritual and psychosocial support in which the average level of care given was less than 50%
4. There was inadequate staffing in the different areas of care e.g. spiritual, social and clinical care.
5. Codeine, non-opioid analgesics and cotrimoxazole were available in most facilities
6. 87% of facilities had a functioning toilet.

- Factors Impeding Progress include:

1. Inadequate staffing and training of staff.
2. Topography
3. Competing interests by different partners.

- Recommended Actions

Recommended Actions	Beneficiaries	Priority	Lead Organisation
Provide transport to track defaulters	Patient	Urgent	PEPFAR
Research	Patient	Urgent	MOH, PEPFAR
Stewardship at national, regional and facility level	Patient	Urgent	MOH, PEPFAR,
APCA, KEHPCA			
Improve infrastructure			
Increase community participation and involvement			
Improve facility capacity through investment in staffing			

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