I. COMPREHENSIVE MANAGEMENT OF PERSONS WITH HIV INFECTION

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THE NEEDS-BASED APPROACH TO PERSONS WITH HIV INFECTION

The moment that an adult or child is *suspected* of having HIV infection, the issue of his/her care and management is thrust into the spotlight. The responsibility for providing care is usually shared by the professional team, the community, and the patient; there are moments when the balance of responsibility lies solely in one quarter, but in other times, there is considerable overlap. Regarding the care of persons living with HIV/AIDS (PLWHA), the concept of a continuum of care is most useful and applies to that which starts at home or in the community and expands to the clinic, doctor's office, or hospital. As such, best practices in comprehensive care are achieved through a team approach; ideally, this team and its resources are carefully planned.[*]

Most essential is good communication between the professional and nonprofessional team members, and mutual understanding of roles, responsibilities, and relationships are an integral part of this communication. Excellent communication between all parties becomes vital especially when the patient is receiving antiretroviral drugs (ARVs), for they must be continued without interruption. Cange in rural Haiti is an example of a best practice in such a situation; there, patients choose trustworthy persons from the community to serve as *accompagnateurs* who complete regular, direct observation and documentation of the patients taking their medications.

The first meeting between the healthcare professional and the patient is often at the request of the patient, the family, or a concerned friend. From the first moment of meeting, the professional must focus on beginning a cooperative partnership with the patient, for what often begins is a process of negotiation between the professional caregiver and patient. From the caregiver's perspective, the primary objective of the partnership is adherence--not just to drug treatment, but to further clinical and laboratory investigations and to any necessary aspects of lifestyle change.

Building trust between these parties is paramount, because the validity and reliability of communication depends squarely on trust and trustworthiness. Furthermore, optimal care is based on optimal communication. Understanding the patient's mental and emotional status is vital to the success of communication and, by extension, to the success of treatment. The healthcare worker must also get a clear picture of the patient's circumstances, including employment, economic status, and social support network. For example, in some larger Caribbean countries, the cost of transportation to and from the health clinic or hospital is prohibitive,[†] absorbing monies usually devoted to investigations and therapy. Or, a patient living on the street may be less adherent to medications than someone who has a home. Hence, the best care plan for each patient must be formed from the clearest appreciation of the patient's circumstances.

Many needs of PLWHA are identical to those of persons with other illnesses, but because of the aura and stigma that often surrounds HIV/AIDS, the patient and the family may have additional requirements as outlined in the following tables.

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[*]This article assumes that family members, friends, front-line healthcare workers, and others in the support team (e.g. pharmacists, laboratory personnel, and administrators) have positive attitudes toward PLWHA. The care that the patient experiences is proportional to these individuals' knowledge, but it is also heavily dependent on their attitudes. Willingness to give care and the degree of interest and concern are usually evident by general deportment—therefore, it is imperative to maintain a helpful and caring attitude at all times.

[†]This problem is obviated if funds have been provided to cover these costs, as is true in some situations.

Table 1: *Medical Needs of PLWHA*[*]

Access to health team
Means of transport
Medical monitoring (e.g. interviews, examinations, laboratory tests)
Patient education
Nutritional plan of action
Dietary and/or nutritional supplements
ARVs and drugs for opportunistic infection (OI) prophylaxis and treatment
Provision of condoms, when necessary
Crisis care and terminal care
Education of significant others (e.g. knowledge, skills, attitudes)
Supervision and supplies for caregivers at home, hospice, or hospital
Response to special needs

[*]Adapted from a multidisciplinary focus group.

Table 2: *Counselling*[&] *Needs of PLWHA*[†]

Pre- and post-test counselling
Individual and group support for counselling concerning general life issues
Counselling regarding interpersonal relationships, sexuality, and sexual issues
Spiritual counselling
Discussion and clarification of issues related to personal and family confidentiality
Counselling and support in preparation for dying, and when necessary, including arrangements for children

[†]Adapted from a multidisciplinary focus group.

Table 3: *Counselling*[&] *Needs of Family and Friends of PLWHA*[∞]

Education about HIV, including reassurance about personal safety in long-term social contact situations
Emotional and spiritual support
Bereavement counselling

[∞]Adapted from a multidisciplinary focus group.

[&]***A Special Note on Counselling***

The purposes of counselling include: clarifying information related to the disease, helping the client manage new circumstances, expressing negative and positive emotions, adjusting lifestyles, setting realistic personal goals, and identifying and using available support systems. The client may be a PLWHA; a contact of the primary case; someone who may suspect, rightly or wrongly, that he/she is infected; a healthcare worker; or a family member or friend of a PLWHA.

The type of counselling described here is not synonymous with giving advice. Talking to *a person or talking* at *a person is often not enough to change his/her behaviour. Listening with empathy and discerning the facilitators and obstacles to behaviour change are a starting point to what is often a difficult process for the HIV-positive person. The changes that should occur in the person are often multiple and long-term, requiring external support. The doctor or nurse alone may not be able to bring about these changes.*

Counselling may be carried out at many levels, sometimes by laypersons and at other times by professionals. Professional counsellors are few in most Caribbean countries and, at the time of this writing, there are even fewer of these persons in the region with training or experience in issues related to HIV/AIDS. For this reason, the best substitutes must be engaged in this area of counselling while the pool of professionals grows.

Table 4: *Self-Care Needs of PLWHA*[*]

Physical and mental: • Keeping physically fit • Maintaining the best possible nutrition • Living a balanced life including work, rest, recreation, and sleep • Good personal hygiene and sexual safety in order to avoid unnecessary contact with infection
Social
Economic and financial
Spiritual

[*] Adapted from a multidisciplinary focus group.

Table 5: *Social Support Needs of PLWHA*[†]

Companionship
Legal advice and services
Employment
Income-generating activities
Occupational therapy
Cash and kind for short-term support
Food and shelter
Means of transport
Child welfare
Involvement in community life

[†] Adapted from a multidisciplinary focus group.

MAXIMISING ADHERENCE TO ANTIRETROVIRAL THERAPY (ART)

INTRODUCTION

The goal of highly active antiretroviral therapy (HAART) -- clinical and immunologic stabilisation and prevention of disease progression -- is most consistently achieved in patients who experience a sustained drop in HIV viraemia to levels less than 50 copies/mL. Adherence to the HAART regimen appears to be the single most important variable that predicts a patient's ability to achieve and maintain suppression of HIV viraemia to below the level of detection.[1] Sustaining high levels of adherence to antiretroviral therapy is difficult for many patients, but recent applied research among persons with HIV infection, including a study carried out in Barbados, offers hope.[2,3] These studies demonstrate that high-level adherence to HAART is entirely possible with proper clinical management, strong patient confidence in the clinician and in the treatment, and effective involvement of patients as active agents in their own care and treatment.

THE DYNAMICS OF ADHERENCE

Two basic facts about the nature of adherence must be understood:

- ***Achieving adherence is an interactive process.*** While the ultimate responsibility for adherence to treatment rests with the patient, it is a complex process influenced by factors both internal and external to the patient, and a process in which the patient must confront and come to terms with those influences in a manner that is conducive to adherence.
- ***Achieving adherence is not a one-time-only event.*** It is a dynamic and ongoing process that the patient negotiates each time a dose of medication must be taken. Every day with every dose, clients must navigate those influences, many of them negative and outside their sphere of influence.

Therein lies the difficulty in achieving adherence: negotiating the interplay of influences that come to bear upon the simple act of taking a medication AND the fact that, in the case of the HIV-infected person, this negotiation must take place day after day, dose after dose, *ad infinitum*.

FACTORS AFFECTING ADHERENCE

What are those influences that intrude upon the client's decision to adhere to treatment? The World Health Organisation (WHO) characterises these factors as "interacting dimensions"[4] that exert negative or positive influences on treatment adherence. These factors and some of the attendant negative aspects that could interfere with treatment adherence are delineated in *Table 6*.

Table 6: *Factors Influencing Patient Adherence: Possible Negative Aspects*[5,6]

INFLUENCING FACTOR	POSSIBLE NEGATIVE ASPECTS
Social and Economic Factors	▪ Socio-economic problems associated with being HIV-positive including unemployment, lack of money, adequate food, housing, etc. ▪ Stigma and discrimination against PLWHA ▪ Having to travel long distances to access care and treatment or medication
Healthcare Team- and Health System-Related Factors	▪ Healthcare workers with a poor understanding of the dynamics of adherence ▪ Healthcare workers with a poor understanding of the client ▪ Stigma and discrimination from healthcare workers, not

	necessarily those involved in the delivery of HAART ▪ Inability or unwillingness to engage the client as an active agent in his/her own therapy ▪ Overworked staff with insufficient time or energy to engage the patient effectively ▪ Disjointed approach to care and treatment--workers not functioning as a team ▪ Poor linkages between the healthcare team and PLWHA community support groups
Condition-Related Factors and Co-Morbidities	▪ Illness-related demands ▪ Severity of symptoms ▪ Alcohol and other substance abuse ▪ Psychiatric illness, including depression
Disease Therapies	▪ High pill burden ▪ Difficult side effects ▪ Complicated regimens ▪ Poor fit between the medication regimen, patient's lifestyle, and eating patterns
Patient-Related Factors	▪ Low literacy or educational level ▪ Poor self-confidence ▪ Lack of confidence in the physician and in the team ▪ Poor understanding of the details of the medication regimen ▪ Beliefs about the disease ▪ Beliefs about the efficacy of the treatment and alternate therapies ▪ Medication fatigue

MANAGING ADHERENCE EFFECTIVELY

Preparing Healthcare Workers for Adherence

Before antiretroviral therapy is introduced, healthcare workers and the system must be ready to manage treatment adherence effectively.

1. The HAART healthcare team (including clinicians, nurses, counsellors, social workers, pharmacists, nutritionists, etc.) must be trained to understand and manage adherence successfully.
2. The team and all other workers who interface with PLWHA must be trained and sensitised to treat them with dignity.
3. Systems must be established for efficient teamwork across disciplines AND also with community-based supports.

Strategies for Managing Adherence

Tables 7 and *8* outline a process for the efficient management of HAART adherence.

Table 7: *Maintaining Adherence–Phase One: Starting Therapy*[7,8]

OBJECTIVE: To take practical measures at the start of treatment therapy to ensure that the patient takes the right medication, in the right dosage, at the right time, and under the right conditions, always.

STRATEGIC ACTIONS:

1. ***ASSESS THE PATIENT'S READINESS FOR HAART. IDENTIFY:***
   - Clinical status and other clinical factors that have a bearing on adherence;
   - Beliefs regarding health, illness, being infected with HIV, and HAART;
   - Attitudes toward medication, HAART, alternate therapies, etc.;
   - Knowledge on HIV/AIDS, living with HIV infection, and HAART; and
   - Elements in his/her lifestyle that may support or hinder adherence.

   See Appendix A for a Sample Patient Adherence Risk Assessment Questionnaire.
2. ***ENGAGE THE PATIENT AS AN ACTIVE AGENT IN OWN THERAPY.***
3. ***EDUCATE THE PATIENT:*** Fill in the gaps in patient knowledge on HIV/AIDS, living with HIV infection, and HAART, etc.
4. ***TAILOR TREATMENT REGIMEN, WHERE POSSIBLE, TO THE PATIENT'S LIFESTYLE AND NEEDS.***
5. ***REVIEW POSSIBLE SIDE EFFECTS AND DEVELOP A CONCRETE PLAN FOR PATIENT/CLINICIAN COMMUNICATION ON ADHERENCE AS THE NEED ARISES.***
6. ***ENCOURAGE THE PATIENT TO UTILISE AT LEAST ONE SUPPORTIVE MEASURE DESIGNED TO FACILITATE TREATMENT ADHERENCE. MEASURES COMMONLY USED IN THE REGION INCLUDE:***
   - A buddy or *accompagnateur:* usually a relative, friend, or community volunteer who completes regular, direct observation and documentation of the patient taking his/her medication. Partners in Health/Zanmi Lasante in rural Haiti is a best practice example.
   - A helper: a well-trained volunteer who 'walks' exclusively with a PLWHA providing comprehensive support, including ensuring adherence. The Samaritan Ministries in the Bahamas is a best practice example.
   - PLWHA support groups can be a source of weekly support sessions.
   - Patient hotlines that are easily contactable for advice, support, and guidance.

Table 8: *Maintaining Adherence–Phase Two: During Therapy*[9,10,11]

OBJECTIVE: To ensure continued patient adherence to the HAART regimen.
STRATEGIC ACTIONS: ***1. AT REGULAR INTERVALS, AT LEAST AT EVERY CLINIC VISIT, DETERMINE PATIENT'S CAPACITY TO ADHERE TO THERAPY BY REVIEWING ADHERENCE RECORD. THE SHORTER THE PERIOD BETWEEN MONITORING SESSIONS, THE BETTER THE POSSIBILITY OF ACCURATE MONITORING REVIEWS. SOME USEFUL APPROACHES INCLUDE:*** ▪ Patient self-reporting: provide a treatment record form that the patient completes daily and submits for review at each clinic visit. ▪ Pharmacy logs are useful if the patient refills prescriptions at one pharmacy. ▪ Directly observed therapy (DOT) and documentation by a trained relative, friend, or community volunteer is a reliable method for monitoring, as well as supporting, treatment adherence. ***2. ADJUST TREATMENT REGIMEN, IF NECESSARY.*** ***3. REINFORCE VALUE OF ADHERENCE WITH EACH VISIT:*** ▪ Keep client informed of CD4+ T cell count and viral load response to treatment. ▪ Continue to reinforce the role of exact HAART adherence in maintaining client's improved health status.

Again, high-level adherence to HAART is entirely possible, but it takes proper clinical management and a trusting provider-patient relationship-–both of which demand that the clinician and other team members assume a comprehensive role, beyond that solely of providers of medication and of clinical services.[12]

HIV PREVENTION IN CARE AND SUPPORT SETTINGS: THE PUBLIC HEALTH BENEFIT

BACKGROUND

Three new developments in the response to HIV/AIDS are coming together to create new opportunities for HIV prevention: 1) several countries' willingness to adopt widespread voluntary confidential counselling and testing (VCT) for HIV; 2) the increasing availability of affordable and supervised antiretroviral therapy; and 3) the emphasis on HIV prevention counselling and support targeted for the HIV-infected person, as summarised in recently released guidelines[13]. This section will discuss VCT and methods to include preventive approaches in HIV care and support programmes.

Knowing one's HIV status in order to institute appropriate self-care, access medical treatment, and protect others is always important. Now, however, more attention is being paid to improving care and treatment of PLWHA. Because HAART is becoming more available and affordable, it is vital to persuade members of the public, particularly adolescents and adults, to ascertain their HIV serostatus. In this regard, the expansion of HIV VCT training and services in the Caribbean and elsewhere is timely.

With respect to prevention in care and support settings, it is recommended to strengthen the following approaches and their regular use by healthcare workers in the Caribbean:

- ✓ Screening HIV-infected patients for risk behaviours
- ✓ Identifying and treating other sexually transmitted infections (STIs)

- ✓ Positively reinforcing changes to safer behaviours
- ✓ Referring patients for associated services as necessary (e.g. substance abuse treatment)
- ✓ Communicating prevention messages to the client
- ✓ Facilitating partner notification, counselling, and testing

It is clear that the successful adoption of these approaches will require changes in current policy and practice at points of service delivery. For example, health managers will have to reassess how services are organised. Creating confidential spaces in clinics or offices may be necessary to bring new categories of workers into the team and to improve the flow of confidential information between front-line staff and the broader public health team. Practitioners may need to upgrade their skills in regard to prevention, and some will need to learn entirely new skills. As policies and programmes gain momentum, healthcare practitioners will be privy to a larger amount of private information, which needs to be handled with maximum discretion.

In a busy fee-for-service-type practice or in an overflowing public clinic, primary caregivers may find it challenging to incorporate many (if any) of these approaches into their work. Ideally, however, it is key that every team member portray genuine interest in the incorporation of prevention into care. A reasonable practical approach is to *recognise the need in this area*, *determine how much the caregiver can contribute*, *have a list of referral resources close at hand,* and *put the client into contact with other team members who can address the preventive issues*. Training programmes must be instituted to aid healthcare workers in improving relevant skills and in boosting their own confidence levels.

Actual recommendations challenge the dichotomy that often exists between public health and 'real-life' medical practice. After all, who is more influential in the eyes of the client than his/her professional caregiver, and who is therefore best-suited to deliver messages about safety? In addition, there is evidence that brief, provider-delivered counselling messages, which can be delivered within the context of a clinical encounter, can have a measurable effect on patient behaviour.[14]

To date, there are no published data from the Caribbean on practices such as screening and assessment of behavioural risk or prevention counselling for HIV-infected persons. Few professional counsellors or social workers are employed in health services in this part of the world. Anecdotal reports suggest that few doctors, nurses, or pharmacists spend any time in preventive counselling or behavioural risk assessment related to any disease, including HIV. In an unpublished study among Jamaican doctors, more than 60% admitted their need to be trained in personal and family counselling.[15] In another recent study, sixty-four of eighty-nine pharmacists and pharmacy technicians admitted that no general counselling about HIV/AIDS took place at their pharmacies.[16]

Data from the United States indicate that approximately one-third of HIV-infected patients report that their providers have never counselled them about HIV prevention; in some settings, as many as three-quarters of HIV medical care providers do not ask about sexual behaviour and as many as half do not ask about recreational drug use.[17] Apart from lack of time, as mentioned above, many practitioners confess discomfort in raising personal matters, such as sex, with their patients. Recognising and acknowledging such obstacles, however, are the first steps toward positive change. The practical notes below are written against this background.

WAYS TO INCORPORATE PREVENTIVE STRATEGIES INTO HIV/AIDS CARE AND SUPPORT PROGRAMMES

1. Screening Patients for Risk Behaviours

Ideally, a brief history should be taken at each regularly-scheduled clinic visit to ascertain the patient's sexual and drug-using behaviour; understanding of HIV transmission; and symptoms of an STI, such as urethral or vaginal burning or discharge, dysuria, genital or anal ulcers, lower abdominal pain, or intermenstrual bleeding in women. It is often necessary for the healthcare worker to build rapport with

the patient before he/she will disclose details about risky behaviour. In addition, in a team setting, one or more persons can interface with the patient in order to obtain a complete history. Questionnaires may be useful in capturing such personal information, and can be given to the patient while he/she is waiting to be seen (literacy level permitting). Research suggests that patients may provide more honest and detailed responses to questionnaires not administered face-to-face. In this area of history-taking, it has been shown, not surprisingly, that healthcare workers who have been trained to discuss sensitive sexual and drug-using issues are likely to perform better than those who have not had such training. In reference to HIV risk assessment, depending on the comfort levels of both the provider and the patient, either open- or close-ended questions can be used. Examples of each are provided in *Table 9.*

Table 9: *Sexual History-Taking: Examples of Open- and Closed-Ended Questions*[*]

Open-Ended Questions
What do you know about HIV transmission?
What, if anything, are you doing that could result in transmitting HIV to another person?
Tell me about any sexual activity since your last clinic visit.
What do you know about the HIV status of each sex partner?
Tell me about condom use during any sexual activity.
Tell me about any drug use or needle sharing since your last clinic visit.
Closed-Ended Questions
Do you know the facts about how HIV is and is not transmitted?
Have you had sex (vaginal, anal, or oral) with any partner since your last clinic visit?
For each of your partners, do you know if he or she has HIV infection, doesn't have HIV infection, or are you not sure?
Did you use a condom every time, from start to finish of each sexual encounter?
Have you shared drug injection equipment (including needles, syringes, cotton, cookers, water) with anyone?

[*]***Note:*** *Symptoms of STIs (e.g. urethral or vaginal burning or discharge, dysuria, genital or anal ulcers, intermenstrual bleeding, or lower abdominal pain among women) are asked in a closed-ended format, regardless of behavioural question format.*

Medical and Laboratory Screening

Symptoms or signs of STIs or known or suspected exposure to STIs should prompt immediate physical and laboratory examinations. However, because STIs are often present without symptoms, every patient should be screened for laboratory evidence of syphilis, trichomonads (women only), gonorrhoea, and chlamydia at the initial visit and then at least annually.

Co-infection with HIV and certain strains of human papillomavirus (HPV) can increase the occurrence and accelerate the clinical course of cervical cancer. Therefore, all HIV-positive women should be screened at frequent intervals with Papanicolau smears. Current guidelines suggest that Pap smears be performed every six months for HIV-infected women, though clinically asymptomatic women who have CD4+ T cell counts >200 cells/mm^3 and who have had two normal Pap smears may be screened annually.

Some experts also recommend type-specific testing for herpes simplex virus (HSV) type 2 because of its association with a higher risk of HIV transmission and possible need for enhanced counselling. However, this test is not commonly available in the Caribbean.

More frequent screening for STIs is appropriate with evidence or suspicion of high-risk sexual behaviour (e.g. sex with a new partner, sexual activity without consistent and correct condom use, or change in intimate partners); however, there are no data to guide the precise frequency. More frequent screening might also be appropriate in asymptomatic men who have sex with men (MSM) and younger women because of a higher STI prevalence among these demographic groups. Where it is known, the local prevalence of these infections should help to guide the frequency of screening.

Note: In some parts of the Caribbean, not all of these laboratory tests are available routinely. However, taking cost and cost-benefit into account, it may be prudent to build such laboratory capacity over time. In places where access to the laboratory is limited or whenever there is a risk of further spread of STIs, it is practical and recommended by the Caribbean Epidemiology Centre (CAREC) and the Pan-American Health Organisation (PAHO) to use a syndromic approach to the treatment of STIs.

2. Communicating Prevention Messages to the Client

Face-to-face talks, audio and videotapes, literature, and drama are among the methods that can be used to communicate prevention messages in clinical settings. The principles of reinforcement of safe behaviour include giving consistent and unambiguous messages; using "teachable moments"; using familiar and/or attractive media; speaking in the "heart language" of the recipient; and pitching the message at a level appropriate to the recipient. Guided discussions with groups of patients can be an effective way of reinforcing behavioural messages and addressing genuine queries. Pictures or charts are useful both for the literate and for the less literate; in situations where recipients are unable to read, leaflets with text messages are relatively useless. Moreover, multimedia approaches, including wall posters, can help to reinforce practical messages in the setting of an HIV/STI clinic. Please take caution, however, in regard to overkill or message fatigue.

It is vital to evaluate the impact of each method and to put it into the context of the patient's everyday life when he/she is away from the clinic environment. Competing messages and other needs and drives can hinder the success of transient education messages. From another perspective, it would be ideal if messages given directly and indirectly in the popular mass media are consonant with the messages given by healthcare workers.

A practical way to encourage or reinforce prevention messages is to highlight choices and potential consequences of these choices, including abstinence, mutual fidelity, and the use of barrier methods such as condoms. Many authorities recommend that condoms should be freely available at all HIV/STI points of service.

3. Contact Tracing and Partner Notification

In some countries, the practices of confidential contact tracing and partner notification are used along with other methods of tracking and attempting to curb the spread of HIV and some other STIs. Consistent application of these methods is believed to augment other preventive approaches. However, carefully designed studies are still needed to confirm the added value of contact tracing in the prevention of the spread of HIV.

The practice of partner notification of HIV infection is humane and is to be encouraged. In several parts of the United States, notification of partners is required by law; in Jamaica, health practitioners are asked to provide a confidential list of the names and addresses of patients' sexual partners. The responsibility for notifying partners can be given to the patient, but many patients hesitate for fear of rejection or reprisal, and notification is delayed in some instances when patients struggle with denial of the diagnosis. It is not clear from the literature whether a single notification is sufficient to convince the partner of an HIV-infected person.

4. PLWHA as Health Promoters

Now that groups or networks of PLWHA are becoming stronger in the Caribbean, it has been suggested that some of these persons may be highly effective preventive counsellors at points of service delivery,

without necessarily divulging their serostatus. A few Caribbean countries are starting to pilot test this idea. Early results are very encouraging and should be immediately promoted by the Caribbean Regional Network of People Living with HIV/AIDS (CRN+).

Note: *There are definite limitations to the delivery of optimal care to every patient and family living with HIV/AIDS, more so in resource-limited settings. For this reason, continued advocacy for improvements in equipment, supplies, services (including self-help initiatives), education, and the alleviation of poverty will continue to be crucial to improving the management of PLWHA.*

CLINICAL CONSULTATION RESOURCES FOR THE CARIBBEAN

CHART INITIATIVE

The Caribbean HIV/AIDS Regional Training (CHART) network serves the region from national training sites in the Bahamas, Barbados, Haiti, and Jamaica. Later expansion to Trinidad & Tobago and other sites is planned. The CHART Regional Coordinating Unit is located on the Mona Campus of the University of the West Indies in Kingston, Jamaica.

In addition to establishing centres for the ongoing training and development of healthcare workers, the CHART initiative seeks to:

- Ensure that transfer of knowledge and technologies support the building of indigenous Caribbean capacity to sustain training competence and responsibility within Caribbean regional and local institutions; and
- Serve as a coordinating body and focal point for promoting the unique training needs and resources of the Caribbean region.

CHART's website is located at http://www.chartcaribbean.org.

CLINISERVE

A free, on-line forum sponsored by CAREC for exchanging clinical information on HIV/AIDS in the Caribbean. Anyone may register by sending a registration e-mail request to http://cliniserve@carec.net.

WEBSITES

Clinician-Oriented

www.chartcaribbean.org: Website of the Caribbean HIV/AIDS Regional Training Network.

www.carec.paho.org: Website of the Caribbean Epidemiology Centre.

www.aidsinfo.nih.gov: Offering information on HIV/AIDS treatment, prevention, and research, including care and treatment guidelines commonly used in the U.S. Sponsored by the U.S. Department of Health and Human Services and the National Institutes of Health.

http://hivinsite.ucsf.edu: Comprehensive, up-to-date information on HIV/AIDS treatment, prevention, and policy from the University of California San Francisco School of Medicine.

www.hivwebstudy.org: Interactive, case-based training modules related to the clinical care of HIV-infected persons. Sponsored by the University of Washington and the Northwest AIDS Education and Training Center.

www.hopkins-aids.edu: Website of the Johns Hopkins AIDS Service.

www.medscape.com: A large, continuously-updated clinical knowledge base available to physicians and health professionals.

www.emedicine.com: Another large, continuously-updated clinical knowledge base available to physicians and health professionals.

www.cdc.gov: Website of the U.S. Centers for Disease Control and Prevention.

www.paho.org: Website of the Pan-American Health Organisation.

www.who.int: Website of the World Health Organisation.

Patient-Oriented

www.aidsmeds.com: Dedicated to providing people living with HIV the necessary information they need to make empowered treatment decisions. The founder and some of the writers of this website are living with HIV.

www.thebody.com: A service of Body Health Resources Corporation, The Body's mission includes using the Web to lower barriers between patients and clinicians, demystifying HIV/AIDS and its treatment, improving patients' quality of life, and fostering community through human connections.

APPENDIX A: SAMPLE PATIENT ADHERENCE RISK ASSESSMENT QUESTIONNAIRE

Patient ID_____ Visit: □ Baseline □ 1 month □ 3 months □ 6 months
Date of Visit_____

The purpose of this questionnaire is to collect information on factors that affect your ability to take your antiretroviral medicines as prescribed; to assess how best to measure your adherence, and to develop strategies to assist you better with taking your medications exactly as prescribed.

SECTION A: Socio-Demographic

1. **Sex:** □ Male □ Female

2. **Age in years:** □ 18-19 □ 20-30 □ 31-40 □ 41-50 □ over 51

3. **Address:**

4. **Do you live:** □ Alone □ with Family □ with Friends □ Other

5. **Where you live:**

5a. **How many people live in the house including you?**

□ less than 3 □ 3 to 6 □ 7 to 9 □ more than 10

5b. **How many bedrooms are there in the house?**

□ 1 □ 2 □ 3 □ more than 3

5c. **Is your water supply source:**

□ Piped into house □ A stand pipe □ Other

If Other, please specify:_____

5d. **Is there electricity in your house?**

□ Yes □ No

6. **Are you employed?** **□Yes** **□ No**

If Yes: **□ Part-Time** **□ Full-Time**

7. **What is your average weekly income? (include pension, public assistance, support from family/friends, etc.)**

□ less than $200 □ $200-$499 □ $500- $799
□ $800-$1,000 □ more than $1,000

8. **How long has it been since you were diagnosed with HIV infection?**

□ less than 1 year □ 1-3 years □ 4-6 years □ more than 6 years

9. **Have you had HIV-related previous hospitalisations?** □ Yes □ No

If Yes, what year?_____

If Yes, please specify the reason for hospitalisation:_____

Patient ID_____ Visit: □ Baseline □ 1 month □ 3 months □ 6 months
Date of Visit_____

10. *To be completed by a physician:*

Physician's clinical staging:_____

	CD4+ T Cell Count Category 1	CD4+ T Cell Count Category 2	CD4+ T Cell Count Category 3
Clinical Category A			
Clinical Category B			
Clinical Category C			

SECTION B: Psychosocial History

11. Is your family aware of your HIV status?

□ Yes □ No □ Don't Know

12. Are your friends aware of your HIV status?

□ Yes □ No □ Don't Know

12a. If Yes and you are taking antiretroviral medication, do they help you take your medication?

□ A lot □ Somewhat □ A little □ Never □Not applicable

13. Have you ever been treated for a psychiatric illness?

□ Yes □ No

If Yes, please specify:_____

14. In the past four (4) weeks, have you been unable to cope with all the things you need to do?

□ Never □ Sometimes □ Often □ Always

15. In the past four (4) weeks, have you felt down (depressed)?

□ Never □ Sometimes □ Often □ Always

16. If you are feeling down (depressed), is there someone you can talk to?

□ Yes □ No

16a. If Yes, is he/she (check as many as apply):

□ A family member □ A friend
□ A colleague at work □ A member of a support group
□ A doctor □ A nurse
□ A social worker □ Another member of the healthcare team
□ Other, please specify_____

16b. If you have no one to talk to, what do you do to relieve stress or when you have a problem?_____

17. How often do you drink alcohol?

□ Daily, more than 3 drinks
□ Daily, less than 3 drinks
□ Weekly, less than 5 drinks

18. How often do you smoke cigarettes?

□ Regularly, more than 5 cigarettes/day
□ Regularly, less than 5 cigarettes/day
□ Occasionally

□ Rarely/Occasionally
□ Never

□ Never

19. Do you smoke marijuana?

□ Regularly, more than 5 cigarettes/day
□ Regularly, less than 5 times/day
□ Occasionally
□ Never

20. Do you use crack/cocaine?

□ Regularly, more than 5 times/day
□ Regularly, less than 5 times/day
□ Occasionally
□ Never

SECTION C: HIV Knowledge

		YES	NO	DON'T KNOW
21.	**Do you understand the difference between HIV and AIDS?**	( )	( )	( )
	If Yes, please explain:_____			
22.	**Do you know what a CD4+ T cell count measures?**	( )	( )	( )
	If Yes, please explain_____			
23.	**Do you know what viral load measures?**	( )	( )	( )
	If Yes, please explain_____			
24.	**Do you know how antiretrovirals work?**	( )	( )	( )
	If Yes, please explain_____			

25. The following statements are attempts to capture your knowledge and beliefs about taking antiretroviral medicines.

		Strongly Agree	Agree	DK	Disagree	Strongly Disagree
25a.	**I have to take them for the rest of my life.**	( )	( )	( )	( )	( )
25b.	**Some antiretrovirals have to be taken on an empty stomach and others may be taken with food.**	( )	( )	( )	( )	( )

Patient ID_____ Visit: □ Baseline □ 1 month □ 3 months □ 6 months
Date of Visit_____

		Strongly Agree	Agree	DK	Disagree	Strongly Disagree
25c.	**The time at which the medication is taken will influence its effectiveness.**	( )	( )	( )	( )	( )
25d.	**Missing doses and/or taking them late or incorrectly will determine if the treatment works.**	( )	( )	( )	( )	( )
25e.	**For my medicine to work best, I should not miss a dose, nor take it late or incorrectly.**	( )	( )	( )	( )	( )
25f.	**Drug resistance develops when my antiretrovirals are missed and/or taken late or incorrectly.**	( )	( )	( )	( )	( )

SECTION D: Antiretroviral Adherence Barriers

26. Which of the following reasons represent or would represent a major problem to you when you are taking medication? (multiple responses are allowed)

□ Number of pills
□ Fear of side effects
□ Having side effects
□ Frequency of dosing
□ Interference with daily schedule
□ Privacy to take medication not available
□ Fear of disclosure of HIV status
□ Other Please specify:_____

APPENDIX B: EPIDEMIOLOGY AND REPORTING OF HIV IN THE CARIBBEAN

HIV/AIDS IN THE CARIBBEAN REGION

The Caribbean has the highest incidence of reported AIDS cases in the Americas.[18] With approximately 350,000 to 590,000 PLWHA, the region has an adult HIV prevalence rate of between 1.9% and 3.1%, second in the world only to Africa's 7.5% to 8.5%. The most recent national estimates show HIV prevalence among pregnant women reaching or exceeding 2% in eight Caribbean countries: the Bahamas, Belize, the Dominican Republic, Guyana, Haiti, St. Lucia, Suriname, and Trinidad & Tobago. Haiti and the Dominican Republic account for more than 79% of all Caribbean PLWHA.

HIV/AIDS IN CAREC MEMBER COUNTRIES

Between 99,000 and 121,000 PLWHA live in CAREC member countries (CMCs). From 1982 to the end of 2002, the cumulative total of AIDS cases occurring in CAREC's twenty-one member countries is estimated to be between 30,000 and 35,000. Between 1991 and 2002, the AIDS incidence in CMCs increased almost four-fold, up from an estimated 13.6 per 100,000 in 1991 to 54.32 per 100,000 in 2002.

AGE GROUP DISTRIBUTION

The epidemic is becoming more prevalent among younger age groups. Seventy-three percent of those diagnosed with AIDS are between the ages of fifteen and forty-four, and AIDS is now the leading cause of death among this age group. Close to 50% of AIDS diagnoses occur in individuals age twenty-five to thirty-four.

GENDER DISTRIBUTION

Among AIDS cases in general, there is a predominance of males compared to females (ratio: 2:1); however, young women are particularly vulnerable. Among women age fifteen to twenty-four, the annual incidence of HIV is three to six times higher than in males of the same age. Moreover, several seroprevalence surveys among pregnant women in this age group reveal rates that are double the national average.

CATEGORIES OF TRANSMISSION

The predominant mode of HIV transmission is sexual (76%), with heterosexual transmission representing 65% of total transmissions by the end of 2002. Transmission through male-to-male sexual contact has been declining since the beginning of the epidemic and now represents only 11% of the total reported AIDS cases. However, it is believed that because of the strong social, cultural, and legal discrimination against MSM and bisexuals, these transmission risk factors are underreported. It may also be true that some report such transmissions as "unknown", resulting in an increase of 16% to 40% in this category.

Transmission through intravenous drug use (IVDU) is low, ranging from 0% to 2%, except in Bermuda, where IVDU represented 33.5% of reported AIDS cases in 2002. Rates of HIV transmission through blood and blood products have been constant at 0.30% from 1992 to 2002, thanks to the implementation of systematic blood screening and the application of universal precautions by healthcare personnel.

Mother-to-child transmission (MTCT) now accounts for 6% of reported AIDS cases.

The "unknown" category of transmission accounts for approximately 16% of the total cumulative AIDS cases reported by CMCs. This varies from country to country, and in some, this figure represents 40% of AIDS cases.

HIV PREVALENCE AMONG PATIENTS WITH TUBERCULOSIS (TB), 1997-2002

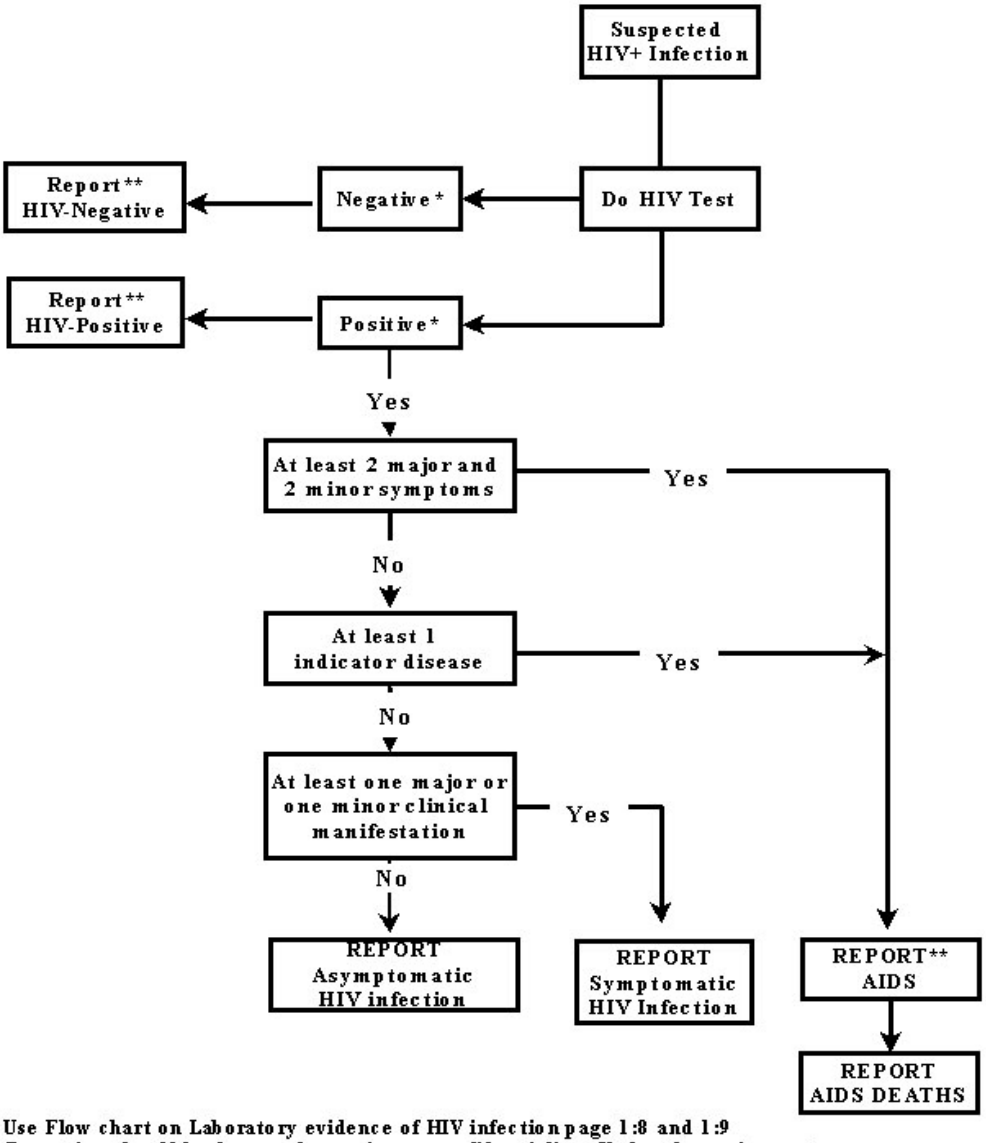
The TB epidemic is fast growing in CMCs and the incidence rate between 1997 and 2002 increased steadily from 200 to between 1,000 and 1,200 cases per year from 1998 to 2002. Between 1997 and 2002, a cumulative total of 5,025 TB cases were reported. Of these, 2,962 underwent HIV testing (58.9%), and 785 were HIV-positive, reflecting an overall seroprevalence rate of 26.4%. Individual country situational analyses show that declining rates of HIV prevalence among TB patients are being observed in the Bahamas, in contrast to Belize, Guyana, Jamaica, Suriname, and Trinidad & Tobago, in which increasing trends are observed.

Although the number of TB patients tested for HIV antibodies increased between 1997 and 2000, testing declined during 2001 and 2002. CMCs should strive to test at least 80% of TB patients for HIV antibodies on annual basis, and all such patients must have access to counselling. In addition to improving patient management, testing would facilitate a better understanding of the epidemiological pattern of HIV/TB co-infection in the Caribbean.

HIV SUBTYPING AND ARV RESISTANCE SURVEILLANCE AND MONITORING

In 2002, CAREC collaborated with University College London to conduct an HIV molecular survey involving ten CMCs: Antigua & Barbuda, Dominica, Grenada, Guyana, Montserrat, St. Kitts & Nevis, St. Lucia, St. Vincent & the Grenadines, Suriname, and Trinidad & Tobago. The survey found no drug resistant HIV strains in the region and identified Subtype B as the most predominant strain of HIV-1, which is also the most common subtype in North America and Western Europe. HIV 1 Subtype C was also isolated in St. Lucia. A 2003 study in Barbados uncovered a single viral strain that harboured resistance to zidovudine (AZT), zalcitabine (ddC), and didanosine (ddI).

HIV/AIDS REPORTING ALGORITHM



* Use Flow chart on Laboratory evidence of HIV infection page 1:8 and 1:9
** Reporting should be done under optimum confidentiality. Under those circumstances name or code can be used for reporting purposes.
– AIDS deaths should be reported as required by National Reporting System.

APPENDIX C: CAREC HIV/AIDS CASE DEFINITIONS AND CLASSIFICATION SCHEMES

Case definitions assist the clinician in making a diagnosis according to standardised criteria and are needed as a basis for management and reporting.

CAREC CASE DEFINITION FOR HIV INFECTION

ADULTS

The diagnosis of HIV infection is generally based on a positive HIV antibody test (ELISA, rapid test), confirmed by a second test using a different principle. In case of a discrepancy, a third test is done using another antibody test (ELISA, IFA, WB) or by demonstration of viral material (PCR, p24-Ag test).

The first test should be repeated in case of inconclusive results or of an initially nonreactive result in a patient with symptoms strongly suggestive of HIV-related disease.

CHILDREN

In cases of HIV-positive mothers, their children may carry maternal antibodies for up to eighteen months. In order to make a definitive diagnosis of HIV infection, viral material needs to be demonstrated by, for instance, PCR and p24-Ag test. Such a test should be carried out at least twice, at ages one month and four months. The HIV infection is confirmed by the PCR at age four months. In the absence of such facilities, HIV infection in infants born to HIV-infected mothers is defined as the persistence of HIV antibodies beyond age eighteen months. Antibody testing in the absence of breastfeeding should be carried out every three to six months until two consecutive negative results; or, infection is ruled out by two consecutive nonreactive antibody tests to age eighteen months. In the special case that a nonreactive infant has been exposed to breastmilk, testing of that child should be extended beyond the eighteen months.

CAREC CASE DEFINITION FOR AIDS

ADULTS AND ADOLESCENTS (AGE 13 YEARS AND OLDER)

A confirmed case of AIDS is defined as an individual, age thirteen years or older, who, in the absence of other known causes of immunosuppression (see *Table 10*) has a repeatedly positive screening test for HIV by an enzyme-linked assay (ELISA) together with at least **two major signs** and at least **one minor sign** or at least **one indicator disease.** Additionally, any HIV-infected adult or adolescent with an absolute CD4+ T cell count of <200 cells/mm^3 is defined as having AIDS, even if that individual is asymptomatic.

Major Signs:

- Involuntary weight loss of >10% of baseline body weight
- Chronic diarrhoea with at least two loose stools per day for more than thirty days
- Intermittent or constant fever for more than thirty days

Minor Signs:

- Persistent cough for more than thirty days
- Generalised pruritic dermatitis
- Herpes zoster (HZV), multidermatomal
- Oropharyngeal candidiasis
- Generalised lymphadenopathy

Indicator Diseases:

- Bacterial pneumonia, recurrent (at least two episodes per year)
- Cancer, cervical, invasive
- Candidiasis of bronchi, trachea, or lungs

- Candidiasis, oesophageal
- Coccidioidomycosis, disseminated or extrapulmonary
- Cryptosporidiosis, chronic intestinal for more than thirty days
- Cytomegalovirus disease (CMV) (other than liver, spleen, or nodes)
- CMV (with loss of vision)
- Encephalopathy with no other cause
- Herpes simplex (HSV): chronic ulcer(s) for more than thirty days; or bronchitis, pneumonitis, or oesophagitis
- Histoplasmosis, disseminated or extrapulmonary
- Isosporiasis, chronic intestinal for more than thirty days
- Kaposi's sarcoma (KS) if under age sixty
- Lymphoma, Burkitt's
- Lymphoma, immunoblastic
- Lymphoma, primary of brain under age sixty (or over age sixty)
- *Mycobacterium avium* complex (MAC) or *M. kansasii*, disseminated/extrapulmonary
- TB, any site (pulmonary or extrapulmonary)
- *Pneumocystis jivoreci* pneumonia (PCP)
- Progressive multifocal leukoencephalopathy (PML)
- Toxoplasmosis of brain (or of internal organ)
- Non-typhoid *Salmonella* septicaemia, recurrent
- Wasting syndrome (defined as ALL of major signs)
- Cryptococcosis, extrapulmonary
- Nocardiosis
- Strongyloidiasis, extra-intestinal

INFANTS AND CHILDREN (LESS THAN AGE 13 YEARS)

A confirmed case of AIDS is defined as an individual less than age thirteen years, who, in the absence of other known causes of immunosuppression (see *Table 10*), has a repeatedly positive screening test for HIV by ELISA together with at least **two major signs** AND at least **two minor signs** or at least **one indicator disease.**

Major Signs:

- Weight loss of >10% of baseline or failure to thrive
- Chronic diarrhoea with at least two loose stools per day for more than thirty days
- Intermittent or constant fever for more than thirty days

Minor Signs:

- Generalised lymphadenopathy
- Oropharyngeal candidiasis
- Repeated common infections (otitis, pharyngitis, etc.)
- Persistent cough
- Generalised dermatitis
- Confirmed maternal HIV infection

Indicator Diseases:*

- Chronic (persisting over two months) lymphoid interstitial pneumonitis
- Bacterial infections, unexplained, serious, recurrent (more than two in a two-year period), including sepsis, meningitis, pneumonia, abscess of an internal organ, and bone/joint infections

*For diagnosis of these conditions, please refer to *Table 11.*

- Candidiasis of bronchi, trachea, or lungs
- Candidiasis oesophageal
- Coccidioidomycosis, disseminated or extrapulmonary
- Cryptococcosis, extrapulmonary
- Cryptosporidiosis, chronic intestinal for more than thirty days
- CMV infection with onset after six months
- HSV infection, disseminated, with onset after one month of age
- Histoplasmosis, disseminated or extrapulmonary
- Isosporiasis, chronic intestinal for more than thirty days
- KS
- Lymphoma, Burkitt's
- Lymphoma, immunoblastic
- Lymphoma primary of brain
- TB, any site
- PCP
- PML
- Toxoplasmosis, disseminated, with onset after age one month

CAREC CLASSIFICATION OF HIV INFECTION IN ADOLESCENTS AND ADULTS

The determination of the stage of the disease and the monitoring of its progress over time are important to guide clinical management. Two classification systems have been proposed; the first can be applied in settings without facilities for measuring CD4+ T cell counts:

GROUP I: ACUTE HIV INFECTION

A mononucleosis-like syndrome, with or without aseptic meningitis, associated with seroconversion for HIV antibody. Antibody seroconversion is required as evidence of initial infection; current viral isolation procedures are adequately sensitive to be relied on for demonstrating the onset of infection.

GROUP II: ASYMPTOMATIC HIV INFECTION

The absence of signs or symptoms of HIV infection. To be classified in Group II, patients must have had no previous signs or symptoms that would have led to classification in Groups III or IV. Patients whose clinical findings caused them to be classified in Groups III or IV should not be reclassified in Group II if those clinical findings resolve.

GROUP III: PERSISTENT GENERALISED LYMPHADENOPATHY (PGL)

Palpable lymphadenopathy (lymph node enlargement of $\geq$1cm) at two or more extra-inguinal sites persisting for more than three months in the absence of a concurrent illness or condition other than HIV infection to explain the findings.

GROUP IV: OTHER HIV DISEASE

The clinical manifestations of patients in this group may be designated by assignment to one or more subgroups (A through E) listed below. Within Group IV, subgroup classification is independent of the presence or absence of lymphadenopathy. Each subgroup may include patients who are minimally symptomatic as well as patients who are severely ill. Increased specificity for manifestations of HIV infection, if needed for clinical purposes, research purposes, or disability determinations, may be achieved by creating additional divisions within each subgroup.

> ***Subgroup A: Constitutional Disease.*** One or more of the following: fever persisting more than one month, involuntary weight loss of >10% of baseline, or diarrhoea persisting more than one

month; and, the absence of a concurrent illness or condition other than HIV infection to explain the findings.

Subgroup B: Neurologic Disease. One or more of the following: dementia, myelopathy, or peripheral neuropathy; and, the absence of a concurrent illness or condition other than HIV infection to explain the findings.

Subgroup C: Secondary Infectious Diseases. The diagnosis of an infectious disease associated with HIV infection and/or at least moderately indicative of a defect in cell-mediated immunity. Patients in this subgroup are further divided into two categories:

> ***Category C-1.*** Includes patients with symptomatic or invasive disease due to one of twelve specified secondary infectious diseases listed in the surveillance definition of AIDS (this subgroup includes patients with one or more of the specified infectious diseases listed among the indicator diseases).
>
> ***Category C-2.*** Includes patients with symptomatic or invasive diseases due to one of six other specified secondary infectious diseases: oral hairy leukoplakia, multidermatomal HZV, recurrent *Salmonella* bacteraemia, nocardiosis, TB, or oral candidiasis (thrush).

Subgroup D: Secondary Cancers. The diagnosis of one or more kinds of cancer known to be associated with HIV infection: KS, non-Hodgkin's lymphoma (small, noncleaved lymphoma or immunoblastic sarcoma), or primary lymphoma of the brain.

Subgroup E: Other Conditions in HIV Infection. The presence of other clinical findings or diseases not classifiable above, which may be attributed to HIV infection and/or may be indicative of a defect in cell-mediated immunity.

CDC HIV/AIDS CLASSIFICATION SCHEME

Where CD4+ T cell count testing is routinely available, some clinicians may find it useful to classify HIV disease using the CDC classification system. Using this system, an HIV-infected individual's status is designated by a letter (A, B, or C) that corresponds to his/her most advanced clinical status, followed by a number (1, 2, or 3) that corresponds to his/her nadir CD4+ T cell count, as outlined below:

	Clinical Status*		
NADIR CD4+ T CELL COUNT	**A**	**B**	**C**
>500 cells/mm^3	A1	B1	C1
200-500 cells/mm^3	A2	B2	C2
<200 cells/mm^3	A3	B3	C3

**Clinical Status Key:*

A. Asymptomatic, PGL, or acute HIV infection

B. Having had symptoms judged to be attributable to HIV infection, but not an AIDS indicator disease

C. Having had an AIDS indicator disease, as outlined above.

The boxes highlighted in red denote individuals classified as having AIDS, based on the presence of an AIDS indicator disease or an absolute CD4+ T cell count of <200 cells/mm^3.

Table 10: *Other Known Causes of Immunosuppression*

- Systemic corticosteroid therapy
- Other immunosuppressive or cytotoxic therapy
- Cancer of lymphoreticular or histiocytic tissue such as lymphoma (except for lymphoma localised to the brain, Hodgkin's disease, lymphocytic leukaemia, or multiple myeloma)
- Age under twenty-eight days (neonatal) at diagnosis
- Age under six months at diagnosis
- An immunodeficiency atypical of AIDS, such as one involving hypogammaglobulinaemia or angioimmunoblastic lymphadenopathy, or an immunodeficiency of which the cause appears to be a genetic or developmental defect rather than HIV infection
- Exogenous malnutrition (starvation due to food deprivation, not malnutrition due to malabsorption or illness)

Table 11: *Diagnostic Methods for Indicator Diseases of AIDS*

Cryptosporidiosis	Microscopy (histology or cytology)
Isosporiasis	Microscopy (histology or cytology)
KS	Microscopy (histology or cytology)
Lymphoma	Microscopy (histology or cytology)
PCP	Microscopy (histology or cytology)
PML	Microscopy (histology or cytology)
Toxoplasmosis	Microscopy (histology or cytology)
Candidiasis	Gross inspection by endoscopy or autopsy or by microscopy (histology or cytology) on a specimen obtained directly from the tissues affected, not from culture
Coccidioidomycosis	Microscopy (histology or cytology), culture, or detection of antigen in a specimen obtained directly from the tissues affected or a fluid from those tissues
Cryptococcosis	Microscopy (histology or cytology), culture, or detection of antigen in a specimen obtained directly from the tissues affected or a fluid from those tissues
CMV	Microscopy (histology or cytology), culture, or detection of antigen in a specimen obtained directly from the tissues affected or a fluid from those tissues
HSV	Microscopy (histology or cytology), culture, or detection of antigen in a specimen obtained directly from the tissues affected or a fluid from those tissues
MAC	Culture
Recurrent Bacterial Infection	*M. tuberculosis* or smear, histology
HIV Encephalopathy	Clinical findings of disabling cognitive or motor dysfunction interfering with occupation of activities of daily living, progressing over weeks to months, in the absence of a concurrent illness or condition other than HIV infection that could explain the findings. Methods to rule out concurrent illness and conditions must include cerebrospinal fluid (CSF) examination and either brain imaging (CT scan, MRI) or autopsy.

APPENDIX D: WHO STAGING SYSTEM FOR HIV INFECTION AND DISEASE IN ADULTS AND ADOLESCENTS

CLINICAL STAGE I
- Asymptomatic
- Persistent generalised lymphadenopathy

Performance Scale 1: Asymptomatic, normal activity

CLINICAL STAGE II
- Weight loss of <10% of body weight
- Minor mucocoetaneous manifestations (e.g. seborrhoeic dermatitis, prurigo, fungal nail infections, recurrent oral ulcerations, angular cheilitis)
- Herpes zoster (HZV) within the last five years
- Recurrent upper respiratory tract infections (e.g. bacterial sinusitis)

Performance Scale 2: Symptomatic, normal activity

CLINICAL STAGE III
- Weight loss of >10% of body weight
- Unexplained chronic diarrhoea for >1 month
- Unexplained prolonged fever (intermittent or constant) for >1 month
- Oral candidiasis (thrush)
- Oral hairy leukoplakia
- Pulmonary TB within the past year
- Severe bacterial infections (e.g. pneumonia, pyomyositis)

Performance Scale 3: Bedridden <50% of the day during the last month

CLINICAL STAGE IV
- HIV wasting syndrome, as defined by the CDC
- *Pneumocystis jiroveci* pneumonia (PCP)
- Toxoplasmosis of the brain
- Cryptosporidiosis with diarrhoea for >1 month
- Cryptococcosis, extrapulmonary
- Cytomegalovirus (CMV) disease of an organ other than liver, spleen, or lymph nodes
- Herpes simplex viral (HSV) infection mucocoetaneous for >1 month or visceral any duration
- Progressive multifocal leukoencephalopathy (PML)
- Any disseminated endemic mycosis (e.g. histoplasmosis, coccidioidomycosis)
- Candidiasis of the oesophagus, trachea, bronchi, or lungs
- *Mycobacterium avium* complex, disseminated
- Non-typhoid *Salmonella* septicaemia
- Extrapulmonary TB
- Lymphoma
- Kaposi's sarcoma (KS)
- HIV encephalopathy as defined by the CDC

Performance Scale 4: Bedridden for >50% of the day during the last month

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