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HIVCore

ALGORITHMS FOR HIV CARE AND TREATMENT IN ETHIOPIA

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SAMUEL KALIBALA, NRUPA JANI AND GETACHEW KASSA

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HIVCore

HIVCore improves the efficiency, effectiveness, scale, and quality of HIV treatment, care, and support, and prevention of mother-to-child transmission (PMTCT) programs. The Task Order is led by the Population Council in partnership with Elizabeth Glaser Pediatric AIDS Foundation, Palladium, and the University of Washington. **hivcore.org**

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ACRONYMS

ANC	Antenatal care
ART	Antiretroviral therapy
ARV	Antiretroviral
BMI	Body mass index
CBC	Complete blood count
CBO	Community based organization
CD4	Cluster of differentiation cells
CM	Cryptococcal meningitis
CPT	Cotrimoxazole prophylaxis therapy
DNA	Deoxy nucleic acid
eGFR	estimated Glomerular Filtration Rate
FBO	Faith-based organization
FDRE	Federal Democratic Republic of Ethiopia
FHAPCO	Ethiopian Federal HIV/AIDS Prevention and Control Office
FMOH	Ethiopian Federal Ministry of Health
FP	Family planning
FSW	Female sex worker
HEI	HIV-exposed infant
HEW	Health extension worker
HTS	HIV testing services
INH	Isoniazid (isonicotinylhydrazide)
IPT	Isoniazid preventive therapy
JAIDS	Journal of Acquired Immune Deficiency Syndrome
LTFU	Loss to follow-up
MUAC	Mid upper arm circumference
NACS	Nutrition assessment counseling support
NGO	Nongovernmental organization
NVP	Nevirapine
OI	Opportunistic infection
OVC	Orphans and vulnerable children
PEPFAR	United States President's Emergency Plan for AIDS Relief
PCR	Polymerase chain reaction
PHDP	Positive health, dignity and prevention
PITC	Provider-initiated testing and counseling
PLHIV	People living with HIV
PMTCT	Prevention of mother-to-child transmission (of HIV)
RFT	Renal function test
RHB	Regional health bureau
SAC	Study Advisory Committee
STI	Sexually transmitted infection
TB	Tuberculosis
UNAIDS	Joint United Nations Programme on HIV/AIDS
VCT	Voluntary counseling and testing
WASH	Safe water, sanitation and hygiene
WHO	World Health Organization

EXECUTIVE SUMMARY

This HIV care and treatment algorithms document contains decision-trees for health care providers to use when providing care to people living with HIV (PLHIV). The decision-trees can be used at the following service delivery points: HIV diagnosis; general HIV care; initiation and monitoring of ART; TB management; adherence counseling; economic strengthening; safe water, sanitation and hygiene; and nutritional assessment, counseling and support. The document also contains specific pathways for services aimed to meet the specific needs of the following priority vulnerable sub-populations of PLHIV: pregnant women, HIV-exposed infants, orphans and vulnerable children, waitresses or "bar ladies" (surrogates for female sex workers), male factory, construction or farm laborers (surrogates for clients of female sex workers), and young people aged 10 to 19 years.

The aim of these algorithms is to ensure that a person living with HIV who comes into contact with a provider is provided with or referred to all elements of the care package recommended by the national guidelines, depending on where they fall on the HIV care and treatment continuum from diagnosis to sustained viral suppression. The algorithms provide guidance on 'what' service the provider should ensure the client receives and not on 'how' the service should be provided. References to national clinical guidelines spelling out 'how' the services should be delivered are provided in the annotations.

The development of the algorithms started with a generic version that was developed by the United States Agency for International Development-funded HIVCore project, led by the Population Council, using international HIV care and treatment guidelines. That version was then adapted to the Ethiopian context after a formative assessment and through a consultative process consisting of a study advisory committee. The adapted version was comprehensively reviewed by antiretroviral treatment providers. Next, front line health care providers were trained in a classroom setting that was followed by a practical session where each trainee used the algorithms to case-manage three clients at the health facility. Trainees used case report forms to record the decision-trees they used in the algorithms and also completed feedback forms to express their views about the usability of the algorithms. These inputs were used to modify the algorithms to produce the present draft included in this document and as a smartphone app.

At the time of publication, the study protocol for pilot testing the current version of the algorithm was undergoing the last step of ethical approval and if approved, it will be pilot tested depending on funding availability. The purpose of this document is to share with HIV care and treatment implementers the concept and process of the development and adaptation of these algorithms. It should be stressed that if these algorithms are to be used in a new setting it will be important for the implementers to carry out a formative assessment and to use the findings to adapt the algorithms to the new setting, and the adaptation process should be participatory involving key stakeholders, health workers, and PLHIV.

INTRODUCTION

While the HIV prevalence in Ethiopia among the general adult population remains low at 1.5 percent (Federal HIV/AIDS Prevention and Control Office [FHAPCO] 2014), there are sub-populations with prevalence rates significantly higher than that of the general population. As elsewhere in sub-Saharan Africa, the HIV prevalence in Ethiopia is higher among women than men especially in the younger age groups. A number of factors of vulnerability have been proposed to cause this. One of them is age difference where older men are having sex with younger women. Another related factor is transactional sex where older men with disposable income are enticing younger women and girls into transactional sex. HIV prevalence among sex workers is approximately 23.8 percent while the prevalence in the general population is 4.2 percent in urban areas compared 0.6 percent in rural areas (FHAPCO 2014). Also among those who are divorced the HIV prevalence is 5.2 percent and among those widowed the prevalence increases to 12.2 percent (PEPFAR 2013).

The *Country Progress Report on the HIV Response : Federal Democratic Republic of Ethiopia* (FHAPCO 2014) indicated that 50 percent of adults and 9.5 percent of children living with HIV are receiving antiretroviral (ARV) drugs and among those initiated on ARVs, about 70 percent are still on treatment. In December 2013, Ethiopia adopted the 2013 World Health Organization (WHO) guidelines on antiretroviral therapy (ART) which recommend that people living with HIV (PLHIV) and particularly HIV-positive pregnant women be initiated on ART as early as possible. The annual performance report of 2013–14 (not published) presented by FHAPCO on 2 October 2014 shows that the number of sites providing prevention of mother-to-child transmission of HIV (PMTCT) services increased from 2,154 in 2013 to 2,495 in 2014, thus increasing the potential for initiating HIV-positive pregnant women on ART. In the same period, the number of ART service delivery sites also increased from 913 to 1,047. The same presentation shows that currently 81.5 percent of HIV-positive pregnant women identified in antenatal care (ANC) clinics have received ARVs for prophylaxis or treatment. However, this rate represents only 29.6 percent of the estimated HIV-positive pregnant women in the country.

While much has been achieved in ensuring PLHIV enroll into the HIV care and treatment continuum, a number of challenges remain. For example, gender inequitable regulations, such as requiring women to have their husbands' consent, was cited as an important barrier to access and use of PMTCT services. Similarly, women may refuse HIV testing and ART because of fear of revealing their HIV status to their husbands (FDRE 2014). Hence, there is a need to identify bottlenecks in the continuum as well as best practices for addressing them.

The Ethiopian government and its partners have made tremendous efforts to increase access to ART. The Federal Ministry of Health (FMOH) seeks to integrate HIV care and support services into primary health care and is building the capacity of the entire health system including human resources for health, medical equipment and supplies, and logistics management systems. Mentoring and technical support to HIV care and treatment sites, which has been conducted mainly by international partners, is now being transitioned to regional health bureaus (RHBs) and Ethiopian universities.

Despite the gradual shift toward increasing client access to ART, an increasing number of ART and pre-ART patients still need care and support services to address their physical, psychological, social and prevention needs. In order to meet these needs, community- and facility-based providers should be utilized: Care providers include, but are not limited to: not-for-profit community-based organizations (CBOs), faith-based organizations (FBOs), PLHIV associations, non-governmental organizations (NGOs), as well as community-level health and social workers, such as health extension workers (HEWs), and clinic health providers and support staff. These various providers are critical to ensure the success of any HIV program and work closely within the community and in health facilities to sustain services across the continuum of care.

According to the Ethiopian guidelines for HIV care and support (FHAPCO 2013), the care and support needs of PLHIV include the following:

1. Health care needs
2. Food and nutrition
3. Shelter care
4. Psychological and spiritual support
5. Economic strengthening
6. Rights protection and legal support
7. Access to safe water, sanitation and hygiene
8. Positive Health, Dignity and Prevention (PHDP)
9. Home-based and bereavement care

However, it is not possible for one entity in the health system including community-based providers, to provide these services. Even where these services are provided at one facility, often they are provided by different providers at different locations within the facility. This has often contributed to poor ART adherence and retention as clients are lost or not accounted for as they move from one location or provider to another. It is therefore important to have mechanisms to ensure continuity of priority care and support interventions and achieving key outcomes that are deemed critical for achieving the UNAIDS 90-90-90 goals for epidemic control. These mechanisms include refined client flow within each facility or CBO as well as effective referrals and linkages with other providers all based on the principles of good case management (Miller et al. 2005).

The United States Agency for International Development (USAID)-funded HIVCore project, led by the Population Council, has therefore designed these algorithms to be used as a decision-making tool by case managers to enhance PLHIV prevention, care, support and treatment—from HIV diagnosis through ART enrollment, retention, and sustained viral suppression. These algorithms comprise decision-trees for the general PLHIV population as well as specific pathways for priority and key PLHIV sub-populations selected by the Study Advisory Committee (SAC) in April 2016 in Addis Ababa. The selection was based on their common knowledge regarding HIV treatment access challenges encountered by these sub-populations in Ethiopia. The following sub-groups were identified: i) pregnant and lactating HIV-positive women; ii) HIV-exposed infants (HEIs); iii) female sex workers (FSWs) and their clients; iv) orphans and vulnerable children (OVC); and v) young people. The aim was to ensure that while the algorithms covered HIV treatment access issues of the general PLHIV population, the access issues of these specific sub-groups of PLHIV would not be left out. These sub-populations are particularly vulnerable to HIV and its consequences based on their situations or context and these vulnerabilities often hinder their access, adherence, and retention into HIV care and treatment (WHO 2013).

PURPOSE OF THE ALGORITHMS

These algorithms are designed to enable the health provider to guide the clients toward the appropriate service and provider within the health system, including community settings or CBOs, where they can receive the HIV care and treatment services recommended for them according to national and international guidelines for their stage in the continuum of care. It is therefore important that the entire primary health care unit including CBO staff and community-level workers receive training on the use of these algorithms in order to facilitate optimal care and treatment for PLHIV through bi-directional referrals.

These algorithms are not *technical guidelines* on how to deliver HIV care and treatment services but rather decision maps based on the recommendations of national and international guidelines on the delivery of general HIV care and ART care. Therefore, the algorithms **provide 'operational guidance' indicating which PLHIV is supposed to get which service, at what stage along the continuum—from diagnosis to long-term retention on ART—and where they are supposed to get the service but not how the service is supposed to be delivered.** Each decision map page is followed by a page of annotations which explain the rationale for the client flow that is proposed in the decision map and references to the relevant national or international guidelines on that topic. Reference to national guidelines is preferred but where national guidelines on a given topic are not available, WHO guidelines are referenced.

The pathways enable the case manager to tailor HIV care and support interventions to the specific needs of each sub-population.

A recent United States President's Emergency Plan for AIDS Relief (PEPFAR) literature review has categorized, using available evidence, HIV care and support interventions with sufficient evidence of effectiveness to be recommended for all PLHIV in all settings, and those for which there is no strong evidence yet to be recommended for all PLHIV and in all settings. The literature review focused on effectiveness for the following outcomes: adherence, retention, quality of life, and morbidity and mortality.

Based on this categorization the first part of these algorithms covers the following priority care and support interventions that should apply to all PLHIV in all countries:

1. Diagnosis and linkage into care
2. General care for PLHIV including cotrimoxazole prophylactic therapy (CPT)
3. ART care including clinical and laboratory monitoring
4. Tuberculosis (TB) screening as well as diagnosis, treatment, and isoniazid prophylactic therapy (IPT)
5. Evidence-based approaches for ensuring drug adherence and retention

These are followed by algorithms that cover the following care and support interventions which are recommended in Ethiopian guidelines but do not have strong evidence of effectiveness:

6. Safe water sanitation and hygiene (WASH)
7. Nutrition assessment counseling and support (NACS)
8. Economic strengthening

After the algorithms for interventions the document turns to pathways tailored to the following specific priority sub-populations of PLHIV:

- HIV-positive pregnant women
- HEIs
- OVC
- Waitresses and "bar ladies" (surrogates for female sex workers)
- Male laborers in factories, construction and on farms (surrogates for clients of sex workers)
- Young people

The rationale for selecting each sub-population is presented in the annotations of each algorithm.

ALGORITHM DEVELOPMENT PROCESS

- **Conceptualization.** The concept for these algorithms was developed by USAID based on the need for a model that spells out the role of care and support across the continuum of HIV care and treatment from diagnosis of HIV infection, linkage into care, initiation of ART, retention in ART, adherence to ART, management of opportunistic infections, and sustained viral suppression. It was also evident that there were some PLHIV sub-populations who had specific needs and vulnerabilities that hindered them from enrollment into the HIV care and treatment continuum and being retained. It was therefore essential to develop pathways of care that would meet the specific needs of these sub-populations, thus enhancing their enrollment and retention in the care and treatment continuum.
- **Evidence-based HIV care and support interventions.** To develop the care model it was important to identify evidence-based care and support interventions that could enhance enrollment and retention. There being no comprehensive data on the effectiveness of the 13 care and support interventions supported by PEPFAR in 2012 in various countries, the PEPFAR Adult Care and Support Interagency Technical Working Group reviewed available evidence on the impact of non-ART adult care and support interventions on key outcomes to assist PEPFAR country teams as they make care and support program decisions. The findings were published in a supplement of the *Journal of Acquired Immune Deficiency Syndrome* (JAIDS) in April 2015. The papers published in the supplement identified effective HIV care and support interventions that should be provided to every PLHIV anywhere in the world. In addition, the papers identified other interventions that had limited or low-quality evidence but that were based on best practices and could be provided to some PLHIV in some settings pending further rigorous evaluation.
- **Development of skeleton algorithms.** In February 2015 the HIVCore team developed a skeleton algorithm with a structure that entailed a decision-tree for the provider to provide a service, direct the client to a service, or refer the client elsewhere using simple questions requiring mutually exclusive "yes" or "no" answers. In addition, pathways were developed for a number of vulnerable sub-populations to direct them to services specific to their needs.
- **Development of the generic version of the algorithms.** In August 2015 using the skeleton algorithms described above, the first version of the generic algorithms was developed with a focus on the priority evidence-based care and support interventions published in the above PEPFAR *JAIDS* supplement. The algorithms included pathways for vulnerable sub-populations identified by HIVCore in published literature.
- **Formative research to adapt the algorithms to a specific context.** A country selection process was undertaken to identify a country for pilot testing the algorithms. Ethiopia was selected because it had the following advantages: support from the USAID Mission, support from the government, and variability in its HIV epidemiology and socioeconomic setting, allowing lessons to be drawn that could be applicable to a variety of African countries. However, it was recognized that for the algorithms to be effective there was a need to conduct a formative research study and make them context specific. The formative research was carried out from November 2015 to February 2016. It was preceded by an inception meeting of the SAC that helped to select the regions and reach agreement on the criteria for selecting health facilities. The SAC also selected the five priority sub-populations with justifications. The results of the formative research were discussed with the SAC in April 2016, and the generic algorithms were also presented and discussed. Based on the findings from the formative research and inputs from the SAC, HIVCore developed an algorithm document adapted for the Ethiopian context in June 2016.
- **Review of algorithms by health worker trainers and dry run by health workers.** In July 2016 the investigators convened a two-day meeting of two ART trainers from the Oromia RHB (both health officers) and two from the Addis Ababa RHB (one a medical doctor and the other a health officer) during which the trainers reviewed the algorithms in detail and recommended changes within some of the decision-trees to meet the current ART care service package in Ethiopia. In August 2016 the investigators convened a one-day meeting of six health care providers from health facilities in Addis Ababa and Oromia and gave them a brief overview of the algorithms, after which the health workers conducted a dry run of the algorithms using paper case-studies provided to them by the investigators. They worked in pairs and discussed each case as they followed the algorithms. The health

workers completed case-report forms designed by the investigators to document the steps in the decision-trees used by the health worker as they managed the client presented in the case-study. The health workers also completed a feedback form designed by the investigators to document users' views about the algorithms. The dry runs showed that the algorithms were user-friendly and the decision-trees were relevant to the cases.

- **Training of health workers and practical use of algorithms.** In September 2016 a further step was taken with more health worker training. The 4 RHB ART trainers who reviewed the algorithms in July 2016 trained 86 health care providers from Addis Ababa (N = 40) and Oromia (N = 46) on using the algorithms. The health workers chosen for the training were frontline health workers who case-manage PLHIV at 8 hospitals and 12 health centers in the 2 regions. They included 13 health workers designated as adherence counselors/case managers, 16 designated as TB focal point persons, 24 designated as ART focal point persons, 15 HIV counseling and testing counselors, and 18 PMTCT focal points. They comprised counselors, nurses, health officers, and doctors who had previously received training in HIV care and treatment. The four-day training comprised a brief refresher on HIV care and treatment, a detailed review of the algorithms; a one-day practical session at the trainees' respective health facility, during which they case-managed actual patients using the algorithms and completed the study's case-report forms; and a one-day feedback session during which the trainees completed the study's feedback form as well as held a discussion in which general feedback was provided. A total of 576 case-report forms were completed for clients seen using the main algorithms (G1 to G8) and 152 for the pathways (P2 to P7). The data from the case reports (N = 728) and the feedback forms (N = 86) were entered in Excel and analyzed to identify parts of the algorithms that worked well and those that did not. These findings were used to modify the algorithms to produce the current version of the algorithms that is published in this document. This version has also been used to produce an app, available on the HIVCore website: hivcore.org.
- **The way forward—pilot testing the algorithms.** In April 2016, after the SAC meeting the investigators developed a study protocol to pilot test the algorithms. The overall objective of the pilot study is to assess the feasibility, acceptability, and cost of the algorithms. Prior to rolling out these algorithms, it is crucial that a systematic assessment is carried out to determine whether and how health providers can use them (feasibility), whether health providers and patients find the algorithms useful (acceptance), and the cost implications of using these algorithms. In order to answer these questions, a pilot test—comprising two weeks of using the algorithms for all ART visits at study sites—is proposed.

The pilot study protocol was reviewed and approved (Protocol #754) by the Population Council's Institutional Review Board (IRB) and the FMOH of Ethiopia's National Research and Ethics Review Committee (NRERC), which provided a tentative approval pending response to comments. The response to comments was submitted on 19 September 2016 and it is anticipated that the pilot-testing can start in early October 2016. The current USAID procurement—the HIVCore Task Order—ends 30 September 2016 so it was no longer possible to carry out the pilot-testing study under HIVCore. However, USAID/Washington and USAID/Addis Ababa are holding discussions to identify funding for the pilot testing.

STRUCTURE OF THE ALGORITHMS

Each algorithm is a patient flowchart that is intended to improve the coordination of HIV care and treatment within the Ethiopian context. The aim is to optimize access to the HIV care and treatment continuum for PLHIV including priority sub-groups with specific needs and vulnerabilities. The flowcharts are a triage tool that guides which service a given PLHIV should be directed to depending on their specific needs and what stage of the continuum they are at.

The algorithms are presented as a booklet of flowcharts which guide the user through a series of questions or decision points, leading logically to a service the patient should be provided or referred to. Each even page is assigned to flowcharts and the following odd page is assigned to annotations explaining the flowcharts on the preceding even page. Due to the desire to keep annotations to just one page, not every step of the algorithm has an annotation—priority has been given to concepts that are not straightforward and hence require an explanation.

Each flowchart comprises the following shapes:

The construction of the flowcharts was carried out using a guidance page on how to create an algorithm in Word that is available on the website of the American Academy of Family Physicians.

Within each shape there are references that are made to the annotations page using letters of the alphabet and Arabic and Roman numerals. The corresponding text on the annotations page is labeled with the same numbers and letters.

Situation box

To start each algorithm an oval-shaped situation box states the "client situation" or "condition" requiring an intervention. For example, "Client is HIV-positive." The situation boxes are numbered with a "G" for a general algorithm and a "P" for a pathway for a priority PLHIV sub-group followed by an Arabic numeral starting from "1." Thus this first situation box is numbered "(G1)" for the first general algorithm. Each algorithm page will be dedicated to one "client situation" or "condition" requiring an intervention.

Decision box

The diamond-shaped decision box contains a question to guide decision-making in terms of the pathway for the client. It will have an arrow coming from the problem box. There are usually only two possible answers to the question in the decision box: "Yes" or "No" and hence the question in each decision box is a close-ended one leading to mutually exclusive answers. It should be noted that the questions in the decision boxes are directed to the case manager, not to the client. For example, one of the questions is: "Is the client already receiving cotrimoxazole (CPT)?" This question requires the case manager to find out the answer from the record system, rather than asking the client this question. But it could be argued that the client is a better source of the information than the records. When further explanation is needed, a letter (e.g., "(a)," "(b)") is included in the decision box and its corresponding annotation (designated with the same letter) is on the following page. For example, a decision box is labeled (a) and its annotation is also labeled (a).

Intervention box

The rectangular-shaped intervention box is a follow-up from a decision box and has a "Yes" or "No" arrow feeding into it from the decision box. It states the action or intervention to be undertaken for and/or by the case manager depending on whether the answer to the decision box is "Yes" or "No." If the intervention indicated in the intervention box is conclusive, that particular path of the algorithm ends. However, if the intervention requires further decisions to be made it is linked to a new decision box using an arrow and the above process continues. When further explanation is needed for the intervention box, a Roman numeral (e.g., "(i)," "(ii)") is included and has a corresponding annotation on the following page.

Intended users

These algorithms are designed for use by health providers who are case managers to PLHIV attending a health facility or CBO. Case management is an integral part of services provided by each provider who comes into contact with the client. In these algorithms the words 'case-management' and 'case manager' are used to refer to the case-management role of each member of the HIV care team at the facility—clinicians, nurses, adherence counselors, and some providers specifically known as 'case managers'.

According to the *Guidelines for Implementation of HIV/AIDS Case Management in Ethiopia*, the primary focus of HIV/AIDS case management efforts is to prevent client loss to follow-up (LTFU) and increase adherence to recommended treatment and care by developing a purposeful and proactive approach (FHAPCO and FMOH June 2009). Case management is about preventing clients from dropping out of treatment by identifying and meeting their specific, individualized needs (I-TECH January 2009).

Point of use

The algorithms can be used at any point in the health care system, including community settings or CBOs, where a HIV-positive client makes contact with the health system.

PATHWAYS FOR SPECIFIC SUB-POPULATIONS OF PLHIV

One of the reasons for developing these algorithms is to provide service delivery pathways tailored to the needs of priority sub-populations of PLHIV who are not optimally accessing HIV care due to a variety of barriers. The algorithms start off by providing the model of care for the general population of PLHIV. To enter the pathways leading to the services tailored to specific sub-populations, an arrow from the last intervention box of the first two general algorithms goes to a new decision box with the question: "Is the client a member of a priority PLHIV sub-group?" leading the case manager to a new set of algorithms—pathways—tailored to the needs of each specific sub-population of PLHIV.

RECOMMENDATIONS AND NEXT STEPS

These algorithms have been developed to guide case managers in ensuring optimal service provision to PLHIV along the HIV care continuum from diagnosis to sustained ART care. However, ensuring the optimal package of services requires more than good case-management. It requires a functional health system with adequate supplies, human resources for health, and adequate space. In addition, other barriers hindering PLHIV from accessing services such as stigma, lack of transportation to the clinic, and lack of time away from work or school to attend the clinic need to be addressed. For these reasons the following recommendations and next steps are made.

For the Ethiopian context:

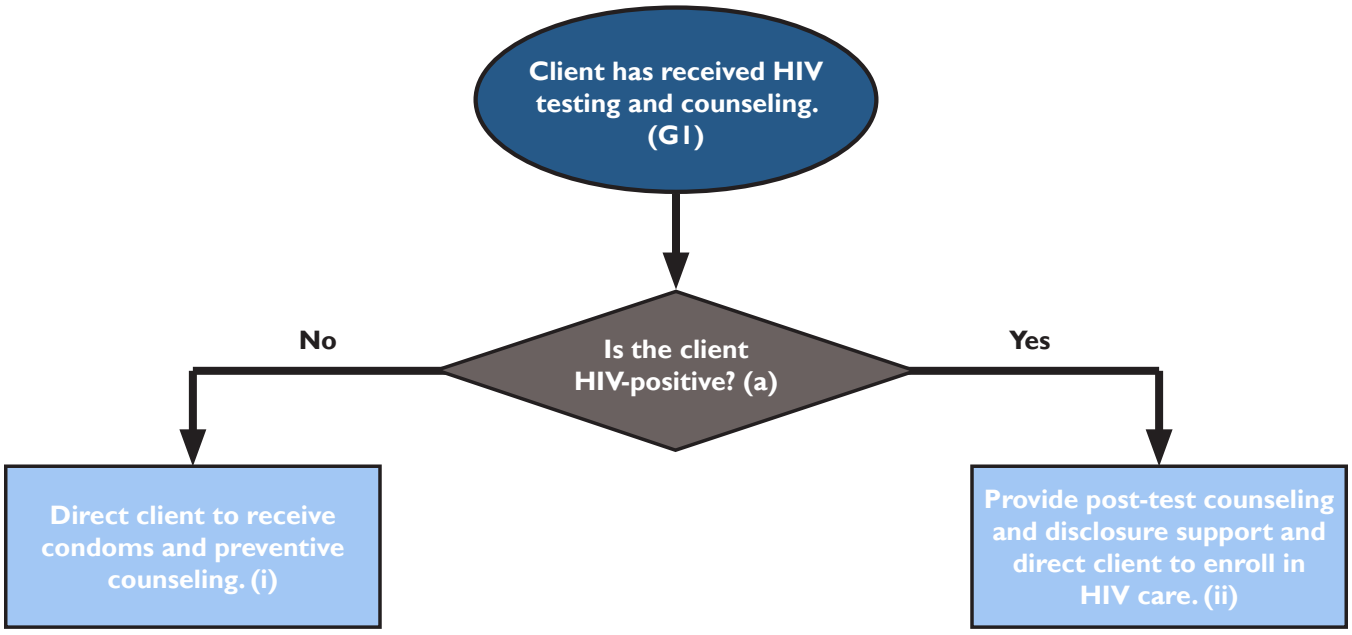
- Conduct the pilot-testing study and generate data regarding the feasibility, acceptability, and cost of using these algorithms.
- Once proven feasible the algorithms should be rolled out in more facilities and used as a tool for identifying gaps in the care and treatment package so that policymakers and program managers can address them to strengthen care.
- In addition to addressing gaps within the health system, broader efforts such as community education, should be undertaken to address stigma and other barriers that may hinder PLHIV access to care and treatment.
- The roll-out could begin in the regions where the algorithms have been adapted and piloted.
- Given the wide variation in the HIV epidemic between different regions of the country, it is important that roll-out to other regions is preceded by a process of adaptation by a committee that has information about the HIV care and treatment situation in the region. Where resources are available, a formative assessment could be used to generate such information to facilitate the adaptation process.

For the global context:

- The current draft of the algorithms will be available on HIVCore website in a PDF form as well as an app and could be used outside of Ethiopia after adaptation.
- The process used for adapting the original generic algorithms developed by HIVCore to the Ethiopian context is recommended. It is important to conduct a formative assessment to generate data on the current package of HIV care and treatment services as well as where and how they are provided within that setting. It is also important that the adaptation process is carried out by a committee of experts and stakeholders so that the algorithms are well rooted in the local context of HIV care and treatment.
- After adaptation it is recommended that the roll-out of the algorithms is accompanied by a rigorous process evaluation to enable further refinement of the algorithms.
- In addition to addressing gaps within the health system, broader efforts such as community education, should be undertaken to address stigma and other barriers that may hinder PLHIV access to care and treatment.

APPENDIX: ALGORITHMS

GENERAL ALGORITHM-G1: HIV DIAGNOSIS



ANNOTATIONS-G1: HIV DIAGNOSIS

Introduction and rationale

According to the national guidelines (FHAPCO and FMOH 2007; FHAPCO 2007):

- HIV testing services shall be integrated into existing health and social welfare services
- Client needs vary widely; therefore, counseling and testing approaches and modalities should be flexible to respond appropriately.
- HIV testing is recommended and should be offered to all persons seeking evaluation and treatment of a sexually transmitted infection (STI), family planning (FP) services, TB care, and to all patients with severe malnutrition and their caretakers.
- Encouraging STI cases to receive HIV testing services (HTS) is a simple and effective way to help control the further spread of HIV.

Thus clients can receive their HIV diagnosis from a variety of settings within health facilities and communities. The key issue is that HTS are required to be linked to local referral services, to work cooperatively with post-test services whether provided at the site or elsewhere, and to ensure that referrals are tracked.

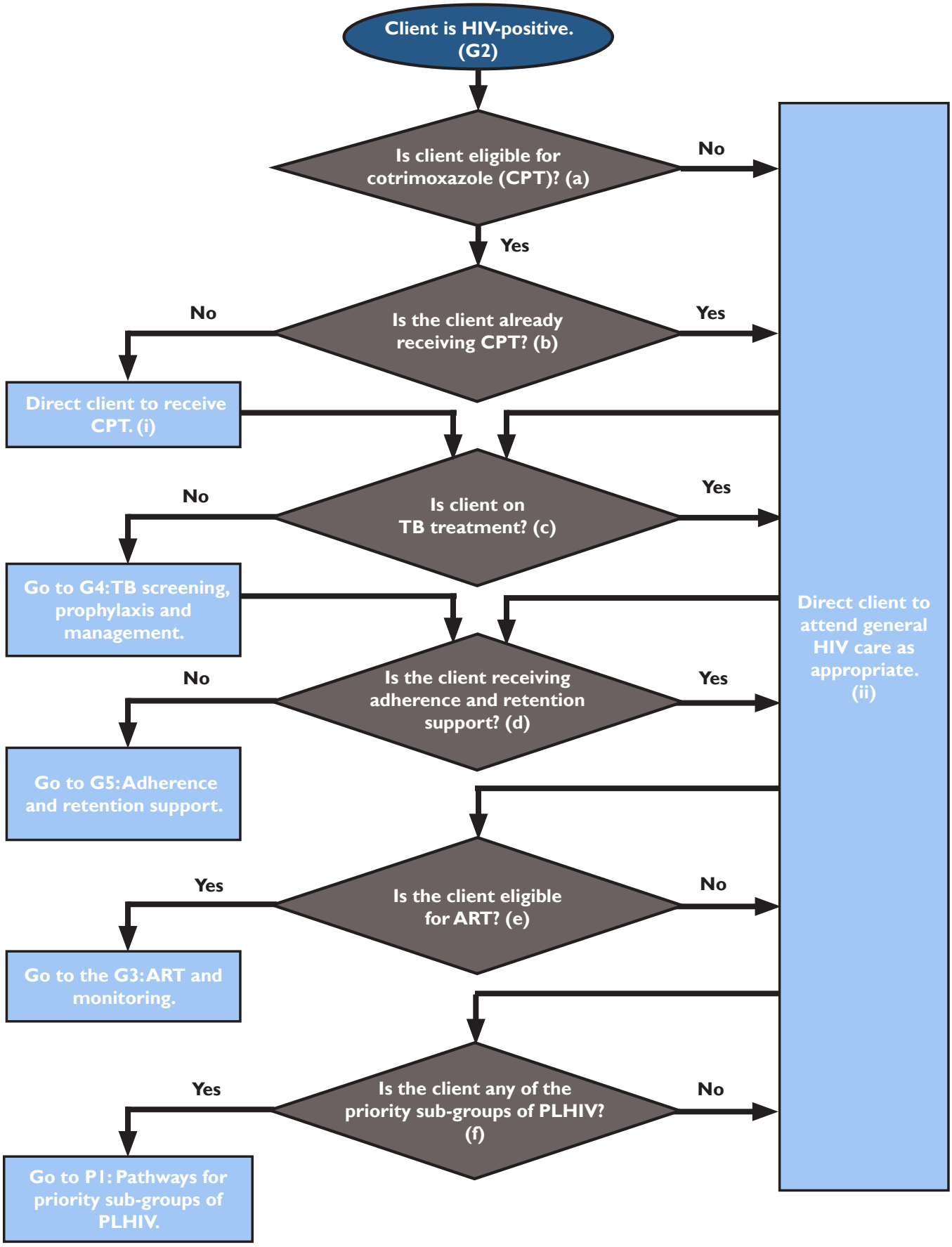
Explanatory notes

(a) Is the client HIV-positive? HTS is an entry point to HIV prevention and care services. Clients receiving a positive HIV diagnosis should receive HIV care and prevention services and clients who test HIV negative should receive ongoing HIV prevention counseling and services. In a health facility, clients receive a HIV diagnosis from different service delivery points, including the outpatient department, ANC, TB, and voluntary counseling and testing (VCT). For this reason, Algorithm-G1: HIV Diagnosis should be used by providers who are responsible for giving test results and post-test counseling at each of these stations.

(i) Direct client to receive condoms and preventive counseling. Clients who test HIV negative should receive a risk assessment during post-test counseling and, based on their risk, receive risk reduction counseling including condoms as well as follow-up prevention services and possible re-testing after three months.

ii) Provide post-test counseling and disclosure support, and direct client to enroll in HIV care. Clients diagnosed with HIV should be counseled on the meaning of HIV-positive results, such as coping with the test result, importance of medical care and treatment, prevention messages, and positive living; and referred for care and treatment. In addition, they should be counseled about disclosure to partners and other people in their close social network as well as encouraging their sexual partners to seek HIV testing, too. Disclosure to a partner and encouraging the partner to get tested is important because it enables the couple to adopt HIV prevention strategies appropriate for them depending on the partner's HIV status. Disclosure is also important to ensure ARV adherence support to the client when the client starts ART care. In addition, clients diagnosed with HIV should immediately be linked to available HIV care services so that they can be initiated in ART care.

GENERAL ALGORITHM-G2: GENERAL CARE FOR PLHIV



ANNOTATIONS-G2: GENERAL CARE FOR PLHIV

Introduction and rationale

According to the Ethiopian national guidelines, the entry points for HIV care include VCT sites, ANC/PMTCT services, out-patient department, in-patient department, TB clinic, public and private health facilities, workplace health services, CBO/FBO social support systems. These must be strengthened and networked in order to scale up ART uptake (FHAPCO and FMOH 2008; FMOH 2014).

Explanatory notes

(a) Is the client eligible for cotrimoxazole preventive therapy (CPT)? The following are eligible: Children above 5 years and all adults if the CD4 count is <350 cells per μL or if a patient is in WHO clinical stages 3 or 4; all PLHIV infected less than 1 year, HIV-infected children aged 1–5 years if CD4 percent is less than 25 percent or if patient is in WHO stages 2, 3, or 4; and all HEIs.

(b) Is the client already receiving CPT? All eligible PLHIV should be on CPT. When a case manager makes contact with a person living with HIV, the case manager should check to confirm that the client is receiving CPT if eligible.

(i) Direct client to receive CPT. If a person living with HIV is not receiving CPT and is eligible, the case manager should direct or refer the client to a health center or CBO that is known to provide CPT to PLHIV on an ongoing basis. Clients on IPT should also be screened for TB at every clinic visit to rule out emergence of active TB.

(c) Is client on TB treatment? All PLHIV should be screened for TB (Go to G4: TB screening, prophylaxis and management if the client is not currently receiving TB treament, pg 16). Those that screen negative and those who do not have a contraindication for isoniazid (INH)—liver toxicity, INH allergy, peripheral neuropathy—should be put on isoniazid preventive therapy (IPT), while those that are positive should be tested to determine if they have active TB and put on treatment.

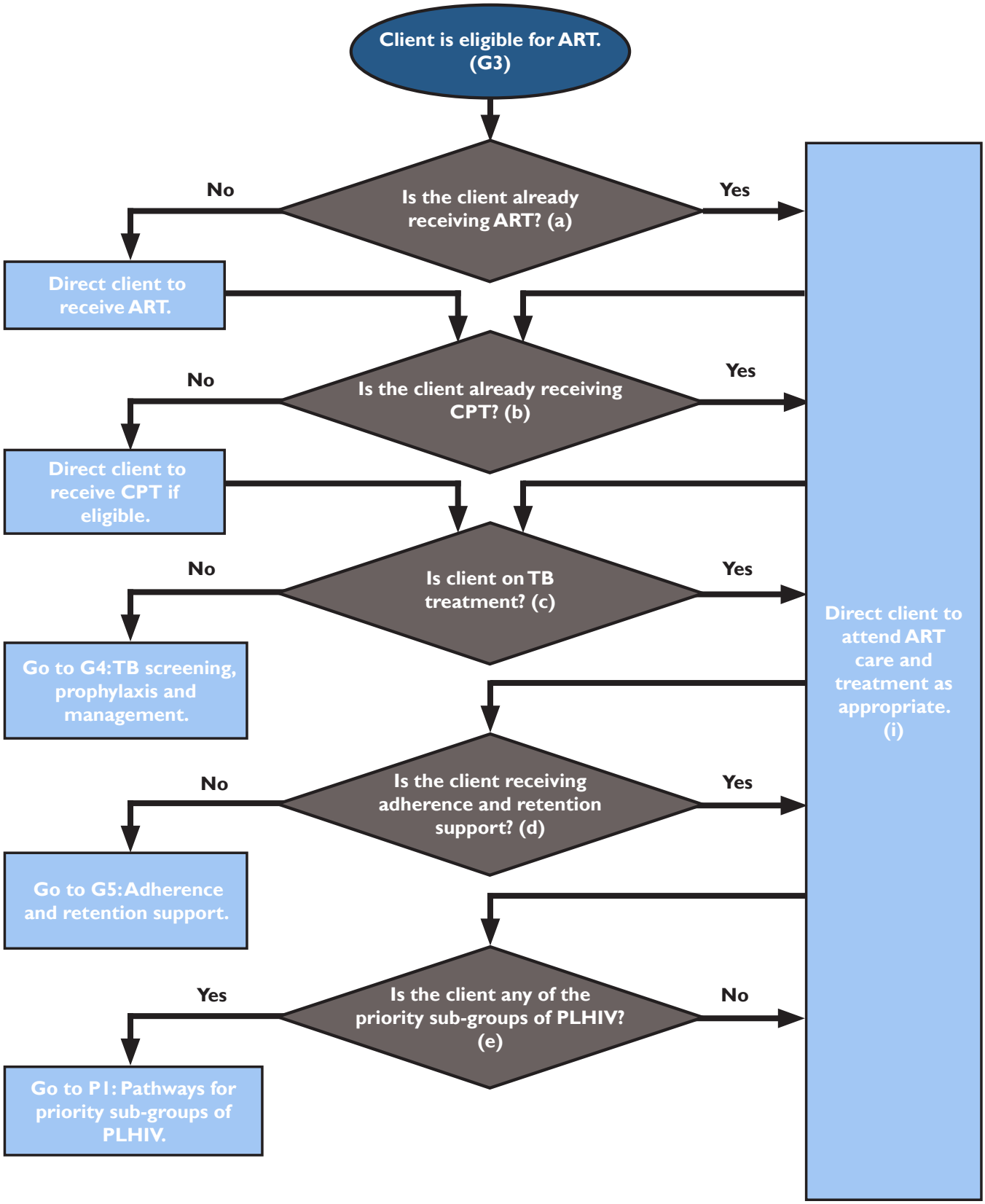
(d) Is the client receiving support for adherence and retention? According to national guidelines (FHAPCO and FMOH 2008) all PLHIV should receive: 1) counseling on the importance of ART and other medication adherence; 2) encouragement, counseling, and support for HIV status disclosure to their sexual partner and other family members; and 3) referrals for PLHIV peer support groups/activities. If the client is not receiving adherence and retention, go to G5: Adherence and retention support (pg 18).

(e) Is client eligible for ART? PLHIV who meet the following criterion are eligible to start ARVs (WHO 2013): CD4 count ≤500 cells/μL irrespective of WHO clinical stage; WHO clinical stages 3 and 4 irrespective of CD4 cell count; active TB disease; HIV-positive pregnant and breastfeeding women irrespective of CD4 count; HIV-infected partner of a sero-discordant couple regardless of CD4 cell count; children (< 15 years) with HIV infection regardless of CD4 count and WHO clinical stage; and female sex workers regardless of CD4 count and WHO clinical stage. If the client is eligible, go to G3: ART and monitoring (pg 14).

(f) Is the client a member of any of the PLHIV priority sub-groups? Examples of priority PLHIV sub-groups that have specific needs and experience barriers that could affect their adherence and retention in HIV care and treatment: HIV-positive pregnant women, HEIs, OVC, young people aged 10–19 years, waitresses or "bar ladies," male laborers in construction and on farms, and truckers. Using the available best practices, special pathways of care have been developed to address their needs. Go to P1: Pathways for priority sub-groups of PLHIV (pg 26).

(ii) Direct client to attend general HIV care as appropriate: Patients who do not qualify for ARVs should attend the clinic every three months to receive pre-ART HIV care.

GENERAL ALGORITHM-G3: ART AND MONITORING



ANNOTATIONS-G3: ART AND MONITORING

Introduction and rationale

According to WHO 2013 ART guidelines, clinical assessment and laboratory tests play a key role in assessing individuals before ART is initiated and then monitoring their treatment response and possible toxicity of ARV drugs.

- Tests at ART initiation: a) Recommended: CD4, hemoglobin test, complete blood count (CBC); b) Desirable: pregnancy test, urine dipsticks for glycosuria and estimated glomerular filtration rate (eGFR) and serum creatinine, and alanine aminotransferase.
- Tests while on ART: a) Recommended: CD4 cell count (every 6 months), HIV viral load (at 6 months after initiating ART and every 12 months thereafter); b) Desirable: Urine dipstick for glycosuria and serum creatinine, eGFR, liver function test (LFT), renal function test (RFT).
- Diagnosing treatment failure: Viral load is recommended as the preferred monitoring approach to diagnose and confirm ARV treatment failure. If viral load is not routinely available, CD4 count and clinical monitoring should be used to diagnose treatment failure.

Explanatory notes

(a) Is client eligible for ARV? PLHIV who meet the following criterion are eligible to start ARVs (WHO 2013): CD4 count ≤500 cells/μL irrespective of WHO clinical stage; WHO clinical stages 3 and 4 irrespective of CD4 cell count; active TB disease; HIV-positive pregnant and breastfeeding women irrespective of CD4 count; HIV-infected partner of a sero-discordant couple regardless of CD4 cell count; children (< 15 years) with HIV infection regardless of CD4 count and WHO clinical stage; and female sex workers regardless of CD4 count and WHO clinical stage.

(b) Is the client already receiving CPT? All eligible PLHIV should be on CPT. When a case manager makes contact with a person living with HIV, the case manager should check to confirm that the client is receiving CPT if eligible.

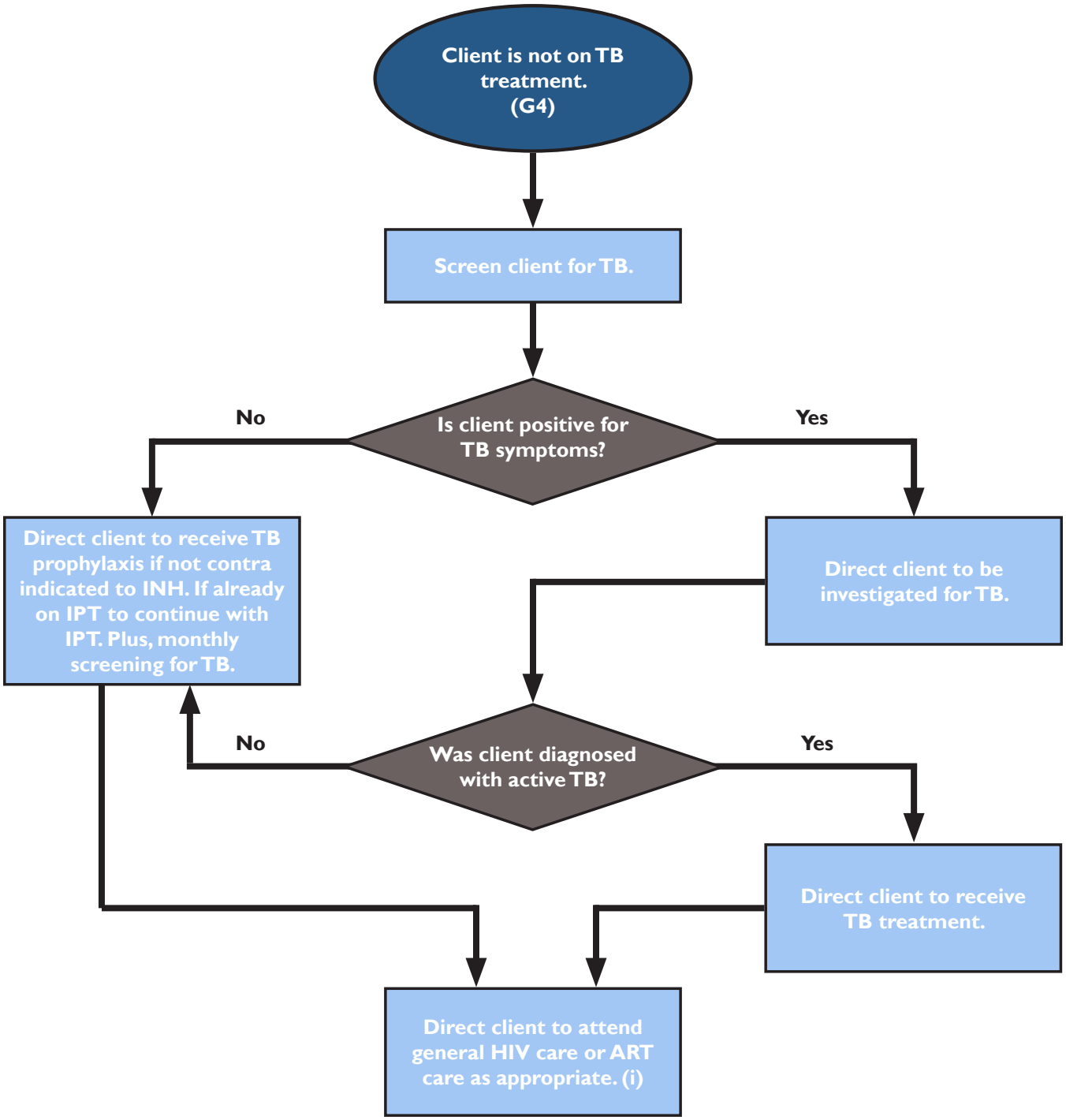
(c) Is client on TB treatment? All PLHIV should be screened for TB (Go to G4: TB screening, prophylaxis and management if the client is not currently receiving TB treament, pg 16). Those that screen negative and those who do not have a contraindication for isoniazid (INH)—liver toxicity, INH allergy, peripheral neuropathy—should be put on isoniazid preventive therapy (IPT), while those that are positive should be tested to determine if they have active TB and put on treatment.

(d) Is the client receiving support for adherence and retention? According to national guidelines (FHAPCO and FMOH 2008) all PLHIV should receive: 1) counseling on the importance of ART and other medication adherence; 2) encouragement, counseling, and support for HIV status disclosure to their sexual partner and other family members; and 3) referrals for PLHIV peer support groups/activities. If the client is not receiving adherence and retention, go to G5: Adherence and retention support (pg 18).

(e) Is the client a member of any of the priority sub-groups of PLHIV? Examples of priority PLHIV sub-groups that have specific needs and experience barriers that could affect their adherence and retention in HIV care and treatment: HIV-positive pregnant women, HEIs, OVC, young people aged 10–19 years, waitresses or "bar ladies," male laborers in construction and on farms, and truckers. Using the available best practices, special pathways of care have been developed to address their needs. Go to P1: Pathways for priority sub-groups of PLHIV (pg 26).

(**i) Direct client to attend ART care and treatment as appropriate.** Patients qualifying for ART are thoroughly evaluated at baseline and for the rest of their lives to monitor adherence to ART, toxicity, intolerance, and response or failure to treatment. Standardized clinical assessment of patients and when available immunological assessments are mandatory at baseline to decide on initiation of ART.

GENERAL ALGORITHM-G4: TB SCREENING, PROPHYLAXIS AND MANAGEMENT



ANNOTATIONS-G4:TB SCREENING, PROPHYLAXIS AND MANAGEMENT

Introduction and rationale

According to WHO 2013 ART guidelines, HIV care settings should implement the WHO's three I's strategy: intensified TB case-finding, IPT, and infection control at all clinical encounters. PLHIV should be screened for TB with a clinical algorithm; those who report any one of the symptoms of current cough, fever, weight loss, or night sweats may have active TB and should be evaluated for TB and other diseases. Xpert MTB/RIF should be used as the initial diagnostic test for individuals suspected of having HIV-associated TB or multidrug-resistant TB. PLHIV who do not report any of the symptoms listed above are unlikely to have active TB and should be offered IPT.

According to national guidelines (FHAPCO and FMOH 2008; FMOH 2014):

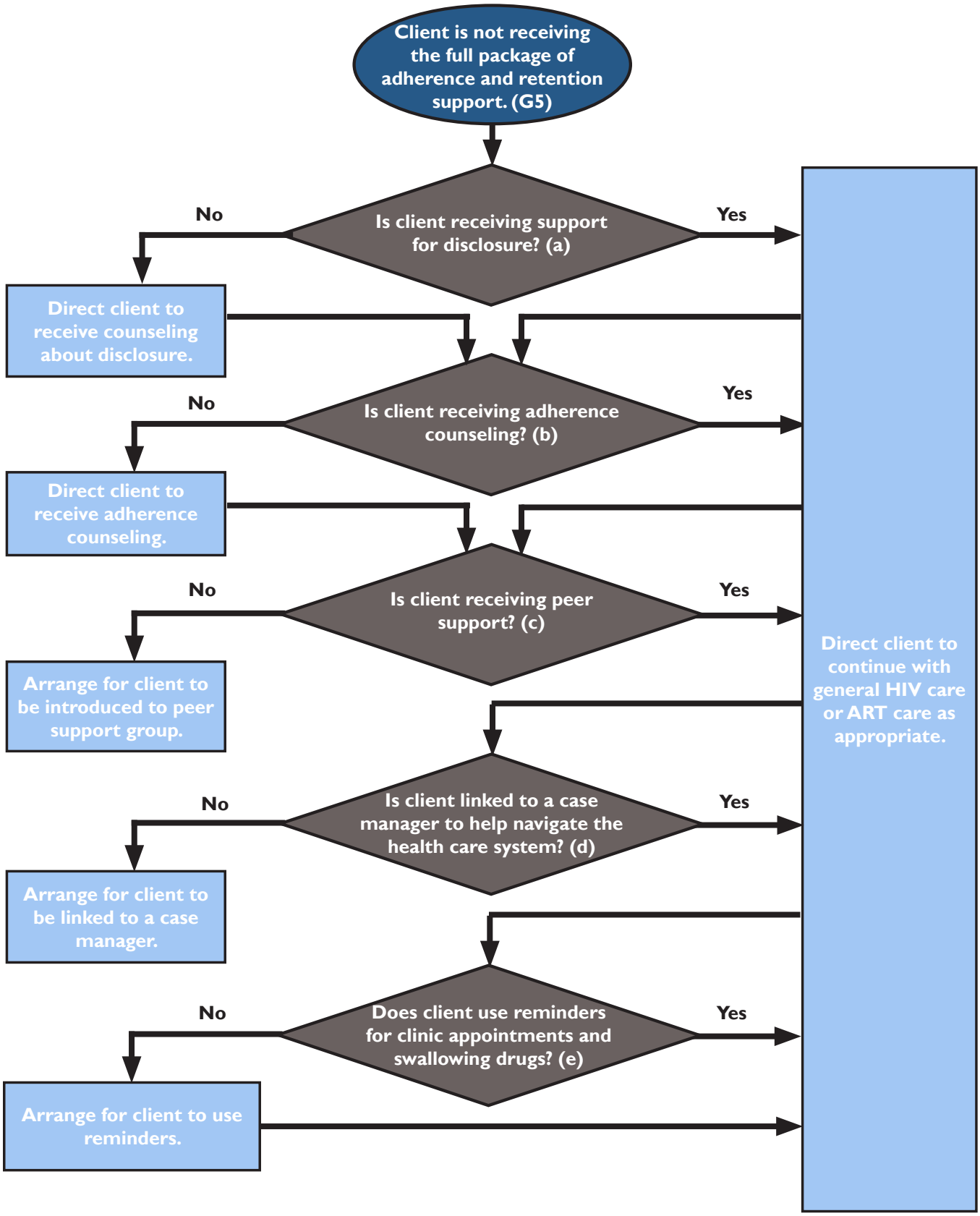
- Approximately 20–50 percent of patients with TB are co-infected with HIV, and many patients eligible for ART will have active TB. Hence, TB diagnosis is an important entry point for a significant percentage of persons eligible for ART.
- Patients already receiving ART may also develop TB.
- HIV testing and care are important entry points to intensify access to TB care. Therefore, all PLHIV should be routinely screened for TB, at entry to care and during each subsequent visit.

Explanatory notes

(G4) Client is not on TB treatment. All PLHIV should be screened for TB, using a set of standardized questions asked by clinicians. Those who are not suspected to have TB and those who don't have a contraindication to INH should be put on IPT. Those who are suspected of having TB based on the screening questions should be evaluated and investigated for TB. Those diagnosed positive for TB should be put on TB treatment and those found negative for TB who don't have a contraindication to INH should be put on IPT (FHAPCO and FMOH 2008; FMOH 2014; WHO 2011).

(i) Direct client to attend general HIV care or ART care and treatment as appropriate. Patients who do not qualify for ARVs should attend the clinic every three months for clinical evaluation and CD4 count and for CPT, if eligible. Patients on IPT or TB treatment should attend the clinic every month. Patients qualifying for ART are thoroughly evaluated at baseline and periodically for the rest of their lives to monitor adherence to the treatment, toxicity, intolerance, and response or failure to treatment. Standardized clinical assessment of patients and, when available immunological assessments, are mandatory at baseline to determine initiation of ART.

GENERAL ALGORITHM-G5: ADHERENCE AND RETENTION SUPPORT



ANNOTATIONS-G5: ADHERENCE AND RETENTION SUPPORT

Introduction and rationale

Adherence: The WHO 2013 ART guidelines define treatment adherence as "the extent to which a person's behaviour—taking medications, following a diet and/or executing lifestyle changes—corresponds with agreed recommendations from a health care provider." For ART, a high level of sustained adherence is necessary to: (1) suppress viral replication and improve immunological and clinical outcomes; (2) decrease the risk of developing ARV drug resistance; and (3) reduce the risk of transmitting HIV.

Retention: According to the WHO 2013 ART guidelines, retaining PLHIV across the continuum of care is essential for optimal health outcomes:

- Among those who do not have immediate indications for ART, care visits provide opportunities for screening, prevention, and treatment of other conditions and comorbid illnesses, including providing CPT, PMTCT, IPT, regular screening for TB, and clinical and laboratory monitoring to allow timely initiation of ART or TB treatment once the indications arise.
- For those on ART, uninterrupted ART and continual monitoring are essential for sustained viral suppression and optimal treatment outcomes. Ethiopia, like other countries, has gaps in retention. According to FHAPCO 2013 the drop out from ART was high in some regions such as Gambela (34.3 percent) and Oromia (26 percent).

Explanatory notes

(a) Is client receiving support for disclosure? Support from family and other members of the client's social network can help the client adhere to treatment. Counseling and encouraging people receiving ART to disclose their HIV status to selected members of their families and peers are essential components of chronic HIV care (WHO 2013).

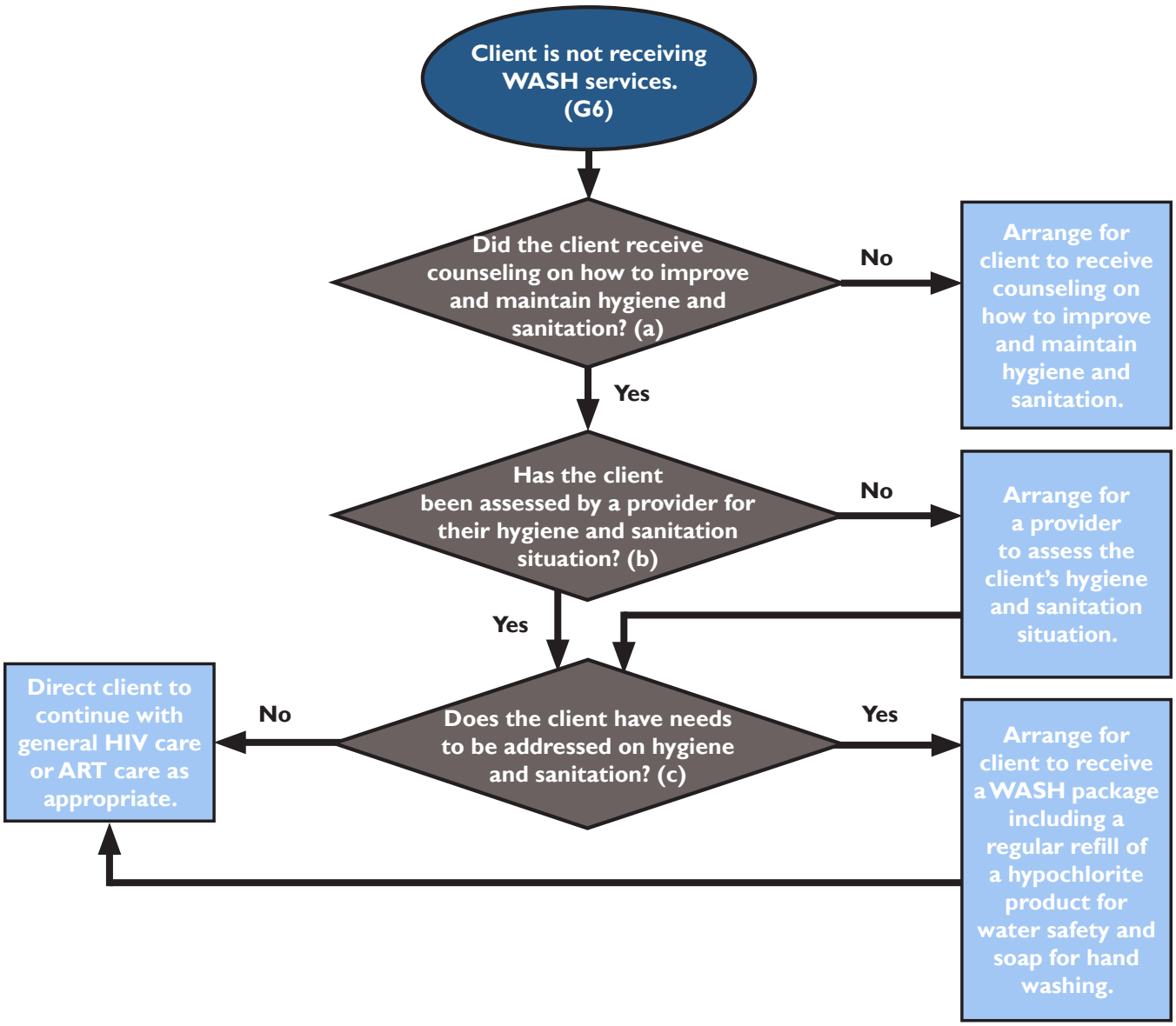
(b) Is client receiving adherence counseling? Studies show that counseling improves adherence to ART (WHO 2013). According to the national guidelines (FHAPCO and FMOH 2008; FMOH 2014), adherence assessment and support as well as ongoing adherence monitoring should take place at each clinical visit. While adherence counseling is primarily the responsibility of the adherence counsellor, other members of the health care team including clinicians and pharmacists should be involved. New patients and high risk patients such as those with low educational level, family and social problems, alcohol or drug abuse, patients on treatment not doing well, patients with sub-optimal or poor adherence, especially need adherence counseling. More visits and family or support system engagement may also be necessary.

(c) Is client receiving peer support? Peer-based interventions that include strong social support such as outreach teams, peer educators, and health workers providing multidisciplinary, non-judgmental and respectful care have been shown to have a positive effect on PLHIV. And in some settings there is an association between peer support and high rates of adherence and retention (WHO 2013).

(d) Is client linked to a case manager to help navigate the health care system? Case managers are particularly useful in enabling clients navigate the health care system and thus reduce their waiting time, and according to FHAPCO 2013 more than 95 percent of ART facilities surveyed had case managers. This resource should be used to reduce waiting time. FHAPCO 2013 also recommended improvement of patient card system as a measure to reduce waiting time.

(e) Does client use reminders for clinic appointments and swallowing drugs? Mobile phone-based approaches, especially the use of text message reminders, has been reported to be effective in improving adherence and retention (WHO 2013).

GENERAL ALGORITHM-G6: SAFE WATER SANITATION AND HYGIENE (WASH)



ANNOTATIONS-G6:WASH

Introduction

Contaminated water, lack of sanitation, and poor hygienic practices in homes of PLHIV increase the risk of diarrhea, which can result in increased viral load, decreased CD4 counts, and reduced absorption of nutrients and ARV medication. WASH programming, particularly water supply, household water treatment, and hygiene interventions, can reduce morbidity among PLHIV.

The national guidelines for HIV and nutrition (FHAPCO andFMOH 2008b) encourage PLHIV to undertake the following measures to prevent diarrhea:

- Drink plenty of clean, boiled or treated water.
- Wash hands with soap and water before handling, preparing, serving, or storing foods.
- Wash hands with soap and water after using a toilet or latrine or cleaning.

Explanatory notes

(G6) Client is not receiving WASH services. All PLHIV should receive WASH services which are aimed at preventing diarrheal disease (FHAPCO and FMOH 2008b).

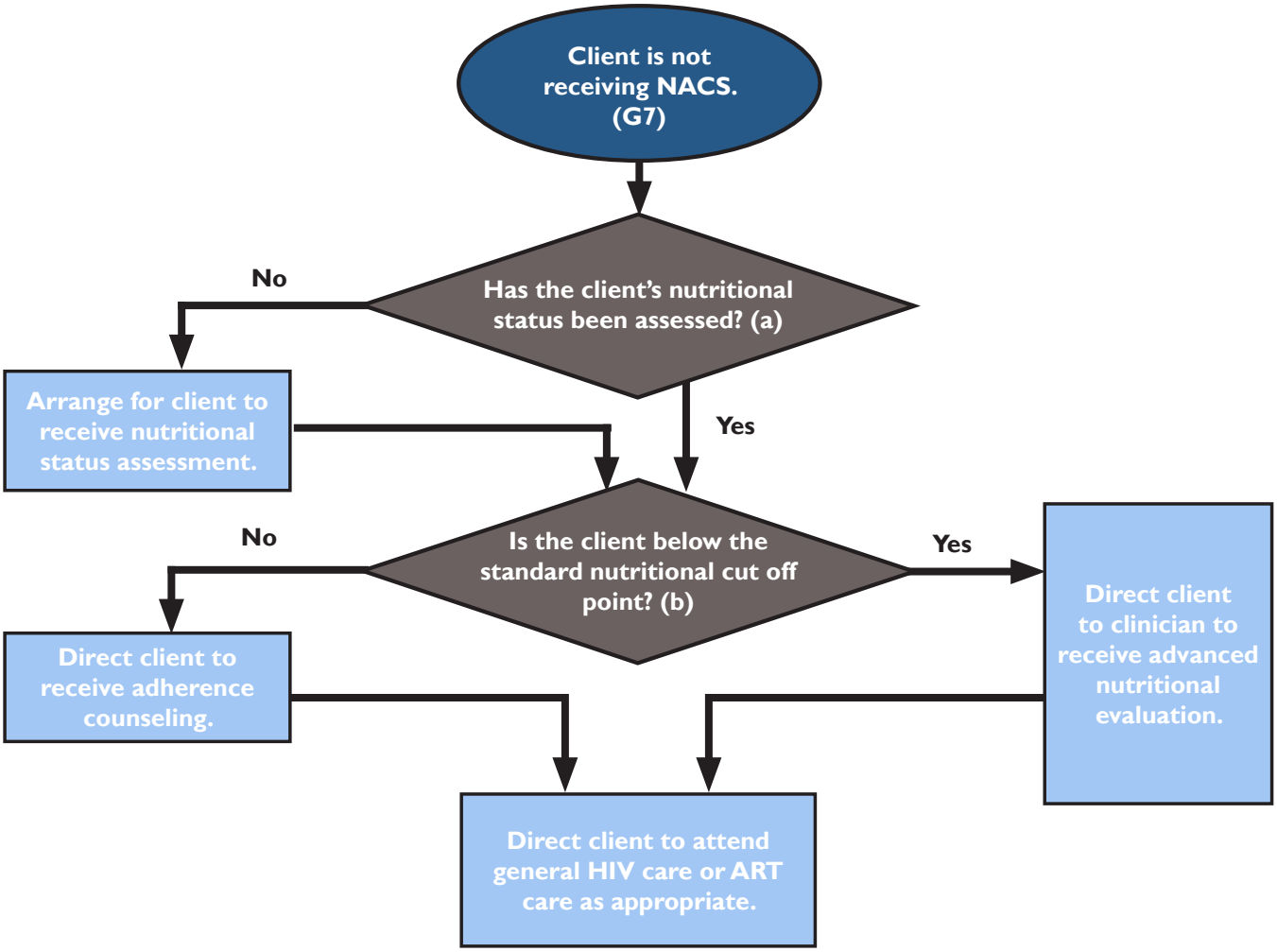
(a) Did the client receive counseling on how to improve and maintain hygiene and sanitation? WHO 2010 encourages HIV programs to provide guidance and training on washing hands at critical times and with proper technique in homes, community settings, schools, and health facilities.

(b) Has the client been assessed by a provider for their hygiene and sanitation situation? The assessment of the client's hygiene, sanitation, and living conditions should include the following (FHAPCO and FMOH 2008b):

- Availability and use of latrine and waste disposal
- Cleaning and storage of utensils
- Use and storage of boiled or treated water
- Personal hygiene (e.g., washing hands after bowel movements and before handling food)

(c) Does the client have needs related to hygiene and sanitation? PLHIV should also receive training in safe food preparation and latrine hygiene. In addition, PLHIV should be provided with the WASH package which includes a hypochlorite product, a container (of a type available locally) and soap, with accompanying hygiene education; other commodities may include condoms, oral rehydration therapy, multivitamins, and cotrimoxazole (WHO 2010).

GENERAL ALGORITHM-G7: NUTRITIONAL ASSESSMENT, COUNSELING AND SUPPORT (NACS)



ANNOTATIONS-G7: NACS

Introduction

According to national guidelines on HIV and malnutrition (FMARD and FHAPCO 2007; FMOH 2007):

- Nutritional care and support as a component of comprehensive care and support is essential to help PLHIV remain healthy, improve the quality of their lives, remain active, and economically productive.
  - National guidelines recommend the following –seven ways in which PLHIV can maintain strength:
    1. See a health worker for periodic nutrition assessment (especially weight)
    2. Eat more and different kinds of foods
    3. Maintain a high level of hygiene and sanitation
    4. Drink plenty of clean, safe (boiled or treated) water
    5. Maintain a healthy lifestyle
    6. Seek early treatment for infections and manage symptoms through diet
    7. Take medicines as advised by your health worker and manage food and drug interactions and side effects (FMOH 2008)
- The National HIV/AIDS Policy and the Comprehensive Strategic Plan on HIV/AIDS have highlighted the importance of and linkage between nutrition and food security, both in prevention and mitigating the impact of HIV/AIDS.
- There is a need for a willing and capable caretaker for the severely malnourished children. Where the parent has HIV, additional support needs to be available as the parent will have recurrent illness. Community mobilization and support, as well as local NGOs, can be invaluable in these circumstances.
- The care and treatment centers that have been established for HIV should not only see both the mother and child together, they should also be able to provide treatment for severe malnutrition.

Explanatory notes

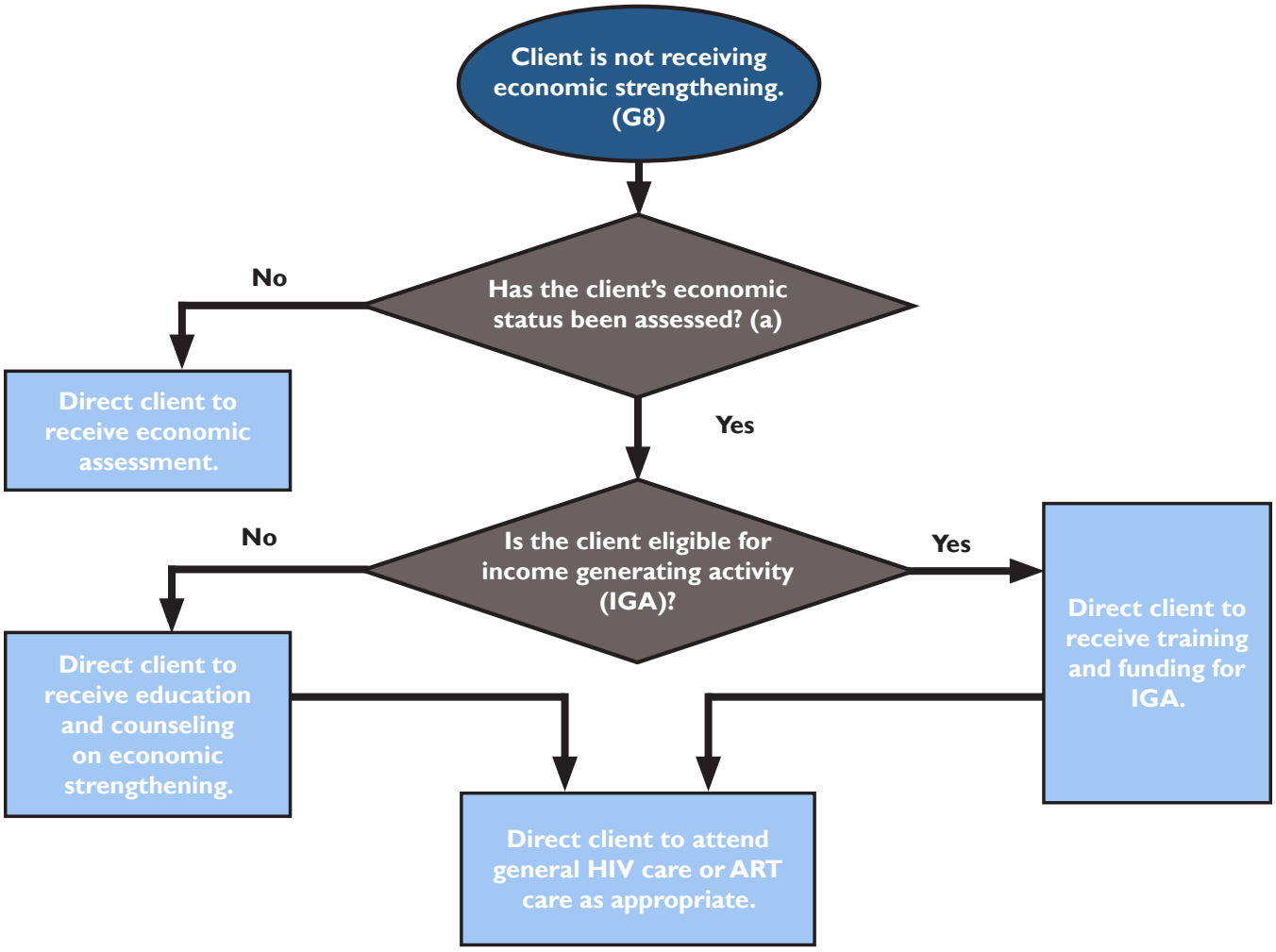
(G7) Client is not receiving NACS: All PLHIV should receive NACS to address their nutritional needs (FMARD and FHAPCO 2007; FMOH 2007). Nutritional assessment (anthropometry, clinical and dietary assessment), counseling and support should be an integral component of HIV care and conducted at enrollment in care and documented on the intake card; and monitored during all follow-up visits. Malnourished HIV patients, especially in food insecure contexts, may require food supplements, in addition to ART, to ensure appropriate foods are consumed to support nutritional recovery. Weight loss or failure to regain or maintain a healthy weight at any stage of HIV infection or ART should trigger further assessment and appropriate interventions.

(a) Has the client's nutritional status been assessed? All PLHIV should undergo a nutritional assessment (anthropometry, clinical and dietary assessment).

(b) Is the client below the standard nutritional cut-off points?

- BMI (for non-pregnant/non postpartum): Not malnourished (>18.5); moderate malnutrition (16–18.5): severe malnutrition (<16)
- MUAC (for pregnant/postpartum/bedridden): Not malnourished (>22 cm); moderate malnutrition (19–22 cm); severe malnutrition (<19 cm for pregnant and postpartum, and <18 cm for bed ridden)
- Weight for height (W/H) for pediatrics: Normal (>-1 Z score); mild (between -1 and -2 Z score); moderate acute malnutrition (between -2 and -3 Z score); severe acute malnutrition (<-3 Z score) (FMOH 2014).

GENERAL ALGORITHM-G8: ECONOMIC STRENGTHENING



ANNOTATIONS-G8: ECONOMIC STRENGTHENING

Introduction and rationale

Based on the available literature, implementation of economic strengthening interventions is expected to have a high impact on the quality of life for PLHIV but uncertain impact on mortality, morbidity, retention in care, and HIV transmission. More rigorous research is needed to explore the impact of more targeted intervention components on health outcomes (Bateganya et al. 2005).

According to national guidelines on community level care and support (FHAPCO 2013):

- Economic strengthening is intended to enable needy PLHIV to meet their needs.
- When services or resources are not within the reach of PLHIV health providers should:
  - Identify economic needs of PLHIV and their families
  - Identify stakeholders that can contribute to address the economic needs
  - Establish linkages with existing social welfare systems at community level
  - Provide referral services using standard referral and feedback formats

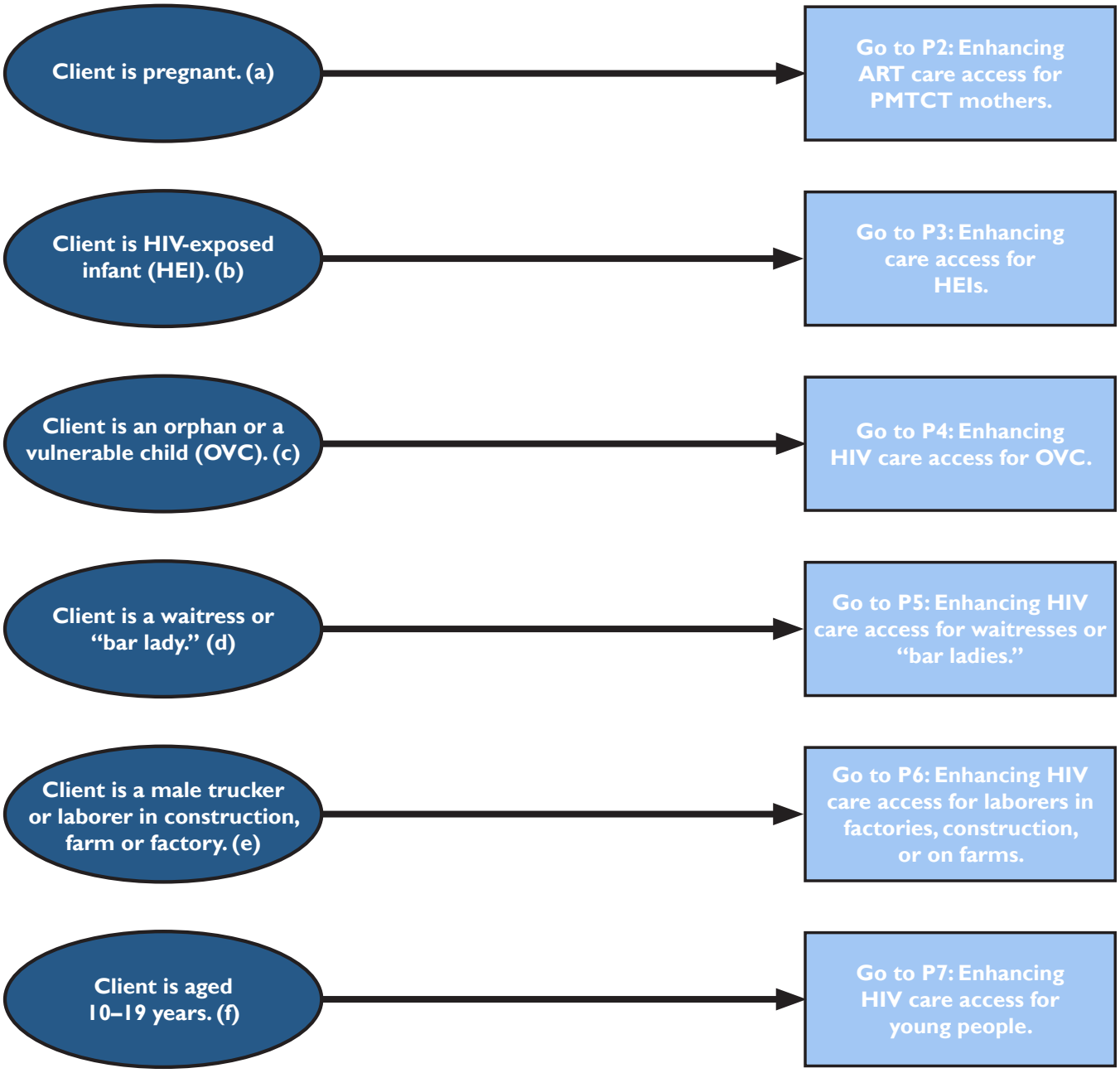
Explanatory notes

(a) Has the client's economic status been assessed? Since resources for economic strengthening may be limited it is important for the case manager to work with other members of the care team to identify those clients to be prioritized for economic strengthening (FHAPCO 2013).

According to the national guidelines on care and support for PLHIV and affected families (FHAPCO 2013) the following are the criteria for selecting needy PLHIV for economic strengthening and food support:

- Bedridden for more than a month
- No reliable source of income (verified by local authorities)
- No reliable family support (verified by local authorities)
- Needy women, children, elderly and disabled
- Chronically food insecure (verified by local authorities)
- Homeless and live on street
- Not already receiving support (to be verified through CBO networking)
- Female-headed PLHIV household
- Grandparents who are guardians of their grandchildren

PATHWAY ALGORITHM-P1: PATHWAYS FOR PRIORITY SUB-GROUPS OF PLHIV



ANNOTATIONS-P1: PATHWAYS FOR PRIORITY SUB-GROUPS

Introduction and rationale

According to WHO 2013 ART guidelines some sub-populations of PLHIV generally experience more barriers to accessing health services. Interventions harnessing social support have emerged as a promising approach to counteract the structural, economic, service delivery and psychosocial constraints that affect access, adherence and retention in care for such sub-populations.

Explanatory notes

(a) Client is pregnant. Pregnant and post-partum women living with HIV are particularly at risk of poor adherence because they are undergoing a period of significant social, psychological, economic and physiologic changes sometimes including transfer from one clinic to another (WHO 2013). Go to P2: Enhancing ART care access for PMTCT mothers (pg 28).

(b) Client is HIV-exposed infant. According to the national guidelines on pediatric care (FHAPCO and FMOH 2008c), HEIs need regular follow-up since they are at risk of morbidity and mortality regardless of infection status. Go to P3: Enhancing care access for HEIs (pg 30).

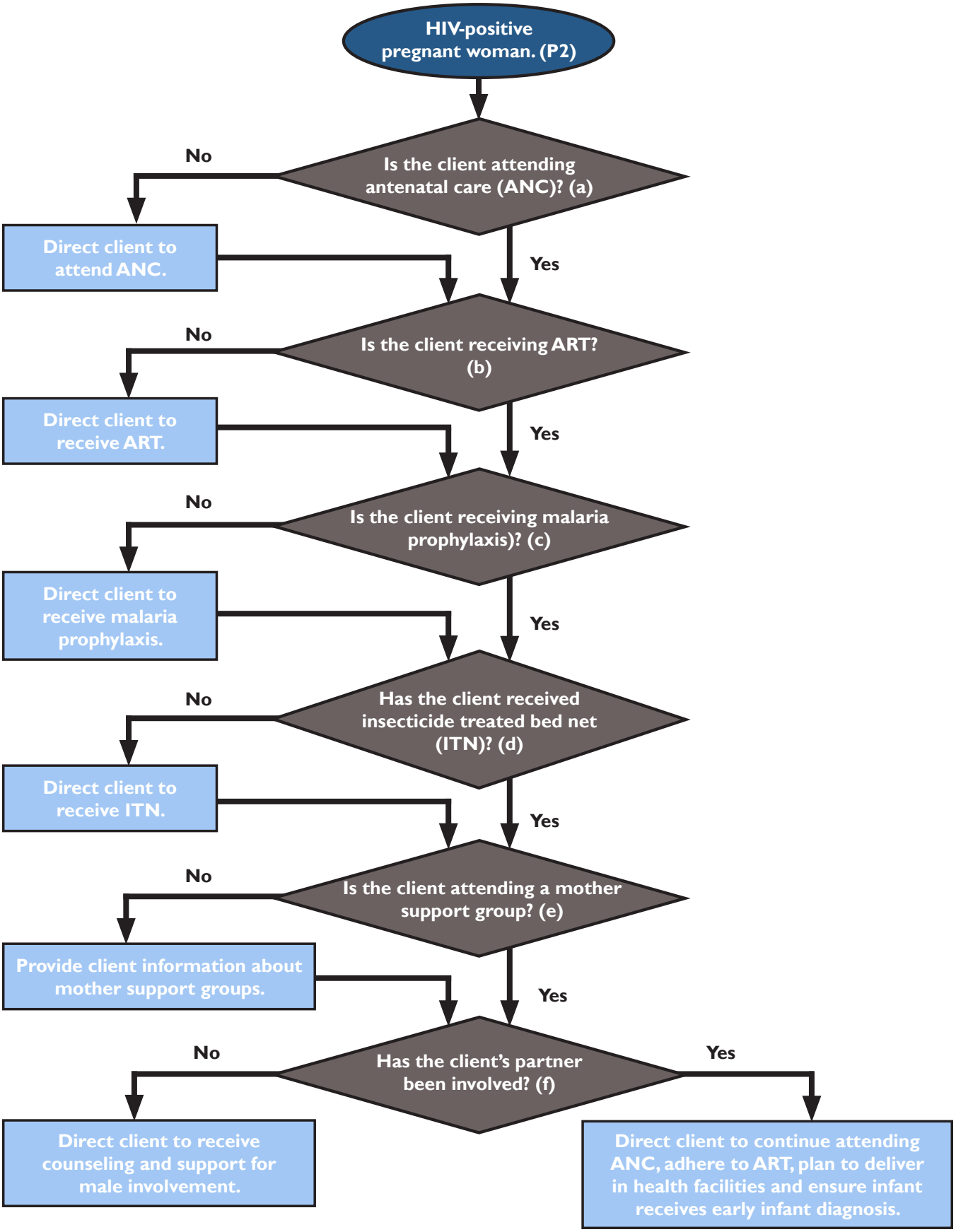
(c) Client is an orphan or a vulnerable child. Orphans who acquired HIV from their parents could suffer emotionally if they are labeled as "AIDS orphans" by the community. While the community may be sympathetic to orphans in general there is a risk that if an orphan is known to have acquired HIV from their parents they may be stigmatized by assuming that their parents were promiscuous and that is why they acquired HIV. On the other hand, it is also likely that some community members may try to overly sympathize with these orphans by labelling them as the "innocent victims." Either way, any labeling that suggests the guilt of their parents could have serious emotional effects on the orphans. Go to P4: Enhancing HIV care access for orphans and vulnerable children (pg 32).

(d) Client is a waitress or "bar lady." PLHIV who are sex workers are more vulnerable than other PLHIV because sex work is illegal in Ethiopia. Therefore, identifying themselves as sex workers could put them at risk of being arrested. Secondly, sex work is highly stigmatized in the general community. Hence identifying themselves as sex workers could subject them to stigma and discrimination from the community. And yet it is reported (FHAPCO 2011) that many female sex workers entered the sex work from other profession: 44 percent were domestic workers, 21 percent were waitresses and 16 percent were working in bars. For this reason, the algorithm will target waitresses and "bar ladies" as an approach to reach female sex workers. Go to P5: Enhancing HIV care access for waitresses or "bar ladies" (pg 34).

(e) Client is a male trucker or laborer in construction, farm or factory. Men who are clients of sex workers can also face stigma in the community because Ethiopia is a very religious society and expects all people to be faithful to their spouses. Therefore, identifying themselves as men who have sex with sex workers when they travel for work could subject them to stigma. It is reported (FHAPCO 2011) that the clients of sex workers comprised of the following groups: truckers and intercity bus drivers (22 percent), merchants and traders (15 percent), uniformed services (15 percent), civil servants (12 percent), daily laborers (12 percent) and unemployed (12 percent). Hence the algorithm will target male truckers and laborers in construction, farms and factories as surrogates for clients of sex workers. Go to P6: Enhancing HIV care access for laborers in factories, construction, or on farms (pg 36).

(f) Client is aged 10–19 years. In an epidemiological synthesis (FHAPCO 2008) it was reported that HIV prevalence was high among sexually active unmarried young urban women compared to married women due to early sexual debut and trans-generational sex. Go to P7: Enhancing HIV care access for young people (pg 38).

PATHWAY ALGORITHM-P2: ENHANCING ART CARE ACCESS FOR PMTCT MOTHERS



ANNOTATIONS-P2: ENHANCING ART CARE FOR PMTCT MOTHERS

Introduction

According to WHO 2013 ART Guidelines pregnant and post-partum women living with HIV are particularly at risk of poor adherence because they are undergoing a period of significant social, psychological, economic and physiologic changes sometimes including transfer from one clinic to another. They might also have worries about ARV toxicity to baby and may have fear of disclosure to partner. Nudelman et al. (2013) report that pregnant women living with HIV may fear enrolling in PMTCT services because if their spouses learn of their HIV status, they would blame them for bringing HIV into the marriage and perhaps divorce them, leaving them with no source of income. Sometime the woman fears that the health workers will blame her for being irresponsible for becoming pregnant when she knew she was HIV positive—"why bring a child to life just to suffer with HIV."

Explanatory notes

(a) Is the client attending antenatal care (ANC)? Pregnant women living with HIV should attend ANC where they should receive or be referred for the following key elements of PMTCT care: ART care; referral of mother for FP; follow up care and EID for HEI; referral to mother support groups for psychosocial support and adherence support; coordination of care and support by HEW and PLHIV association.

(b) Is the client receiving ART? The factors explained above might be affecting ART access by pregnant women. Indeed, according to a report by Network of HIV Positives in Ethiopia in 2011 only 18 percent of HIV-positive pregnant women said they were given ARVs during pregnancy for PMTCT mainly because of lack of knowledge about existence of PMTCT treatment. Therefore, HIV-positive mothers are a priority sub-group of PLHIV that have specific needs and hence they need special pathways to enhance their access to ART (FHAPCO and FMOH 2011; FHAPCO and FMOH 2008a).

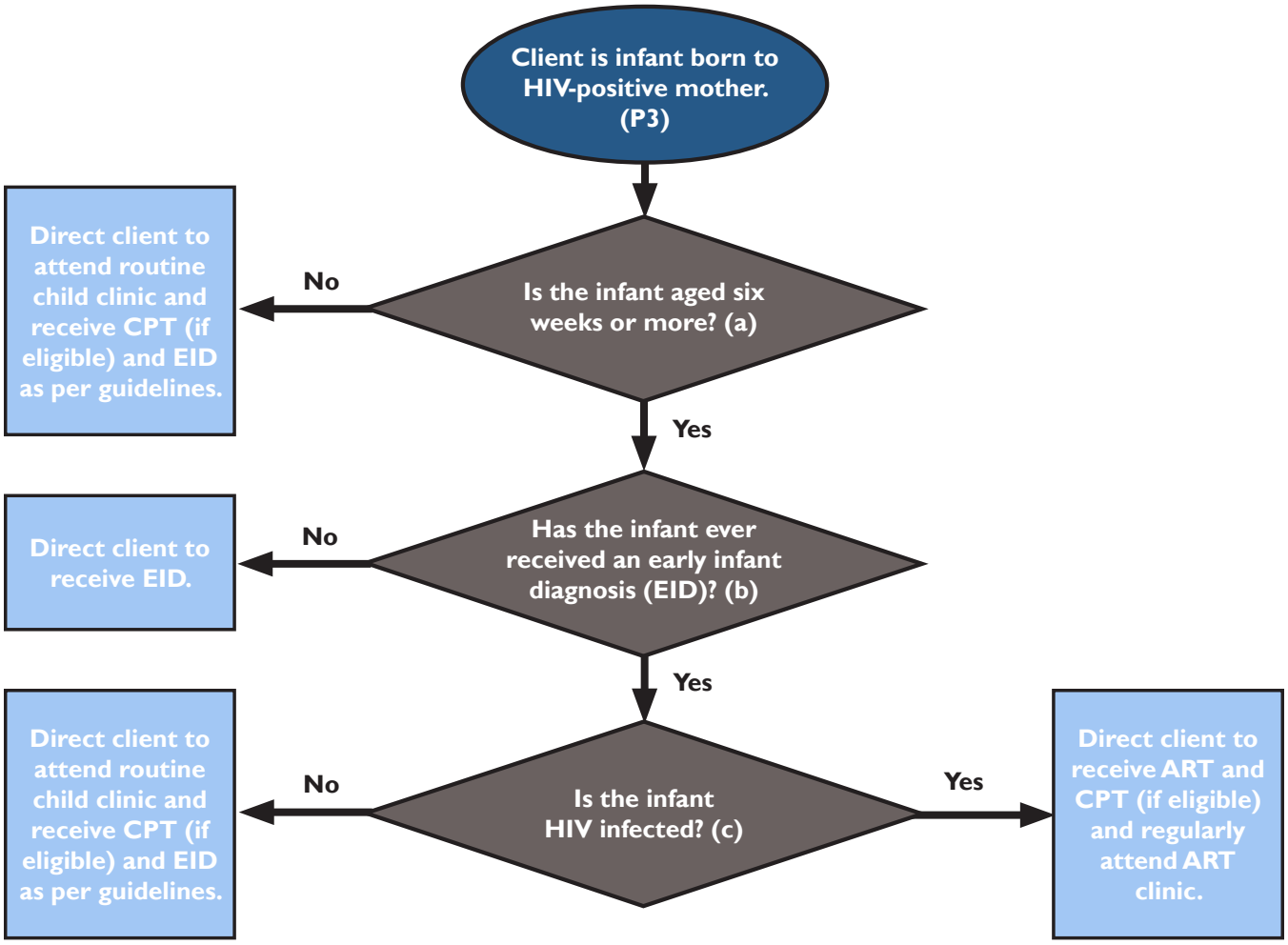
(c) Is the client receiving malaria prophylaxis)? All HIV-positive pregnant women in malaria endemic areas should receive malaria prophylaxis and treatment as per national guidelines on malaria.

(d) Has the client received insecticide treated bed net (ITN)? The national PMTCT guidelines (FHAPCO and FMOH 2007) recommend that all pregnant women should be advised to use insecticide treated bed nets to prevent malaria.

(e) Is the client attending a mother support group? Effort should be made to strengthen care and support mechanisms such as mother support groups to help women address challenges in utilizing service. Linkage of PMTCT mothers to microfinancing schemes should be facilitated.

(f) Has the client's partner been involved? Partner HIV testing and disclosure and promotion of male-friendly environment at ANC clinics to encourage male involvement are critical.

PATHWAY ALGORITHM-P3: ENHANCING CARE ACCESS FOR HIV-EXPOSED INFANTS (HEIS)



ANNOTATIONS-P3: ENHANCING CARE ACCESS FOR HEIS

Introduction and rationale

According to the national guidelines on pediatric care (FHAPCO and FMOH 2008c), HEIs need regular follow-up since they are at risk of morbidity and mortality regardless of infection status. Linking PMTCT services to infant follow-up is an important step in ensuring HEIs are enrolled into care. HEIs are a priority sub-group that have specific needs. Hence, they need special pathways to enhance their access to follow-up HIV testing and ART if found to be HIV infected.

According to the national guidelines (FMOH 2014), ARV prophylaxis should be given to all babies born to HIV-infected mothers or otherwise identified as HEI identified after birth. If the infant is on breastfeeding, provide ARV prophylaxis for the infant for 6 weeks (consider extending it to 12 weeks if mother is diagnosed during labor or immediate postpartum). If the infant is not being breastfed, provide ARV prophylaxis if the infant is seen within 72 hours of birth.

Explanatory notes

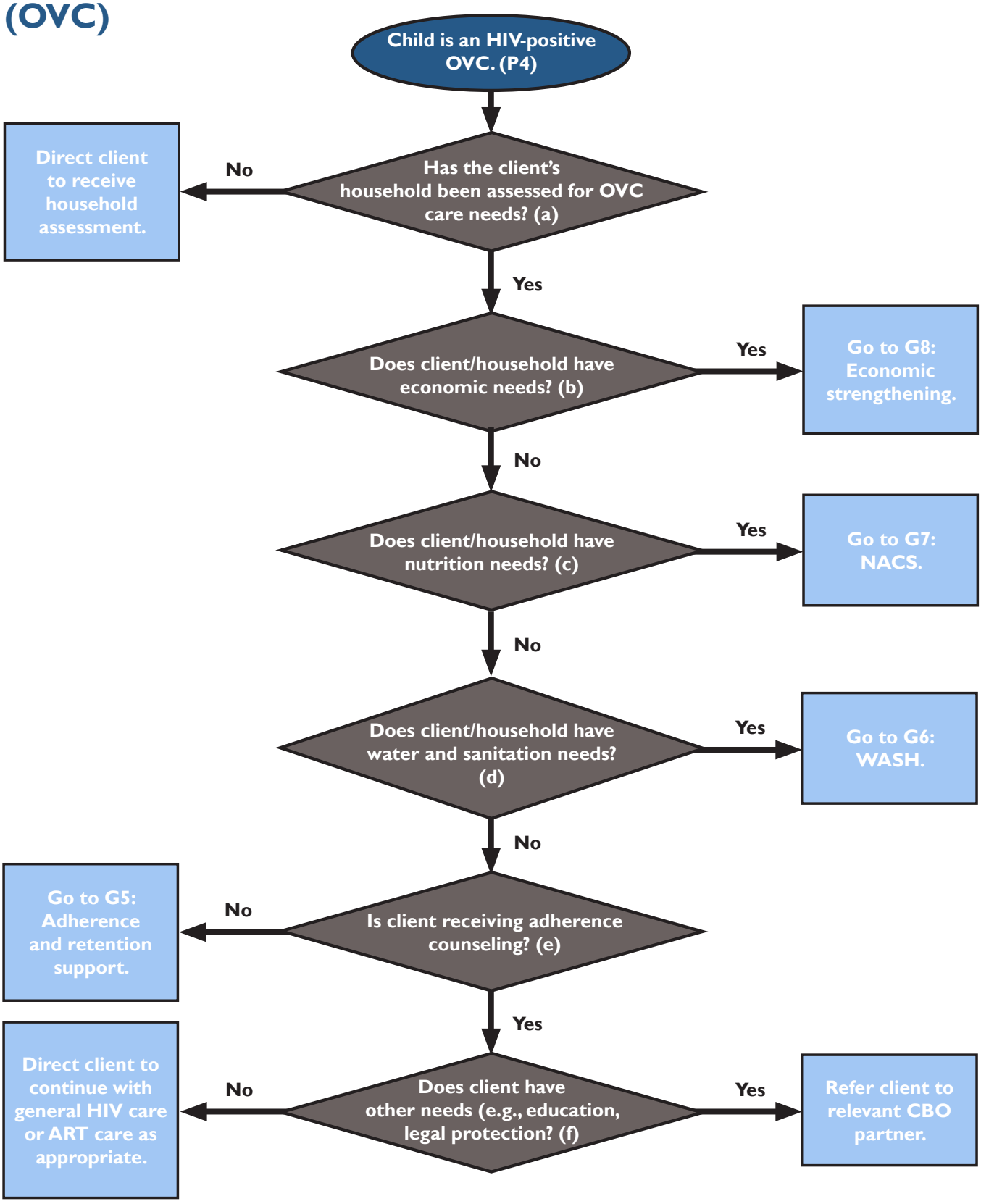
(P3) Client is infant born to HIV-positive mother. Maternal and child health immunization and under-five clinics are excellent venues to identify HEIs. Rapid antibody tests performed on mother or infant can confirm HIV exposure, enabling these infants to be enrolled into immediate care. HEIs should be followed up as follows (FMOH 2014):

(a) Is the infant aged six weeks or more? Infants aged six weeks should receive early infant diagnosis (EID) testing and if HIV infected should be put on ART. If not HIV infected, the infant should be put on CPT and followed up in the clinic every month for the first six months and thereafter every three months. All HEIs should be put on CPT after six weeks if there is no contraindication to cotrimoxazole use (e.g., severe anemia).

(b) Has infant ever received anEID? EID (DNA PCR) should be performed at six weeks of age or at earliest opportunity after six weeks of age. Repeat DNA PCR if infant is sick or the first DNA PCR test is positive. Perform rapid antibody test at least six weeks after cessation of breastfeeding.

(c) Is the infant HIV infected? The goal of EID is to identify HIV-infected infants early in order to provide them with lifesaving ART. As soon as an infant is diagnosed with HIV infection, the infant should be prioritized for early access to care and ART.

PATHWAY ALGORITHM-P4: ENHANCING HIV CARE ACCESS FOR ORPHANS AND VULNERABLE CHILDREN (OVC)



ANNOTATIONS-P-4: ENHANCING HIV CARE ACCESS FOR ORPHANS AND VULNERABLE CHILDREN (OVC)

Introduction and rationale

According to the national guidelines on OVC (FHAPCO 2010) in 2009, it was estimated that Ethiopia had 5,459,139 orphans of whom 855,720 were orphaned due to HIV and AIDS. Given the context of Ethiopia, all OVC, directly or indirectly, are vulnerable to HIV and AIDS and other health, socioeconomic, psychological and legal problems. This vulnerability may be linked to extreme poverty, hunger, armed conflict and child labor practices, among other threats. All of these issues fuel and are fueled by HIV and AIDS. At the child/household level, coordination of care involves assessing needs, planning of care for the child/family, monitoring care and making adjustments for services when needed. Case managers of OVC care will usually provide both direct care and referral for services. Ideally coordination of care involves a home visit so that all the relevant aspect of the child's situation may be assessed. But this could be carried out in a group setting. Coordination at the community level involves community mobilization, service mapping and network building.

Explanatory notes

P4. Child is HIV-positive OVC. An OVC is a child aged less than 18 years who: has lost one or both parents; has parent(s) who are terminally ill; living on the streets; is exposed to abuse, violence or exploitation; is in conflict with the law; is sexually exploited; has disabilities or is unaccompanied by a parent/guardian (FHAPCO 2010).

a) Has the client' household been assessed for OVC care needs? The essential services for OVC are: shelter; economic strengthening; legal protection; health care; psychosocial support (including HIV counseling); education; and food and nutrition (including safe food handling and water and sanitation) (FHAPCO 2010).

b) Does client/household have economic needs? It is important to work with community leaders who can establish whether the OVC or guardian is in need of economic strengthening activities (FHAPCO 2010). Go to G8: Economic strengthening (pg 24).

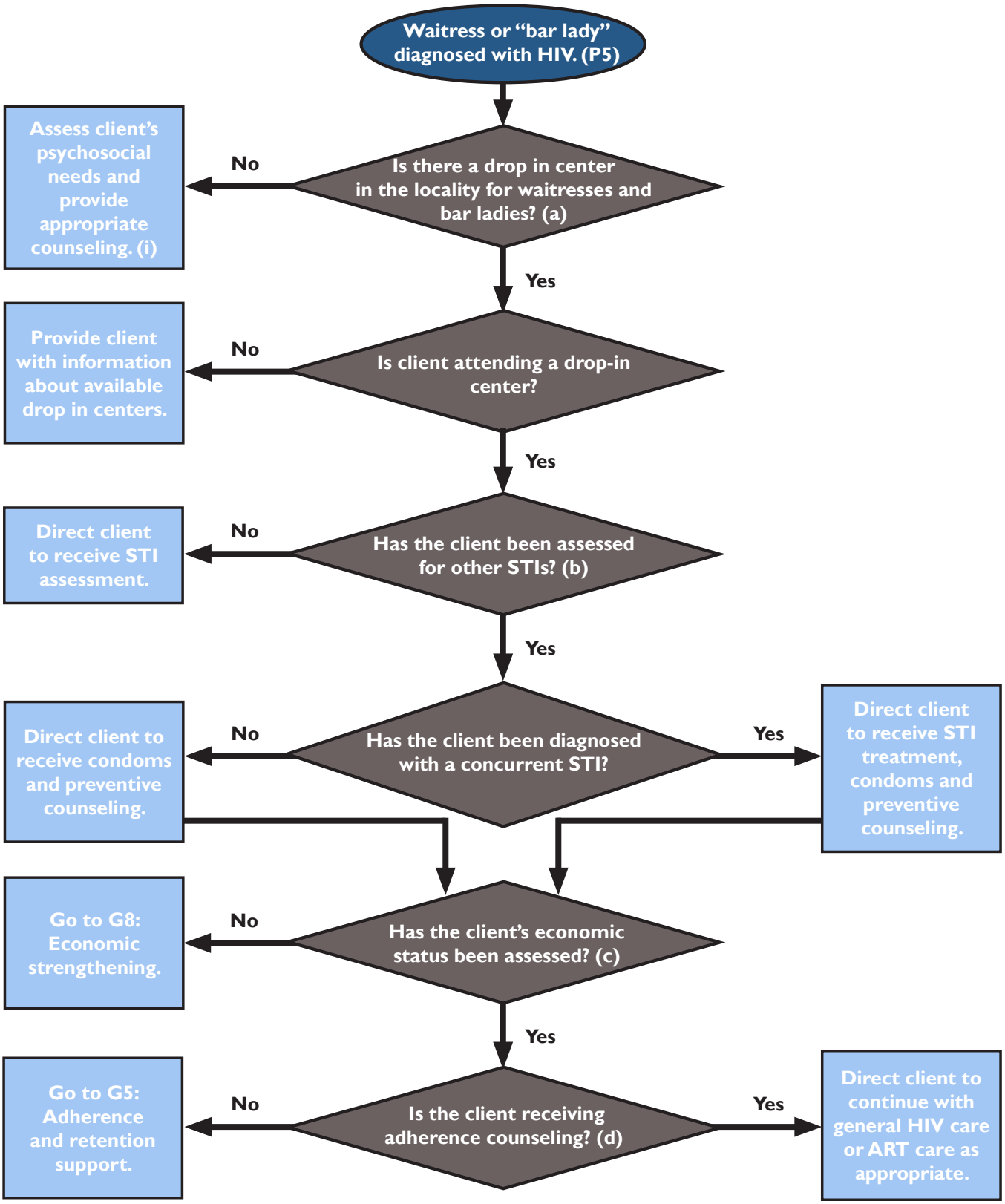
c) Does client/household have nutrition needs? At child level assess nutrition status, at household level assess sustainable strategies to support food needs of OVC (FHAPCO 2010). Go to G7: NACS (pg 22).

d) Does client/household have water and sanitation needs? This should be combined with the household food assessment. Go to G6: WASH (pg 20).

e) Is client receiving adherence counseling? Client might be experiencing psychosocial or health care problems that may affect drug adherence and clinic appointments**.** Often OVC do not have a responsible adult to take them regularly to the clinic or to remind them to take their medicines. Go to G5: Adherence and retention support (pg 18).

f) Does client have other needs (e.g., education, legal protection?) It is important that the services of the OVC are coordinated through referral and linkage by a trained social worker or community volunteer since OVC require services from a wide variety of providers.

PATHWAY ALGORITHM-P5: ENHANCING HIV CARE ACCESS FOR WAITRESSES OR "BAR LADIES"



ANNOTATIONS-P5: ENHANCING HIV CARE ACCESS FOR WAITRESSES OR "BAR LADIES"

Introduction

Sex workers living with HIV are particularly at risk of poor adherence because they may have poor access to clinical and community-based services. Ensuring ART access for sex workers continues to be a challenge. In addition to ART WHO recommends that sex workers should receive periodic screening for STI and that periodic presumptive treatment for asymptomatic STI should be considered (WHO 2013).

In a study by FHAPCO the following service delivery approaches for reaching female sex workers were identified: outreach activities, collaboration with owners of the establishments (e.g., bars), using AIDS Resource Centers (ARC), using routine clinic based reproductive health or STI services and using drop in centers. In the same report ART clients interviewed recommended that special mechanisms were needed to enable sex workers and "street ladies" to have enhanced access to ART (FHAPCO 2011). A report by FHI-Ethiopia in 2002 stated that FSWs are not only from groups such as "bar ladies" and waitresses, sex clients were increasingly targeting high school and night school students, *zig chilot* workers, home girls, office girls and school drop outs.

Community-based services that are specifically designed to reach sex workers include: Drop-in centers providing condoms, education on reproductive health, STIs, and HIV, recreation, washing facilities, rights advocacy, preventive and curative health services, peer education and referral slips for sex workers to seek HTS in health centers; workshops on HIV, STIs, and condom use; condom social marketing, and contraceptives (emergency contraceptives); and counseling on HIV, violence, and human rights (FHAPCO 2008; Engender Health, FHI-Ethiopia 2002: Muletta 2010).

Explanatory Notes

(P5) Client is waitress or "bar lady" diagnosed with HIV. It is reported that many female sex workers entered sex work from other professions: 44 percent were domestic workers, 21 percent were waitresses and 16 percent were working in bars (FHAPCO 2011). For this reason, the algorithm will target waitresses and "bar ladies" as an approach to reach female sex workers.

(a) Is there a drop-in center in client's catchment area? Based on the available evidence, shown above, drop-in centers offer a feasible pathway to enhance ART access, adherence and retention among sex workers by addressing their specific vulnerabilities and providing an atmosphere for peer support.

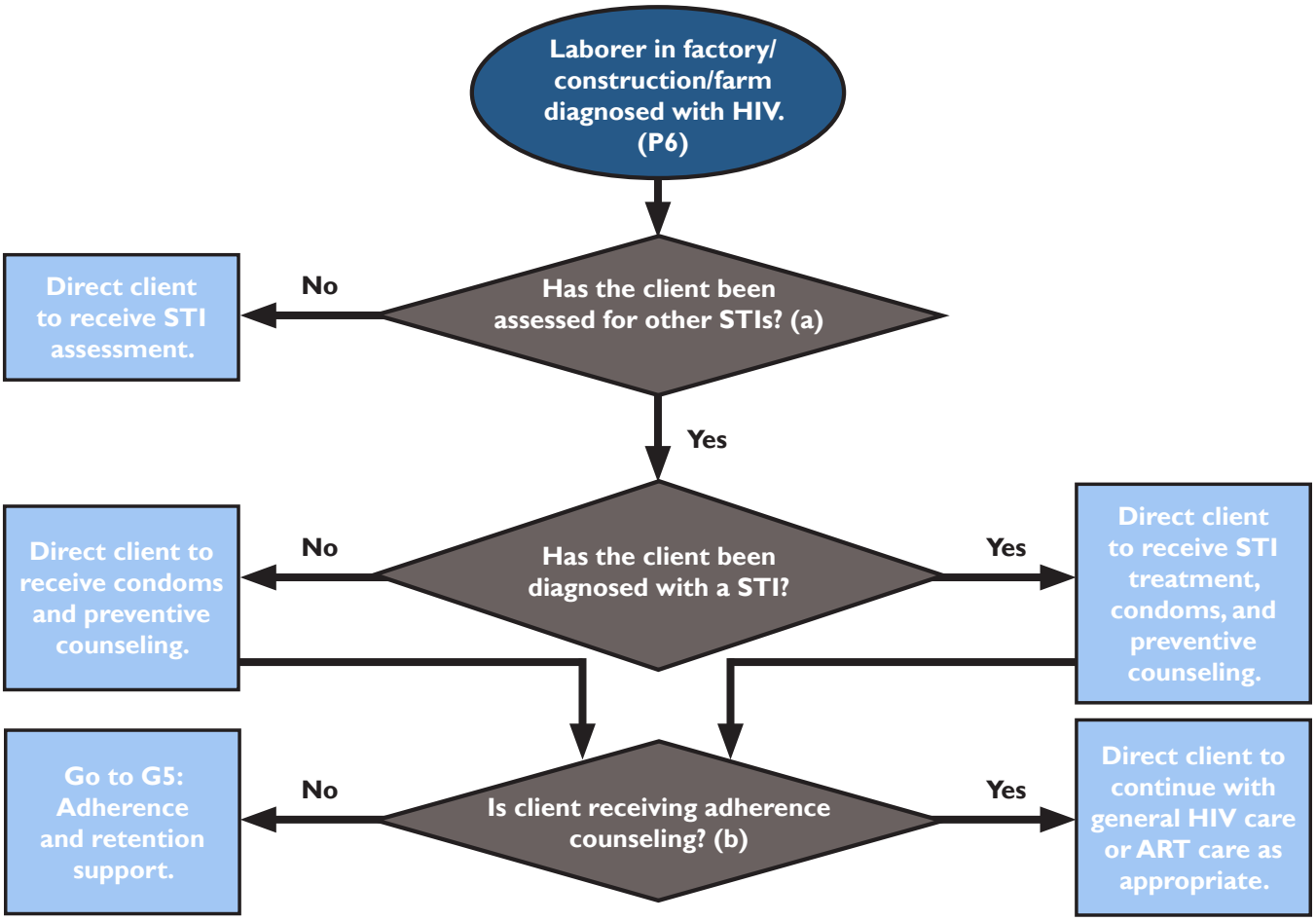
(i) Assess client's psychosocial needs and provide appropriate counseling. As explained above sex workers living with HIV face specific vulnerabilities relating to the fact that sex work is illegal and is highly stigmatized in the community. These issues may manifest themselves differently in each individual. HIV care providers should use a counseling approach that enables sex workers to bring up and discuss these issues. This may necessitate linking the client to peer support and scheduling additional clinic visits for counseling.

(b) Has the client been assessed for other STIs? As explained above, sex workers are a priority population for STI screening and treatment.

(c) Has the client's economic status been assessed? Economic empowerment is considered to be a key component of HIV programming among sex workers (Muletta 2010). Go to G8: Economic strengthening (pg 24).

(d) Is the client receiving adherence counseling? Client might be experiencing psychosocial or health care problems specific to their situation that may affect adherence to drugs and to clinic appointments**.** Go to G5: Adherence and retention support (pg 18).

PATHWAY ALGORITHM-P6: ENHANCING HIV CARE ACCESS FOR LABORERS IN FACTORIES, CONSTRUCTION, OR ON FARMS



ANNOTATIONS-P6: ENHANCING HIV CARE ACCESS FOR LABORERS IN FACTORIES, CONSTRUCTION, OR ON FARMS

Introduction

Key populations generally experience more barriers to accessing health services. Interventions harnessing **social support** have emerged as a promising approach to counteract the structural, economic, service delivery and psychosocial constraints that affect retention in care (WHO 2013).

It is reported that the clients of sex workers comprised of the following groups: truckers and intercity bus drivers (22 percent), merchants and traders (15 percent), uniformed services (15 percent), civil servants (12 percent), daily laborers (12 percent) and unemployed (12 percent). The study further reported that mobile populations that had a high HIV prevalence (12 percent to 37 percent) included daily or seasonal laborers in construction, factories or farms; long distance truck drivers, merchants and civil servants who spend a long time away from home (FHAPCO 2011).

The following service delivery modes were recommended for enhancing access in these populations (FHAPCO 2011):

- Peer educators.
- Services at relevant locations: bars, hotels, and health facilities
- Making services user friendly for these populations e.g., day and night availability, on-site clinics for construction, farms and mine workers, and health workers, trained to be sensitive to the unique social aspects of these populations.

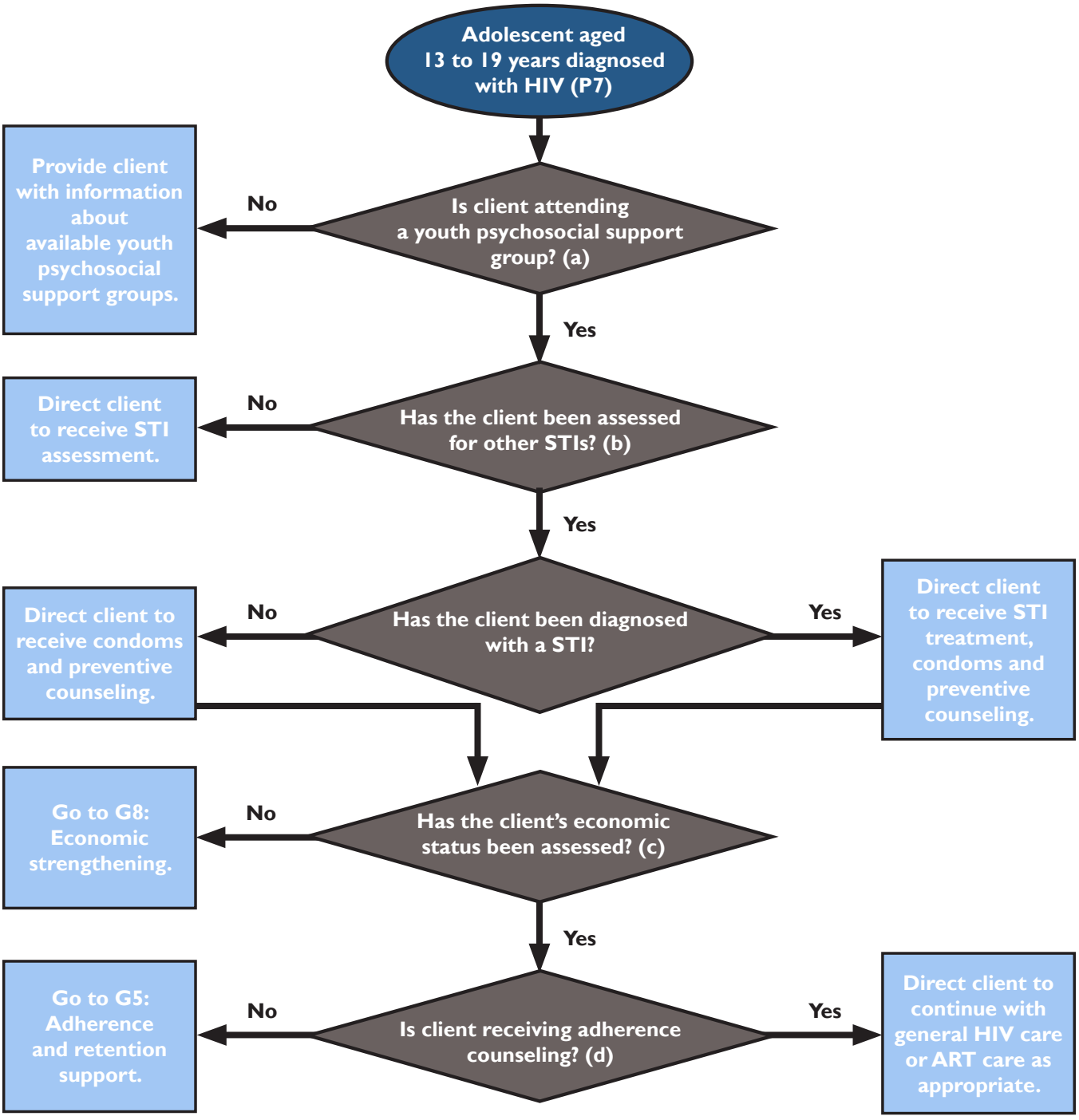
Explanatory notes

(P6) Laborer in factory/construction/ farm diagnosed with HIV. As discussed above, these populations are commonly identified as clients of sex workers. Men who are clients of sex workers can also face stigma in the community because Ethiopia is a very religious society and expects all people to be faithful to their spouses. Therefore, identifying themselves as married men who have sex with sex workers could subject them to stigma. Hence the algorithm will target male truckers and laborers in construction, farms and factories as surrogates for clients of sex workers.

(a) Has the client been assessed for other STIs? Clients of sex workers are a priority population for STI screening and treatment.

(b) Is client receiving adherence counseling? Clients of sex workers might be experiencing challenges in keeping clinic appointments because of the nature of their work**.** These problems can be identified during adherence counseling and referral options to available user-friendly services, such as on-site clinics at work sites or services delivered outside working hour, can be considered. Go to G5: Adherence and retention support (pg 18).

PATHWAY ALGORITHM-P7: ENHANCING HIV CARE ACCESS FOR YOUNG PEOPLE



ANNOTATIONS-P7: ENHANCING HIV CARE ACCESS FOR YOUNG PEOPLE

Introduction

Adolescents living with HIV are particularly at risk of poor adherence because of stigma and fear of disclosure, peer pressure, desire to conform and fit-in, inconsistent routines, as well as transition from pediatric to adult clinic.

Young people with HIV include those surviving perinatal infection and those newly acquiring infection as they become sexually active. The transition from pediatric to adolescent care presents several challenges that may affect treatment adherence in adolescents. These include assuming increased responsibility for their own care (which may lead to treatment interruptions because of forgetfulness); an inability to navigate the health care system; lack of links between adult and pediatric services; and inadequately skilled health care providers (WHO 2013). In a study carried out by FHAPCO in 2011 the clients recommended that the ART program should put special emphasis on young females due to a higher HIV prevalence among this population in urban areas (FHAPCO 2008).

Explanatory notes

(P7) Client is young person aged 10 to 19 years diagnosed with HIV. In the 2013 ART guidelines WHO defined adolescents as aged 10 to 19 years. In the FHAPCO 2008 report it was acknowledged that HIV prevalence was high among sexually active un-married young urban women compared to married women due to early sexual debut and trans-generational sex.

(a) Is client attending a youth psychosocial support groups? Adolescents may access care in a variety of settings, including pediatric and antenatal care clinics, as well as adult clinics. Since few health systems provide adolescent-specific services it can be challenging for adolescents to access health care and maintain adherence to treatment regimens (WHO 2013). Youth psychosocial support groups that have peer educators as well as professional health workers who are trained on adolescent sexuality and the needs of young people could help enhance clinic attendance in young people.

(b) Has the client been assessed for other STIs? Young women are at high risk of STIs especially if they are engaged in transactional cross-generational sex. According to UNAIDS, cross generational relationships refer to relationships with a 10-year or more age gap between sexual partners (UNAIDS 2011).

(c) Has the client's economic status been assessed? Due to economic reasons young women are often subjected to transactional sex which is often cross generational. It is therefore important to provide economic strengthening for needy young people. Go to G8: Economic strengthening (pg 24).

(d) Is client receiving adherence counseling? Young people are likely to be experiencing psychosocial or health care problems that may affect drug adherence and clinic appointments requiring counseling by counselors who are trained on adolescent sexuality and the sensitive needs of young people. Go to G5: Adherence and retention support (pg 18).

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