Case Studies

Development of a Monitoring Framework for Referral within a Network of HIV/AIDS Service Providers

Condensed Final Report Based on Four Case Studies

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Contents

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Acronyms

AIDS	acquired immune deficiency syndrome
APHIA	AIDS, Population, and Health Integrated Assistance II project
ART	antiretroviral therapy
HIV	human immunodeficiency virus
NELA	Network on Ethics, Law/Human Rights, HIV/AIDS, Prevention, Support and Care
NECAIN	NELA Consortium AIDS Initiative in Nigeria
OVC	orphans and vulnerable children
PEPFAR	U.S. President's Emergency Plan for AIDS Relief
PMTCT	prevention of mother-to-child transmission of HIV
VCT	voluntary counseling and treatment
USAID	U.S. Agency for International Development
ZPCT	Zambia Prevention, Care, and Treatment Partnership

Background for Four-Country HIV/AIDS Referral Study

Rationale for Study

The Need for Integrating HIV/AIDS Services — The number and scope of services available for prevention, support, care, and treatment of HIV/AIDS has risen dramatically in the last several years, in great part due to the efforts of the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), as well as other global health initiatives, such as the Global Fund to Fight AIDS, Tuberculosis, and Malaria. In this increasingly complex service environment, integrating HIV services among themselves and with other services is important for making those services accessible to clients and their delivery efficient for the health system, and ultimately for improving individual and family outcomes. There has been interest in integrating various HIV services into a seamless continuum (e.g., voluntary counseling and treatment [VCT] with antiretroviral treatment [ART]); in integrating HIV services with other health services (e.g., family planning, tuberculosis services, and antenatal care); and with integrating various HIV services with services outside of the health system (e.g., educational services, social and protection services, etc.). There are many context-specific models for integrating services, but approaches can be grouped into three main categories. That is, services can be integrated by being offered by:

- a single provider capable of providing multiple services;
- different providers at the same site (sometimes referred to as "co-location of services"); or
- different providers at different sites using a referral system.

Referring service	The health or social service making the referral of the client.
Receiving service	The health or social service to which the client is being referred.
Counter-referral	Process by which service provider at receiving service sends client back to referring service with information about services provided there.
Service provider network	The inter-connected group of service providers among whom referrals are made.
Coordinator of care	The person who manages or facilitates care for the client.
Facilitated referral	Referral that includes a set of actions shown to increase adherence.

Figure 1. Definitions of key terms used in this report.

The first category of models gives the client the most seamless access to various services; however, this route to integration is often not practical as it implies the most disruption to current systems of care with consequent concerns about feasibility and cost because of needs to reconfigure infrastructure, personnel profiles, training, and supervision systems. The second and third categories of models are, therefore, considered to be the most feasible to implement over the short term. In fact, the third option (referral among sites) causes the least disruption to current institutional structures and arrangements; however, this option requires a well-functioning referral system. Such systems are lacking in many contexts.

Referral within a Network of Service Providers — In the case of comprehensive HIV/AIDS services, the traditional depiction of referral in pyramid form does not adequately capture the complex nature of referrals needed between and among services at various levels of the health system, and even services outside the health system. Such referral systems have been more accurately depicted as a network or web, with referral potentially occurring from various parts of the network to various other parts, as either referring or receiving services can be located in a health facility or within the community.*

In a network model, service providers might work for different organizations, with different organizational, service, and personnel profiles, accentuating coordination difficulties. In order to ensure the smooth working of a complex network of service providers, some mechanism for coordination and cohesion of the network itself is necessary.

There are also considerations of coordination of care and adherence to referral recommendations at the individual client level. Traditionally, with a single service or related set of services, a community health worker (CHW) or a nurse might be the "coordinator" of care. In the primary care systems of developed countries, there is the concept of a "medical home" (Starfield, 1998). Often, this is a primary care doctor who is aware of the various services needed by the client and to which the client has been referred. It is the keeper of this "medical home" that receives counter-referral information and assesses the need for additional follow-up or referrals. In both developed and less developed country settings, a similar concept of "case management," taken originally from social work, is utilized and later adopted in the health system as "medical case management," often done by nurses for chronic conditions requiring multiple service providers.† The case manager coordinates referrals and manages the client in the totality. The supposed benefits of a medical home and of case management include greater adherence to recommendations for referral because of the personal relationship developed between client and provider, the tailored support the coordinator of care can give, and the follow-up of defaulters. A simplified version of these concepts has been distilled in the concept of "facilitated referral" (see Figure 2). In community-based referral systems, this has been shown to increase rates of referral (Villaume, Ezzat & Gaumer, 2000)

Proposed Criteria for Measuring Success of a Referral Network — A four-country evaluation of integrating family planning and HIV/AIDS services by Family Health International found that, although in all cases there were referral systems in place and service providers reported making referrals, clients reported being referred with much lower frequency than providers reported making them (Family Health International, 2005). This highlights two common problems with referral systems and their monitoring: referral systems often do not function as intended and far from optimally; and there is often lack of solid monitoring data to determine if a referral system is functioning as designed. Monitoring

* Intra-facility referrals systems were not examined.

† For a brief explanation, see for instance: http://en.wikipedia.org/wiki/Medical_case_management

A community health worker (CHW) is performing "facilitated referral" if, at a minimum, she or he performs all actions in Components 1 and 2 listed below, and at least one action in Component 3, in an effort to ensure that sick children requiring care reach the nearest facility.

Component 1. *CHW promotes compliance with referral (both of the following actions):*

- *CHW counsels families about why referral is necessary and promotes compliance with referral.*
- *CHW fills out a referral slip or writes in a referral book and gives it to the child's caregiver.*

Component 2. *Monitoring of referral (all three of the following actions):*

- *CHW records all referred cases in a register.*
- *After examining and treating the child at a health facility, health worker writes a note to the CHW stating the outcome of the referral and explaining the follow-up that the CHW should perform in the home. This is sometimes called "counter-referral".*
- *Both referral and counter-referral are tracked in a health information system, and the outcome of referral is one topic covered in supervisory visits or monthly meetings.*

Component 3. *CHW addresses barriers to referral – geographic and financial access (at least one of the following actions):*

- *CHW inquires about barriers to referral and works with the family to address them.*
- *CHW has access to, or can inform the family about, a source of money at the community level that can provide or lend the family the funds necessary to seek care from a health facility.*
- *CHW has access to, or can inform the family about, a source of emergency transport at the community level.*
- *CHW accompanies the family to the health facility to ensure that they receive immediate care.*

(Source: Winch et al. , 2005)

Figure 2. Definition of facilitated referral by CHWs, in this case for sick children.

and evaluation of referral systems should allow referral system stakeholders to:

- know if their referral system is working; and
- identify well-functioning referral systems in order to provide information to others interested in establishing or improving referral systems.

Not all information relevant for assessing the functioning of a referral system is likely to be captured through monitoring. Depending on the outcome to be studied, an evaluation or special study may be needed, but such studies are done infrequently because of the time and expense involved.* A relatively robust monitoring system based on routinely collected information is, therefore, desirable. A brief literature review generated the following proposed core set of generic indicators for monitoring referral systems (Table 1). These indicators are stated in a general form and would need to be adapted to a context in order to monitor a specific referral system adequately. These indicators are all at the level of what can be called intermediate outcomes (if expressed as fractions). Indicators 1 and 2 can also be expressed as outputs (i.e., counts without denominators):

Indicator 1: Utilization rate for receiving service (# clients attended/# population).

Indicator 2: Referral rate from referring service (# clients referred/# clients seen).

Indicator 3: Referral uptake rate (# referred clients seen at receiving service/# clients referred).

Indicator 4: Counter-referral rate (# clients received back at original referring service with adequate information from receiving service/# clients referred).

Indicator 5: Median delay in completion of referral (median time in days from referral to capture at receiving service).

Indicator 6: Client satisfaction (optional) (# clients satisfied with service/# clients referred).

Utilization rate for receiving service — If increasing utilization at the receiving service is one of the aims of referral, we would look for the utilization rate to rise. If simple counts (without denominators) are used, we would look for a rising trend in this form of the indicator; however, counts are less useful because even for well functioning and improving service utilization, we expect that eventually the level of utilization will level out. When it does, we will want to distinguish between the possibility that we have reached complete coverage of all those in the population who need the service or, alternatively, that this plateau in utilization rate is a reflection of the limitations of the service system (e.g., barriers to care, such as poor geographic accessibility or perceived low quality of care). There is the additional complication that a higher level of utilization may not always be reflective of good practice. For instance, if CHWs simply refer all adults from the community for VCT without regard to their level of risk, this may not be reflective of an optimal use of scarce resources.

Referral rate from referring service — The referral rate for a referring service indicates the percentage of clients attended who were sent on (i.e., referred) to the receiving service. Referral rates can be general (i.e., summing the total of all clients referred for any reason) or specific (i.e., the number of clients referred only for a specific service). Not all clients seen at the referring service may require specialized services from the receiving service, so in most cases we do not expect the referral rate to be 100%. In

* See Swaziland Referral Technical Working Group Team (2008) for an example of an evaluation of referral for HIV/AIDS services in a low-resource setting.

Table 1. Summary of Proposed Core Indicators for Monitoring Referral

Indicator	Numerator	Denominator*	Why Track This? Other Notes	Data Source
1. Utilization rate for receiving service	*# clients attended at receiving service*	*Total population in catchment area of receiving servic*	If utilization rate is lower than expected, this may indicate client perception of low quality of care at receiving service or other barrier.	Register at receiving service.
2. Referral rate from referring service	*# clients referred out from referring service*	*Total # clients seen for that service*	Indicates if all appropriate clients being referred. Appropriate benchmarks depend on client and service characteristics.	• Register at referring service • Tracking slips
3. Referral uptake rate	*# clients who complete referral*	*# clients referred*	A barometer of referral success (if low, should trigger further investigation into barriers: cost, distance, stigma, locus of control, perception of low disease severity).	• Compare registers at receiving and referring services • Tracking slips
4. Counter-referral success rate	*# clients who return to referring service with complete counter-referral information*	*# clients referred*	An indicator of health worker compliance with counter-referral	• Register at receiving service • Tracking slip
5. Median delay in completing referral	*Median # days from referral to completion*	*(not applicable)*	• In cases where timeliness of referral is essential (e.g., urgent medical problems), this is most useful. • Need referral date to be recorded on referral slip and register • Best to use median as a normal distribution unlikely, making mean less useful.	• Register at receiving service • Tracking slips
6. Client satisfaction with referral (optional)	*# clients who state they were satisfied with the referral*	*# clients referred*	• This is the one outcome of referral that is most easily tracked, rather than being deferred to an evaluation • It is most feasible to use a simple general question like "Were you satisfied?" • Most feasibly tracked by recording client satisfaction when counter-referred back to referring service. This will introduce a bias as only those counter-referred can have this information recorded, and those successfully both referred and counter-referred are almost certainly more likely to have had a satisfactory experience.	• Register at referring service • Periodic survey of consecutive clients

Note

* Simple counts can be used for indicators 1 & 2 (i.e., no denominators), but this will not give as obvious an indication of the functioning of the system.

fact, in a case where 100% of clients in one service require the services of the receiving service as well, this is an ideal situation for co-location of services or, if possible, even making arrangements so that a single type of health worker can provide both services. The target set for the referral rate at the referring service will depend on local contextual factors as well as the nature of the referral. Norms for HIV services, such as VCT, ART, etc., can be set on technical and/or programmatic grounds — a certain percent of all adults should be referred for VCT given known seroprevalence rates; all those identified with the World Health Organization's stage III or stage IV level of HIV infection (i.e., clinical AIDS) or higher should be on ARTs, etc.

Referral uptake rate — This refers to the percent of clients who were referred that actually complete the referral process. It has been shown that service providers often over-estimate the uptake rate for their referral recommendations, especially when done verbally. Facilitated referral has been shown to increase uptake of referral recommendations. Common barriers to referral that any system must overcome; the most common of these for HIV/AIDS services are stigma/discrimination as well as factors related to cost for care and for transport.

Counter-referral rate — The term "counter-referral" refers to the idea that the service provider at the receiving service sends the client back to the referring service with information about the activities and outcomes that occurred while under the care of the receiving service. Referral systems in many places have traditionally had great difficulty with successful counter-referral. Part of the problem may often be attributable to practical considerations (e.g., overly burdensome methods for the receiving service provider to get information back to the referring provider).

Median delay in completion of referral — There is likely to be a group or sub-set of clients that delay referral because of experience with common barriers to referral (e.g., cost, transport, stigma). Another way to construct this indicator is the percent of clients that complete referral in an acceptable time lapse. The "acceptable time lapse" will clearly depend on the level of urgency of the referral. For instance, a service like VCT is less urgent than a referral to initiate ART for a client diagnosed as HIV-positive. The context of the service and the service environment will have to be taken into consideration in setting a benchmark for this indicator.

Client satisfaction with referral — The outcomes of the referral are generally more feasibly included in an evaluation than in the monitoring system. The one exception to this rule may be client satisfaction. There are examples of client satisfaction being included in the monitoring system, based on results from simple periodic surveys of randomly selected or consecutive clients.

Besides being based on routinely collected information and capturing the information needed to construct the relevant proposed key monitoring indicators, an ideal monitoring system for referral within a service network should also have the following characteristics:

Data quality assurance: There are mechanisms to ensure the quality of the data collected.

Client confidentiality: There are functioning mechanisms in place to protect the confidentiality of the client.

Low-burden: The documentation and monitoring system is low-burden for service providers.

Data use: There are mechanisms to facilitate the use of the collected information for improvement of the network and its referral system.

Scope and Methods of Assessment

Scope of the Four Case Studies — To illustrate real-life scenarios for monitoring of referral

systems, MEASURE Evaluation examined four country systems. These case studies include:

- notes on the context for referral within a network: strategies employed for integration of care that obviate the need for referrals as well as strategies for strengthening the service network, thereby facilitating referrals;
- examples of monitoring indicators for referral currently being used that are context-specific examples of the generic indicators listed in Table 1;
- examples of mechanisms for capturing the data elements needed to construct the proposed generic indicators (e.g., referral forms, registers, tracking slips, periodic reports); and
- suggestions for capturing and analyzing referral monitoring information in a way that conforms to ideal characteristics listed above and ensures data quality, client confidentiality, low burden for service providers, and facilitating data use for referral system improvements.

In order to develop the proposed referral system monitoring framework, there was a need to understand better the context in which referrals were being done; what referral strategies were currently being used (i.e., verbal referral, client-held card or form, provider-assisted referral, etc.); what HIV services (i.e., VCT, prevention of mother-to-child transmission of HIV [PMTCT], services to orphans and vulnerable children [OVC], etc.) were being integrated through the referral process with what other services (i.e., family planning, tuberculosis services, palliative care, etc); and at what level the integration/referral occurs (i.e., within facilities, between facilities, community-facility, or community-community).

Methods Used to Conduct Case Studies — It should be emphasized that these were case studies and not formal evaluations. The main purpose of this activity was to document the methods used for tracking and analyzing referrals. This was a

Table 2. Case Studies of HIV/AIDS Referral Systems

	Kenya*	Nigeria	Swaziland†	Zambia
Region	Central and Western provinces	Osun, Edo, Nasarawa, Bornu, Kebbi, Adamawa	National	Kabwe, Samfya, Mkushi Districts
Agency or project	APHIA II project	Network on Ethics, Law/Human Rights, HIV/AIDS, Prevention, Support and Care (NELA) consortium	Ministry of Health	Zambia Prevention, Care, and Treatment Partnership (ZPCT)
HIV/AIDS services examined	Concentration on: • CHW (community) referral to testing and treatment services (facility) • Comprehensive care center (facility) referrals to support groups and HBC[??] (community)	Care and prevention	All HIV/AIDS services	All HIV/AIDS services
Methods of study	• Initial offsite interviews • Country visit (interviews with key staff, record reviews, site visits to facilities and community groups)	Off-site interviews and record reviews	• Review of recent referral study • Offsite interview of study author	Off-site interviews and record reviews

preliminary investigation, employing exclusively qualitative techniques. Also studied were the network of service providers itself, any other strategies employed for service integration, and the context in which the service provider network is located.

Summary of the Four Case Studies

Detailed accounts of the results of the four case studies are included in the individual reports, found in an annex of the full final report. The following are summary descriptions of the results in terms of the tools used, the data collected, and the key characteristics of the monitoring system, all compared to the proposed criteria outlined in the introduction and the scope-of-work annex in the full report.

Monitoring Tools Used (Maps/Directories, Referral Forms, Tracking Slips, Registers)

Maps/Directories — In all but the Swaziland study, there was some form of a map or directory of service providers either in use or under development. This was put together by the network coordination organization. In some of the countries, the directory/map seems not to have been widely distributed to service providers. In the case of Kenya, the service providers among whom referrals occurred tended to know each other quite well and many of those interviewed did not feel that a directory was necessary. In Nigeria this tool was being developed.

Referral Forms — Across the case studies, all forms reviewed recorded the basics of client name, referring provider, provider to whom the client was referred, and reason for referral. Date of referral was not always recorded (the date is necessary for calculating median delay). Forms were also variable in their utility for use in counter-referral. The most feasible for use for counter-referral were forms with several sections — at least one section completed by the referring service and given to the client, and then another section completed by the receiving service and sent back with the client. This method of having separate sections, in turn, brings up two other practical issues:

- Producing forms with multiple sections causes certain complications (more training is needed and also increased costs to produce a form with perforations or other method to separate the multiple sections). This may not be a significant cost for a project; but in terms of longer-term sustainability, it may represent a significant cost for a ministry of health.
- If the receiving service provider sends the client back with the counter-referral portion of the form, then this brings up the question as to what part of the referral record the receiving provider will retain. This is handled in various ways by the receiving provider, typically by either simply repeating the information within the client's record or by making a copy of the form.

Tracking Slips — These were used in Nigeria and Zambia, but not in Kenya or Swaziland. In Kenya, the referral slip was made in duplicate. One copy was used as a tracking slip, eliminating the need for a separate tracking slip.

Registers — The registers examined were generally well-maintained. There was a wide variation in the information recorded in registers. The information necessary for calculating utilization and referral rates was almost universally present. The data least likely to be available for the proposed key indicators were recording of date of referral in the receiving service register (for calculation of median delay) and whether someone completed counter-referral in the referring service register (for calculation of counter-referral success).

Other Forms/Reports — In the cases of Zambia and Kenya, specific formats were used to collect information related to data quality assurance.

In the Zambia Prevention, Care, and Treatment Partnership (ZPCT) project in Zambia, information is regularly collected on client satisfaction through a periodic client survey.

Project-Specific Indicators and Referral Characteristics

Table 3 proivdes a summary of project-specific indicators that correspond to proposed key standard referral monitoring indicators. Table 4 summarizes data on the characteristics of the four referral system studied, with respect to several key domains (collection of key data, data quality assurance, probable maintenance of client confidentiality, provider burden, and data use). Complete descriptions of the individual case studies are in the full final report.

Table 3. Project-Specific Indicators

Indicator	Findings
Utilization rate for receiving service (# clients attended / population)	In all cases except Nigeria, utilization appears to be tracked. Usually, this is done in the form of counts, rather than rates (i.e., no denominators are used).
Referral rate from referring service (# clients referred / # clients seen)	In all cases, referrals appear to be tracked. These data were generally collected as counts.
Referral uptake rate (# referred clients seen at receiving service /# clients referred)	In Nigeria, this was mentioned but no evidence was provided. In both Zambia and Kenya, there was some effort to look into calculating these rates. This should be possible, given the data elements already available in the information systems in both places.
Counter-referral success rate (# clients received back at original referring service with adequate information from receiving service/# clients referred)	Counter-referral was acknowledged to be a problem in all cases but Zambia, but solid data on counter-referral was lacking in several of the cases.
Median delay in completion of referral (median time in days from referral to capture at receiving service)	Zambia had data on this. Kenya and Swaziland did not collect the data in a way that this could be calculated (date of referral not recorded in the receiving institution's register).
Client satisfaction (optional) (# clients satisfied/# clients referred)	Only Zambia collected this on a regular basis. This was collected through the periodic application of a short survey of randomly selected clients.

Table 4. Case Studies of HIV/AIDS Referral Systems

Characteristic	Criterion	Kenya APHIA	Nigeria NECAIN	Swaziland National	Zambia ZPCT
Recording and reporting of basic data element	Referral rate from referring institution (register records if client referred)	◎	◎	◎	○
	Utilization rate at receiving institution (register records if client referred)	◎	○	◎	◎
	Referral adherence rate (tracking and analysis done)	○	◎	○	○
	Counter-referral adherence rate (tracking and analysis done)	—	○	○	○
	Median delay (dates logged in registers)	—	○	—	◎
Data quality mechanism	Protocols/guidelines exist (PMTCT, VCT, ART)	◎	◎	◎	○
	Provider training on monitoring system	○	○	—	—
	Quality checks on reported data	◎	○	—	—
Client confidentiality	Provider protocols and training include confidentiality	◎	—	—	◎
	If name in register, there are safeguards	○	○	◎	○
	No name in reports	◎	○	◎	◎
Data use for programmatic decision	Reporting done to central authority	◎	—	—	◎
	Analysis done	—	○	—	○
	At least one programmatic decision made based on data	—	○	—	—
Provider burden	Methods of study	*Low*	*Medium*	*Low*	*Low*

Legend

◎ Fulfills criterion

○ Partially fulfills criterion

— Does not fulfill criterion

Conclusions and Recommendations

Summary of Performance in Capturing Data for Proposed Key Referral Monitoring Indicators

Utilization Rate for Receiving Service and Referral Rate from Referring Service — There were generally adequate data (and of good quality) collected to calculate these indicators. They were generally analyzed as counts. This makes it difficult to make managerial decisions based on this information. The simple expedient of dividing by the denominator of the estimated catchment area population would render these data much more easily understandable and useful.

Referral Uptake Rate, Counter-Referral Success Rate, Median Delay in Completion of Referral, and Client Satisfaction — These are the indicators that would give the clearest sense of whether the referral system is functioning adequately. Unfortunately, it is also a bit more complicated to collect the data elements for these and they are, consequently, less likely to be collected and analyzed. Calculation of referral adherence rates takes some measure of coordination between the data collected in the referring and the receiving services. For instance, the number of referral slips issued in one site and received in another site might be compared. Traditionally, communication between service sites has been problematic, making such information coordination difficult. But currently, with universal mobile telephone communication even in many rural areas, this should be much less difficult.

Median delay and counter-referral success data are not as simple to collect and analyze as utilization or uptake data; but on the other hand, collection of the data elements for these indicators does not need to be overly complicated. For instance, to get median delay in referral, the date of referral as well as the date of service need to be noted in the register and the difference in number of days noted. For the monthly report, the median would need to be calculated. An easier to report summary indicator for delay would be the percent of cases where the delay was less than some critical value (for instance, the percent of clients initiated on ARTs less than one week after being referred from a VCT center).

Client satisfaction is the least likely indicator of all to be reported. This is much more likely to be analyzed in an evaluation; however, the Zambia case study showed that this can be feasibly analyzed and periodically reported. The key here is to keep the questions on satisfaction simple and easily coded, otherwise the data analysis can become overwhelming. This simple outcome measure can give some sense about the overall functioning of a referral system from the client's perspective.

Summary of Current Performance within Focus Domains for Referral Monitoring

Recording and Reporting of Basic Data Elements — Please see the last section for an analysis of this.

Data Quality Mechanisms — In general, data quality mechanisms were in place (norms and protocols, initial provider training, supervision on the use of the system, and periodic data checks and on-the-job training).

Client Confidentiality Considerations — In general, considerations of client confidentiality were taken into account and managed adequately. The main gaps were that considerations of client confidentiality were not always included in provider training and that client registers were not always secured so that only authorized staff had access.

Provider Burden — In general, all the referral monitoring systems examined had low provider burden. This confirms the fact that well-designed

referral monitoring systems do not have to take much provider time. On the other hand, in all case studies there appeared to be significant burden in terms of monitoring and evaluation at the level of the staff involved in collating and reporting the data. This also emphasizes the point that the minimum number of data elements and analyses should be done to give an adequate picture of the health of a referral network, in order not to increase the burden on already heavily-taxed monitoring and evaluation staff.

Data Use for Programmatic Decisions — There was very little evidence of the use of the referral data for making programmatic decisions. Of the criteria discussed for referral monitoring, this seemed to be the most problematic. The fact that counts are generally used rather than rates with denominators makes data use more difficult. For instance, one project staff member interviewed was asked if referral seemed to be done more effectively in communities where CHWs were in place. He was unable to answer this question, although he had quite a lot of referral data, but all in the form of counts. It would be much easier to answer this question if the data were in terms of coverage rates. In other words, one might know, for instance, that 20% of adult community members had been referred for VCT in one area and only 5% in another. One might also know the ongoing or cumulative utilization rates for VCT services in various communities. Clearly, risk factor prevalence will vary from one community to another, but if most areas with CHWs have higher VCT referral and utilization rates than those without, then we could feel fairly comfortable in asserting that CHWs were probably making a difference in getting community members tested and counseled.

Proposed Checklist for Assessing Referral Network and Its Monitoring

1. If referral within a network of service providers at distinct locations is felt to be the best option for ensuring that clients have access to both needed services (rather than co-location of services or training one worker to provide both services), then assess that the building blocks of a good referral system are in place:
   a. *Strong network of service providers* — referral is most successful when done to a health workers at the receiving service who are personally known and trusted by those who are referring.
   b. *Establish/strengthen a mechanism for facilitated referral*, that is:
      i. the client should receive counseling about the need for referral;
      ii. referrals should be written;
      iii. the referring provider should address client barriers to referral in some manner (counseling, finances, transport, and/or accompaniment);
      iv. there should be a counter-referral mechanism;
      v. referrals should be recorded in a register; and
      vi. referrals should be monitored routinely in the health information system.
2. When monitoring referrals, ensure that adequate data are collected to assess if the referral process is working well. There are five key generic indicators to monitor (and optimally one additional parameter):
   a. *utilization rate* for receiving service (is the rate adequate? rising?);
   b. r*eferral rate* of referring service (is proportion appropriate within upper/lower bounds?);
   c. *referral uptake rate* (some authors feel a realistic benchmark is > 80%);

d. *counter-referral success rate* (probably should also be > 80%; often much lower);

e. *median delay for referral completion* (suggest using only in the case of urgent referrals); and

f. (optional) at referring service, collect data on *client satisfaction* with referral.

3. A set of generic documents/forms is needed for a well-functioning referral network and its monitoring. The minimum data elements that they should contain to calculate the proposed key indicators are described in Table 5.

4. In addition to collecting and analyzing data to construct the key indicators, the monitoring system should handle information in a way that follows four key principles:

a. respects *client confidentiality* (include confidentiality in provider training, data security measures for registers with names, no names in public reports);

b. is a *low burden* to service providers (forms with minimum necessary information, use of check boxes on forms when possible);

c. has adequate *data quality* assurance (initial training, spot checks, on-the-job training, periodic review); and

d. facilitates *data use* for programmatic decision-making (indicators that are rates are better than those that are counts; targets set; mechanisms/forums for partner discussion of results).

Table 5. Forms and Documents Needed for a Well-Functioning Referral Network

Form or Document	Minimum Data Elements Needed to Construct Proposed Key Indicators	
Mapping/Directory of Service Providers	geographic locations of providers contact information of providers hours of operation of providers services provided	
Client-Held Referral Form	name of client name of referring provider date of referral name/location of receiving provider reason for referral (can be checklist)	
Referral Tracking Slip *(may not be necessary)*	If used, should have client name/date/reason for referral *(copy or portion of referral form can be substituted)*	
Register at Referring and Receiving Services *(includes referral information)*	*Referring Service* Name of client Date of service Referred? (+ Reason for referral) Counter-referred?	*Receiving Service* Name of client Date of service Date referred
Summary Reports from Service Providers to Central Autority	*Referring Service* Number of clients seen Number of clients referred (referral rate) Summary of counter-referral rate Possibly, client satisfaction data	*Receiving Service* Number of clients seen (utilization) Summary of referral delay data
Summary Analytical Report of Central Authority	Key indicators, calculated from data elements reported from service provider summary reports.	

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