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FY 2012 Medical Nutritional Therapy – Part A
DRAFT (as of 03-15-11)

HRSA Service Category Title:	Medical Nutritional Therapy
Local Service Category Title:	Medical Nutritional Therapy and Nutritional Supplements
Budget Type:	Hybrid
Budget Requirements or Restrictions:	<p>Supplements: An individual client may not exceed \$1,000.00 in supplements annually without prior approval by RWGA.</p> <p>Nutritional Therapy: An individual nutritional education/counseling session lasting a minimum of 45 minutes. Provision of professional (licensed registered dietician) education/counseling concerning the therapeutic importance of foods and nutritional supplements that are beneficial to the wellness and improved health conditions of clients. Medically, it is expected that symptomatic or mildly symptomatic clients will be seen once every 12 weeks while clients with higher acuity will be seen once every 6 weeks.</p>
HRSA Service Category Definition:	Medical nutrition therapy is provided by a licensed registered dietitian outside of a primary care visit and may include the provision of nutritional supplements.
Local Service Category Definition:	<p>Supplements: Up to a 90-day supply at any given time, per client, of nutritional supplements. There are no restrictions on the type of supplements that can be provided, so long as the supplement is prescribed by a State licensed physician or physician assistant (PA). Nutritional counseling must be provided for each disbursement of nutritional supplements.</p> <p>Nutritional Therapy: An individual nutritional education/counseling session lasting a minimum of 45 minutes. Provision of professional (licensed registered dietician) education/counseling concerning the therapeutic importance of foods and nutritional supplements that are beneficial to the wellness and improved health conditions of clients. Medically, it is expected that symptomatic or mildly symptomatic clients will be seen once every 12 weeks while clients with higher acuity will be seen once every 6 weeks. Services must be provided under written order from a state licensed medical provider (MD, DO or PA) with prescribing privileges and must be based on a written nutrition plan developed by a licensed registered dietician.</p>
Target Population (age, gender, geographic, race, ethnicity, etc.):	HIV/AIDS infected persons living within the Houston Eligible Metropolitan Area (EMA) or HIV Service Delivery Area (HSDA).
Services to be Provided:	<p>Supplements: The provision of nutritional supplements to eligible clients with a written referral from a licensed physician or PA that specifies frequency, duration and amount and includes a written nutritional plan prepared by a licensed, registered dietician.</p> <p><i>Nutritional Supplement Disbursement Counseling</i> is a component of <i>Medical Nutritional Therapy</i>. <i>Nutritional Supplement Disbursement</i></p>

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DRAFT (as of 03-15-11)

	<p><i>Counseling</i> is a component of the disbursement transaction and is defined as the provision of information by a licensed registered dietitian about therapeutic nutritional and/or supplemental foods that are beneficial to the wellness and increased health condition of clients provided in conjunction with the disbursement of supplements. Services may be provided either through educational or counseling sessions. Also included in this service are follow up sessions with clients' Primary Care provider regarding the effectiveness of the supplements. The number of sessions for each client shall be determined by a written assessment conducted by the Licensed Dietitian but may not exceed twelve (12) sessions per client per contract year.</p> <p><i>Medical Nutritional Therapy:</i> Service must be provided under written order of a state licensed medical provider (MD, DO, PA) with prescribing privileges and must include a written plan developed by state licensed registered dietician. Client must receive a full range of medical nutritional therapy services including, but not limited to, diet history and recall; estimation of nutrition intake; assessment of weight change; calculation of nutritional requirements related to specific medication regimes and disease status, meal preparation and selection suggestions; calorie counts; evaluation of clinically appropriate laboratory results; assessment of medication-nutrient interactions; and bio-impedance assessment. If patient evaluation indicates the need for interventions such as nutritional supplements, appetite stimulants, or treatment of underlying pathogens, the dietician must share such findings with the patient's primary medical provider (MD, DO or PE) and provide recommendations. Clients needing additional nutritional resources will be referred to case management services as appropriate and/or local food banks.</p> <p>Provider must furnish information on this service category to at least the health care providers funded by Ryan White Parts A, B, C and D and TDSHS State Services.</p>
Service Unit Definition(s):	<p><i>Supplements:</i> One (1) unit of service = a single visit wherein an eligible client receives allowable nutritional supplements (up to a 90 day supply) and nutritional counseling by a licensed dietician as clinically indicated. A visit wherein the client receives counseling but no supplements is <u>not</u> a billable <u>disbursement transaction</u>.</p> <p><i>Medical Nutritional Therapy:</i> An individual nutritional counseling session lasting a minimum of 45 minutes.</p>
Financial Eligibility:	Refer to the RWPC's approved <i>Financial Eligibility for Houston EMA Services</i> .
Client Eligibility:	<i>Nutritional Supplements:</i> HIV-infected and documentation that the client is actively enrolled in primary medical care.

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	<i>Medical Nutritional Therapy:</i> HIV-infected resident and documentation that the client is actively enrolled in primary medical care.
Agency Requirements:	None.
Staff Requirements:	The nutritional counseling services under this category must be provided by a licensed registered dietician. Dieticians must have a minimum of two (2) years experience providing nutritional assessment and counseling to PLWHA.
Special Requirements:	Must comply with Houston EMA/HSDA Part A/B Standards of Care, HHS treatment guidelines and applicable HRSA HAB HIV Clinical Performance Measures.

FY 2012 Service Category Definition - Ryan White Part A
 March 15, 2011

FY 2012 RWPC “How to Best Meet the Need” Decision Process

Step in Process: Council		Date: 06-09-11
Recommendations:	Approved: Y_____ No: _____ Approved With Changes:_____	If approved with changes list changes below:
1.		
2.		
3.		
Step in Process: Steering Committee		Date: 06-02-11
Recommendations:	Approved: Y_____ No: _____ Approved With Changes:_____	If approved with changes list changes below:
1.		
2.		
3.		
Step in Process: Quality Assurance Committee		Date: 05-19-11
Recommendations:	Approved: Y_____ No: _____ Approved With Changes:_____	If approved with changes list changes below:
1.		
2.		
3.		
Step in Process: HTBMTN Workgroup #2		Date: 04-26-11
Recommendations:	Financial Eligibility:	
1.		
2.		
3.		

**2011-2012 HOUSTON ELIGIBLE METROPOLITAN AREA: RYAN WHITE CARE
ACT PART A/B
STANDARDS OF CARE FOR HIV SERVICES
RYAN WHITE GRANT ADMINISTRATION SECTION
HARRIS COUNTY PUBLIC HEALTH AND ENVIRONMENTAL SERVICES (HCPHES)**

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INTRODUCTION

According to the Joint Commission on Accreditation of Healthcare Organization (JCAHO) 2008)¹, a standard is a “statement that defines performance expectations, structures, or processes that must be in place for an organization to provide safe, high-quality care, treatment, and services”. Standards are developed by subject experts and are usually the minimal acceptable level of quality in service delivery. The Houston EMA Ryan White Grant Administration (RWGA) Standards of Care (SOCs) are based on multiple sources including RWGA on-site program monitoring results, consumer input, the US Public Health Services guidelines, Centers for Medicare and Medicaid Conditions of Participation (COP) for health care facilities, JCAHO accreditation standards, the Texas Administrative Code, Center for Substance Abuse and Treatment (CSAT) guidelines and other federal, state and local regulations.

Purpose

The purpose of the Ryan White Part A/B SOCs is to determine the minimal acceptable levels of quality in service delivery and to provide a measurement of the effectiveness of services.

Scope

The Houston EMA SOCs apply to Part A, Part B and State Services, funded HRSA defined core and support services including the following services in FY 2011-2012:

- Primary Medical Care
- Vision Care
- Medical Case Management
- Clinical Case Management
- Local AIDS Pharmaceutical Assistance Program (LPAP)
- Oral Health
- Health insurance
- Hospice Care
- Mental Health Services
- Substance Abuse services
- Home & Community Based Services (Facility-Based)
- Early Intervention Services
- Legal Services
- Medical Nutrition Therapy
- Non-Medical Case Management (Service Linkage)
- Food Bank
- Transportation
- Rehabilitation Services
- Linguistic Services

Standards Development

The first group of standards was developed in 1999 following HRSA requirements for sub grantees to implement monitoring systems to ensure subcontractors complied with contract requirements.

Subsequently, the RWGA facilitates annual work group meetings to review the standards and to make

¹ The Joint Commission on Accreditation of Healthcare Organization (2008). Comprehensive accreditation manual for ambulatory care; Glossary

applicable changes. Workgroup participants include physicians, nurses, case managers and executive staff from subcontractor agencies as well as consumers.

Organization of the SOCs

The standards cover all aspect of service delivery for all funded service categories. Some standards are consistent across all service categories and therefore are classified under general standards.

These include:

- Staff requirements, training and supervision
- Client rights and confidentiality
- Agency and staff licensure
- Emergency Management

The RWGA funds three case management models. Unique requirements for all three case management service categories have been classified under Service Specific SOCs “Case Management (All Service Categories)”. Specific service requirements have been discussed under each service category.

All new and/or revised standards are effective at the beginning of the fiscal year.

GENERAL STANDARDS

	Standard	Measure
1.0	Staff Requirements	
1.1	<p><u>Staff Screening (Pre-Employment)</u> Staff providing services to clients shall be screened for appropriateness by provider agency as follows:</p> <ul style="list-style-type: none"> • Personal/Professional references • Personal interview • Written application <p>Criminal background checks, if required by Agency Policy, must be conducted prior to employment and thereafter for all staff and/or volunteers per Agency policy.</p>	<ul style="list-style-type: none"> • Review of Agency's Policies and Procedures Manual indicates compliance • Review of personnel and/or volunteer files indicates compliance
1.2	<p><u>Initial Training: Staff/Volunteers</u> Initial training includes eight (8) hours HIV/AIDS basics, safety issues (fire & emergency preparedness, hazard communication, infection control, universal precautions), confidentiality issues, role of staff/volunteers, agency-specific information (e.g. Drug Free Workplace policy). Initial training must be completed within 60 days of hire.</p>	<ul style="list-style-type: none"> • Documentation of all training in personnel file. • Specific training requirements are specified in Agency Policy and Procedure • Materials for staff training and continuing education are on file • Staff interviews indicate compliance
1.3	<p><u>Staff Performance Evaluation</u> Agency will perform annual staff performance evaluation.</p>	<ul style="list-style-type: none"> • Completed annual performance evaluation kept in employee's file
1.4	<p><u>Cultural and HIV Mental Health Co-morbidity Competence Training/Staff and Volunteers</u> All staff must receive four (4) hours of cultural competency training and an additional one (1) hour of HIV/Mental Health co-morbidity sensitivity training annually. All new employees must complete these within ninety (90) days of hire.</p>	<ul style="list-style-type: none"> • Documentation of training is maintained by the agency in the personnel file
1.5	<p><u>Staff education on eligibility determination and fee schedule</u> Agency must provide training on agency's policies and procedures for eligibility determination and sliding fee schedule for all applicable staff annually.</p>	<p>Documentation of training in employee's record</p>

2.0	Services utilize effective management practices such as cost effectiveness, human resources and quality improvement.	
2.1	<u>Service Evaluation</u> Agency has a process in place for the evaluation of client services.	<ul style="list-style-type: none"> • Review of Agency's Policies and Procedures Manual indicates compliance • Staff interviews indicate compliance.
2.2	<u>Subcontractor Monitoring</u> Agency that utilizes a subcontractor in delivery of service, must have established policies and procedures on subcontractor monitoring that include: <ul style="list-style-type: none"> • Fiscal monitoring • Program • Quality of care • Compliance with guidelines and standards 	<ul style="list-style-type: none"> • Documentation of subcontractor monitoring • Review of Agency's Policies and Procedures Manual indicates compliance
2.3	<u>Staff Guidelines</u> Agency develops written guidelines for staff, which include, at a minimum, agency-specific policies and procedures (staff selection, resignation and termination process, job descriptions); client confidentiality; health and safety requirements; complaint and grievance procedures; emergency procedures; and statement of client rights.	<ul style="list-style-type: none"> • Personnel file contains a signed statement acknowledging that staff guidelines were reviewed and that the employee understands agency policies and procedures
2.4	<u>Work Conditions</u> Staff/volunteers have the necessary tools, supplies, equipment and space to accomplish their work.	<ul style="list-style-type: none"> • Inspection of tools and/or equipment indicates that these are in good working order and in sufficient supply • Staff interviews indicate compliance
2.5	<u>Staff Supervision</u> Staff services are supervised by a paid coordinator or manager.	<ul style="list-style-type: none"> • Review of personnel files indicates compliance • Review of Agency's Policies and Procedures Manual indicates compliance
2.6	<u>Professional Behavior</u> Staff must comply with written standards of professional behavior.	<ul style="list-style-type: none"> • Staff guidelines include standards of professional behavior • Review of Agency's Policies and Procedures Manual indicates compliance • Review of personnel files indicates compliance • Review of agency's complaint and grievance files

2.7	<p><u>Communication</u></p> <p>There are procedures in place regarding regular communication with staff about the program and general agency issues.</p>	<ul style="list-style-type: none"> • Review of Agency's Policies and Procedures Manual indicates compliance • Documentation of regular staff meetings • Staff interviews indicate compliance
2.8	<p><u>Accountability</u></p> <p>There is a system in place to document staff work time.</p>	<ul style="list-style-type: none"> • Staff time sheets or other documentation indicate compliance
2.9	<p><u>Staff Availability</u></p> <p>Staffs are present to answer incoming calls during agency's normal operating hours.</p>	<ul style="list-style-type: none"> • Published documentation of agency operating hours • Staff time sheets or other documentation indicate compliance
3.0	Clients Rights and Responsibilities	
3.1	<p><u>Clients Rights and Responsibilities</u></p> <p>Agency has a Client Rights and Responsibilities Statement that is reviewed with each client in a language and format the client can understand. Agency will provide client with written copy of client rights and responsibilities, including:</p> <ul style="list-style-type: none"> • Informed consent • Confidentiality • Grievance procedures • Duty to warn or report certain behaviors • Scope of service • Criteria for end of services 	<ul style="list-style-type: none"> • Documentation in client's record
3.2	<p><u>Confidentiality</u></p> <p>Agency has Policy and Procedure regarding client confidentiality in accordance with RWGA /TRG site visit guidelines, local, state and federal laws. Providers must implement mechanisms to ensure protection of clients' confidentiality in all processes throughout the agency.</p> <p>There is a written policy statement regarding client confidentiality form signed by each employee and included in the personnel file.</p>	<ul style="list-style-type: none"> • Review of Agency's Policies and Procedures Manual indicates compliance • Clients interview indicates compliance • Agency's structural layout and information management indicates compliance • Signed confidentiality statement in each employee's personnel file
3.3	<p><u>Consents</u></p>	<ul style="list-style-type: none"> • Agency Policy and Procedure and signed and dated consent

	All consent forms comply with state and federal laws, are signed by an individual legally able to give consent and must include the Consent for Services form and a consent for release/exchange of information for every individual/agency to whom client identifying information is disclosed, regardless of whether or not HIV status is revealed.	forms in client record
3.4	<p><u>Up to date Release of Information</u></p> <p>Agency obtains an informed written consent of the client or legally responsible person prior to the disclosure or exchange of certain information about client's case to another party (including family members) in accordance with the RWGA Site Visit Guidelines, local, state and federal laws. The release/exchange consent form must contain:</p> <ul style="list-style-type: none"> • Name of the person or entity permitted to make the disclosure • Name of the client • The purpose of the disclosure • The types of information to be disclosed • Entities to disclose to • Date on which the consent is signed • The expiration date of client authorization (or expiration event) no longer than two years • Signature of the client/or parent, guardian or person authorized to sign in lieu of the client. • Description of the <i>Release of Information</i>, its components, and ways the client can nullify it <p>Released/exchange of information forms must be completed entirely in the presence of the client. Any unused lines must have a line crossed through the space.</p>	<ul style="list-style-type: none"> • Current Release of Information form with all the required elements signed by client or authorized person in client's record
3.5	<p><u>Grievance Procedure</u></p> <p>Agency has Policy and Procedure regarding client grievances that is reviewed with each client in a language and format the client can understand and a written copy of which is provided to each client.</p> <p>Grievance procedure includes but is not limited to:</p>	<ul style="list-style-type: none"> • Signed receipt of agency Grievance Procedure, filed in client chart • Review of Agency's Policies and Procedures Manual indicates compliance

	<ul style="list-style-type: none"> • to whom complaints can be made • steps necessary to complain • form of grievance, if any • time lines and steps taken by the agency to resolve the grievance • documentation by the agency of the process • confidentiality of grievance • addresses and phone numbers of licensing authorities and funding sources 	
3.6	<p><u>Conditions Under Which Discharge/Closure May Occur</u></p> <p>A client may be discharge from Ryan White funded services for the following reasons.</p> <ul style="list-style-type: none"> • Death of the client • At the client's or legal guardian request • Changes in client's need which indicates services from another agency • Fraudulent claims or documentation about HIV diagnosis by the client • Client actions put the agency, case manager or other clients at risk. Documented supervisory review is required when a client is terminated or suspended from services due to behavioral issues. • Client moves out of service area, enters jail or cannot be contacted for sixty (60) days. Agency must document three (3) attempts to contact clients by more than one method (e.g. phone, mail, email, text message, in person via home visit). <p>Client must be provided a written notice prior to involuntary termination of services (e.g. due to dangerous behavior, fraudulent claims or documentation, etc).</p>	<ul style="list-style-type: none"> • Documentation in client record and in the Centralized Patient Care Data Management System • A copy of written notice and a certified mail receipt for involuntary termination
3.7	<p><u>Client Closure</u></p> <p>A summary progress note is completed in accordance with Site Visit Guidelines within three (3) working days of closure, including:</p>	<ul style="list-style-type: none"> • Documentation in client record and in the Centralized Patient Care Data Management System

	<ul style="list-style-type: none"> • Date and reason for discharge/closure • Summary of all services received by the client and the client's response to services <p>Referrals made and/or instructions given to the individual at discharge (when applicable)</p>	
3.8	<p><u>Client Feedback</u></p> <p>In addition to the RWGA standardized client satisfaction survey conducted annually, Agency must have structured and ongoing efforts to obtain input from clients (or client caregivers, in cases where clients are unable to give feedback) in the design and delivery of services. Such efforts must include client satisfaction surveys, focus groups and public meetings conducted at least annually. Agency may also maintain a visible suggestion box for clients' inputs. Analysis and use of results must be documented. Agency must maintain a file of materials documenting Consumer Advisory Board (CAB) membership and meeting materials (applicable only if agency has a CAB).</p>	<ul style="list-style-type: none"> • Documentation of clients' evaluation of services is maintained • Documentation of CAB and public meeting minutes • Documentation of existence and appropriateness of a suggestion box or other client input mechanism • Documentation of content, use, and confidentiality of a client satisfaction survey or focus groups conducted annually
3.9	<p><u>Patient Safety (Core Services Only)</u></p> <p>Agency shall establish mechanisms to implement National Patient Safety Goals (NPSG) modeled after the current Joint Commission accreditation <i>for Ambulatory Care</i> (www.jointcommission.org) to ensure patients' safety. The NPSG to be addressed include the following as applicable:</p> <ul style="list-style-type: none"> • "Improve the accuracy of patient identification • Improve the safety of using medications • Reduce the risk of healthcare-associated infections • Accurately and completely reconcile medications across the continuum of care • Universal Protocol for preventing Wrong Site, Wrong Procedure and Wrong Person Surgery" (www.jointcommission.org) 	<ul style="list-style-type: none"> • Review of Agency's Policies and Procedures Manual indicates compliance
3.10	<p><u>Client Files</u></p>	<ul style="list-style-type: none"> • Review of agency's policy and procedure for records

	Provider shall maintain all client files.	administration indicates compliance
4.0	Accessibility	
4.1	<p><u>Cultural Competence</u> Agency demonstrates a commitment to provision of services that are culturally sensitive and language competent for Limited English Proficient (LEP) individuals.</p>	<ul style="list-style-type: none"> • Agency has procedures for obtaining translation services • Client satisfaction survey indicates compliance • Policies and procedures demonstrate commitment to the community and culture of the clients • Availability of interpretive services, bilingual staff, and staff trained in cultural competence • Agency has vital documents including, but not limited to applications, consents, complaint forms, and notices of rights translated in client record
4.2	<p><u>Client Education</u> Agency demonstrates capacity for client education and provision of Information on community resources</p>	<ul style="list-style-type: none"> • Availability of the blue book and other educational materials • Documentation of educational needs assessment and client education in clients' records
4.3	<p><u>Special Service Needs</u> Agency demonstrates a commitment to assisting individuals with special needs</p>	<ul style="list-style-type: none"> • Agency compliance with the Americans with Disabilities Act (ADA). • Review of Policies and Procedures indicates compliance • Environmental Review shows a facility that is handicapped accessible
4.4	<p><u>Provision of Services for low-Income Individuals</u> Agency must ensure that facility is handicap accessible and is also accessible by public transportation (if in area served by METRO). Agency must have policies and procedures in place that ensures access to transportation services if facility is not accessible by public transportation. Agency should not have policies that dictate a dress code or conduct that may act as barrier to care for low income individuals.</p>	<ul style="list-style-type: none"> • Facility is accessible by public transportation • Review of Agency's Policies and Procedures Manual indicates compliance
4.5	<p><u>Proof of HIV Diagnosis</u> Documentation of the client's HIV status is obtained at or prior to the initiation of services or registration services. An anonymous test result may be used to document HIV status temporarily (up to sixty [60] days). It must contain enough information to ensure the identity of the subject with a</p>	<ul style="list-style-type: none"> • Documentation in client record as per RWGA site visit guidelines or TRG Policy SG-03

	reasonable amount of certainty.	
4.6	<p><u>Provision of Services Regardless of Current or Past Health Condition</u></p> <p>Agency must have Policies and Procedures in place to ensure that HIV+ clients are not denied services due to current or pre-existing health condition or non-HIV related condition. A file must be maintained on all clients who are refused services and the reason for refusal.</p>	<ul style="list-style-type: none"> • Review of Policies and Procedures indicates compliance • A file containing information on clients who have been refused services and the reasons for refusal
4.7	<p><u>Client Eligibility</u></p> <p>In order to be eligible for services, individuals must meet the following:</p> <ul style="list-style-type: none"> • HIV+ • Residence in the Houston EMA/ HSDA (With prior approval, clients can be served if they reside outside of the Houston EMA/HSDA.) • Income no greater than 300% of the Federal Poverty level (unless otherwise indicated) • Proof of identification • Ineligibility for third party reimbursement 	<ul style="list-style-type: none"> • Documentation of HIV+ status, residence, identification and income in the client record • Documentation of ineligibility for third party reimbursement • Documentation of screening for Third Party Payers in accordance with TRG Policy SG-06 Documentation of Third Party Payer Eligibility or RWGA site visit guidelines
4.8	<p><u>Re-evaluation of Client Eligibility</u></p> <p>Agency conducts six (6) month re-evaluations of eligibility for all clients. At a minimum, agency confirms renewed eligibility with the CPCDMS and re-screens, as appropriate, for third-party payers. Third party payors include State Children's Health Insurance Programs (SCHIP), Medicare (including Part D prescription drug benefit) and private insurance. Agency must ensure that Ryan White is the Payor of last resort and must have policies and procedures addressing strategies to enroll all eligible uninsured clients into Medicare, Medicaid, private health insurance and other programs. Agency policy must also address coordination of benefits, billing and collection. Clients eligible for Department of Veterans Affairs (VA) benefits are duly eligible for Ryan White services and therefore exempted from the payor of last resort requirement</p>	<ul style="list-style-type: none"> • Client file contains documentation of re-evaluation of client residence, income and rescreening for third party payers at least every six (6) months • Review of Policies and Procedures indicates compliance • Information in client's files that includes proof of screening for insurance coverage

<p>4.9</p>	<p><u>Charges for Services</u> Agency must institute Policies and Procedures for cost sharing including enrollment fees, premiums, deductibles, co-payments, co-insurance, sliding fee discount, etc. and an annual cap on these charges. Agency should not charge any of the above fees regardless of terminology to any Ryan White eligible patient whose gross income level (GIL) is \leq 100% of the Federal Poverty Level (FPL) as documented in the CPCDMS for any services provided. Clients whose gross income is between 101-300% may be charged annual aggregate fees in accordance with the legislative mandate outlined below:</p> <ul style="list-style-type: none"> • 101%-200% of FPL---5% or less of GIL • 201%-300% of FPL---7% or less of GIL • >300% of FPL -----10% or less of GIL <p>Additionally, agency must implement the following:</p> <ul style="list-style-type: none"> • Six (6) month evaluation of clients to establish individual fees and cap (i.e. the six (6) month CPCDMS registration or registration update.) • Tracking of charges • A process for alerting the billing system when the cap is reached so client will not be charged for the rest of the calendar year. • <u>Documentation of fees</u> 	<ul style="list-style-type: none"> • Review of Policies and Procedures indicates compliance • Review of system for tracking patient charges and payments indicate compliance • Review of charges and payments in client records indicate compliance with annual cap • Sliding fee application forms on client record is consistent with Federal guidelines
<p>4.10</p>	<p><u>Information on Program and Eligibility/Sliding Fee Schedule</u> Agency must provide broad-based dissemination of information regarding the availability of services. All clients accessing services must be provided with a clear description of their sliding fee charges in a simple understandable format at intake and annually at registration update. Agency should maintain a file documenting promotion activities including copies of HIV program materials and information on eligibility requirements. Agency must proactively inform/educate clients when changes occur in the program design or process, client eligibility rules, fee schedule, facility layout or access to</p>	<ul style="list-style-type: none"> • Agency has a written substantiated annual plan to targeted populations • Zip code data show provider is reaching clients throughout service area (as applicable to specific service category). • Agency file containing informational materials about agency services and eligibility requirements including the following: Brochures Newsletters Posters Community bulletins any other types of promotional materials • Signed receipt for client education/ information regarding

	program or agency.	eligibility and sliding fees on client record
4.11	<p><u>Linkage Into Core Services</u> Agency staff will provide out-of-care clients with individualized information and referral to connect them into ambulatory outpatient medical care and other core medical services.</p>	<ul style="list-style-type: none"> • Documentation of client referral is present in client file
4.12	<p><u>Wait Lists</u> It is the expectation that clients will not be put on a Wait List nor will services be postponed or denied due to funding. Agency must notify the Administrative agency when funds for service are either low or exhausted for appropriate measures to be taken to ensure adequate funding is available. Should a wait list become required, the agency must, at a minimum, develop a policy that addresses how they will handle situations where service(s) cannot be immediately provided and a process by which client information will be obtained and maintained to ensure that all clients that requested service(s) are contacted after service provision resumes;</p> <p>The Agency will notify The Resource Group (TRG) or RWGA of the following information when a wait list must be created: An explanation for the cessation of service; and A plan for resumption of service. The Subgrantee's plan must address:</p> <ul style="list-style-type: none"> • Action steps to be taken by Subgrantee to resolve the service shortfall; and • Projected date that services will resume. <p>The Agency will report to TRG or RWGA in writing on a monthly basis while a client wait list is required with the following information:</p> <ul style="list-style-type: none"> • Number of clients on the wait list. • Progress toward completing the plan for resumption of 	<ul style="list-style-type: none"> • Review of Agency's Policies and Procedures Manual indicates compliance • Documentation of compliance with TRG's Policy SG-19 Client Wait Lists • Documentation that agency notified their Administrative Agency when funds for services were either low or exhausted

	<p>service.</p> <ul style="list-style-type: none"> • A revised plan for resumption of service, if necessary. 	
4.13	<p><u>Intake</u> The agency conducts an intake to collect required data including, but not limited to, eligibility, appropriate consents and client identifiers for entry into CPCDMS. Intake process is flexible and responsive, accommodating disabilities and health conditions. When necessary, client is provided alternatives to office visits, such as conducting business by mail or providing home visits. Agency has established procedures for communicating with people with hearing impairments.</p>	<ul style="list-style-type: none"> • Documentation in client record • Review of Agency's Policies and Procedures Manual indicates compliance
5.0	Quality Management	
5.1	<p><u>Continuous Quality Improvement (CQI)</u> Agency demonstrates capacity for an organized CQI program and has a CQI Committee in place to review procedures and to initiate Performance Improvement activities. The Agency shall maintain an up-to-date Quality Management (QM) Manual. The QM Manual will contain at a minimum:</p> <ul style="list-style-type: none"> • The Agency's QM Plan • Meeting agendas and/or notes (if applicable) • Project specific CQI Plans • Root Cause Analysis & Improvement Plans • Data collection methods and analysis • Work products • QM program evaluation • Materials necessary for QM activities 	<ul style="list-style-type: none"> • Review of Agency's Policies and Procedures Manual indicates compliance • Up to date QM Manual
5.2	<p><u>Data Collection and Analysis</u> Agency demonstrates capacity to collect and analyze client level data including client satisfaction surveys and findings are incorporated into service delivery. Supervisors shall conduct and document ongoing record reviews as part of quality improvement activity.</p>	<ul style="list-style-type: none"> • Review of Agency's Policies and Procedures Manual indicates compliance • Up to date QM Manual • Supervisors log on record reviews signed and dated

6.0	Point Of Entry Agreements	
6.1	<u>Points of Entry (Core Services Only)</u> Agency accepts referrals from sources considered to be points of entry into the continuum of care, in accordance with HIV Services policy approved by HRSA for the Houston EMA.	<ul style="list-style-type: none"> • Review of Agency’s Policies and Procedures Manual indicates compliance • Documentation of formal agreements with appropriate Points of Entry • Documentation of referrals and their follow-up
7.0	Emergency Management	
7.1	<u>Emergency Preparedness</u> Agency leadership including medical staff must develop an Emergency Preparedness Plan modeled after the Joint Commission’s regulations and/or Centers for Medicare and Medicaid guidelines for Emergency Management. The plan should, at a minimum utilize “all hazard approach” (hurricanes, floods, earthquakes, tornadoes, wide-spread fires, infectious disease outbreak and other public health threats, terrorist attacks, civil disturbances and collapse of buildings and bridges) to ensure a level of preparedness sufficient to support a range of emergencies. Agencies shall conduct an annual Hazard Vulnerability Analysis (HVA) to identify potential hazards, threats, and adverse events and assess their impact on care, treatment, and services they must sustain during an emergency. The agency shall communicate hazards identified with its community emergency response agencies and together shall identify the capability of its community in meeting their needs. The HVA shall be reviewed annually.	<ul style="list-style-type: none"> • Emergency Preparedness Plan • Review of Agency’s Policies and Procedures Manual indicates compliance
7.2	<u>Emergency Management Training</u> In accordance with the Department of Human Services recommendations, all agency staff must complete the following National Incident Management System (NIMS) courses developed by the Department of Homeland Security: <ul style="list-style-type: none"> • IS -100.HC – Introduction to the Incident command system for healthcare/hospitals 	<ul style="list-style-type: none"> • Documentation of all training including certificate of completion in personnel file

	<ul style="list-style-type: none"> • IS-200.HC- Applying ICS to Healthcare organization • IS-700.A-National Incident Management System (NIMS) Introduction • IS-800.B National Response Framework (management) <p>The above courses may be accessed at:www.training.fema.gov. Agencies providing support services only may complete alternate courses listed for the above areas All new employees are required to complete the courses within 90 days of hire. Other staff must complete the tracks by June 30, 2011.</p>	
7.3	<p><u>Emergency Preparedness Plan</u> The emergency preparedness plan shall address the six critical areas for emergency management including</p> <ul style="list-style-type: none"> • Communication pathways • Essential resources and assets • patients' safety and security • staff responsibilities • Supply of key utilities such as portable water and electricity • Patient clinical and support activities during emergency situations. (www.jointcommission.org) 	<ul style="list-style-type: none"> • Emergency Preparedness Plan
7.4	<p><u>Emergency Management Drills</u> Agency shall implement emergency management drills twice a year either in response to actual emergency or in a planned exercise. Completed exercise should be evaluated by a multidisciplinary team including administration, clinical and support staff. The emergency plan should be modified based on the evaluation results and retested.</p>	<ul style="list-style-type: none"> • Emergency Management Plan • Review of Agency's Policies and Procedures Manual indicates compliance
8.0	Building Safety	
8.1	<p><u>Required Permits</u> All agencies will maintain Occupancy and Fire Marshal's permits for the facilities.</p>	<ul style="list-style-type: none"> • Current required permits on file

Medical Nutritional Supplements

HRSA defines core Medical Nutrition Therapy as the provision of food, nutritional services and nutritional supplements provided outside of a primary care visit by a licensed registered dietician based on physician's recommendation and a nutritional plan developed by a licensed registered dietician. The Houston EMA Part A/B Medical Nutrition Therapy includes nutritional counseling, provision nutritional supplements (of up to 90 day supply) for eligible HIV/AIDS infected persons living within the Houston EMA. Clients must have a written referral or prescription from a physician or physician extender and a written nutritional plan prepared by a licensed, registered dietician

1.0	Services are individualized and tailored to client needs.	
1.1	<u>Education/Counseling – Clients Receiving New Supplements</u> All clients receiving a supplement for the first time will receive appropriate education/counseling. This must include written information regarding supplement benefits, side effects and recommended dosage in client's primary language.	<ul style="list-style-type: none"> • Client file indicates compliance
1.2	<u>Education/Counseling – Follow-Up</u> Clients receive education/counseling regarding supplement(s) again at: <ul style="list-style-type: none"> • follow-up • when there is a change in supplements • at the discretion of the registered dietician if clinically indicated 	<ul style="list-style-type: none"> • Client file indicates compliance
2.0	Services adhere to professional standards and regulations.	
2.1	<u>Inventory</u> Supplement inventory is updated and rotated as appropriate on a first-in, first-out basis, and shelf-life standards and applicable laws are observed.	<ul style="list-style-type: none"> • Review of agency's Policies & Procedures Manual indicates compliance • Staff interviews
2.2	<u>Licensure</u> Providers/vendors maintain proper licensure. A physician or physician Assistant (PA) with prescribing privileges at a Part A/B/C and/or MAI-funded agency or qualified primary care	<ul style="list-style-type: none"> • Documentation of current licensure • Nutritional plan in client's record

	<p>provider may write an order for Part A-funded nutritional supplements. A licensed registered dietician must provide an individualized nutritional plan including education/counseling based on a nutritional assessment</p>	
<p>2.3</p>	<p><u>Protocols</u> Nutrition therapy services will use evidence-based guides, protocols, best practices, and research in the field of HIV/AIDS including the <i>American Dietetic Association's HIV-related protocols in Medical Nutrition Therapy Across the Continuum of Care</i>.</p>	<ul style="list-style-type: none"> • Chart Review shows compliance • Review of agency's Policies & Procedures Manual indicates compliance

THRESHOLDS

Measurement thresholds will be set at 100%.

IV. IMPLEMENTATION & REPORTING

Agencies will be required to adhere to the QA guidelines provided by RWGA, or the Part B administrative agency, as applicable.



VITAMINS & MINERALS

WHY ARE VITAMINS AND MINERALS IMPORTANT?

Vitamins and minerals are sometimes called micronutrients. Our bodies need them, in small amounts, to support the chemical reactions our cells need to live. Different nutrients affect digestion, the nervous system, thinking, and other body processes.

Micronutrients can be found in many foods. Healthy people might be able to get enough vitamins and minerals from their food. People with HIV or another illness need more micronutrients to help repair and heal cells. Also, many medications can create shortages of different nutrients.

WHAT ARE ANTIOXIDANTS?

Some molecules in the body are in a form called *oxidized*. These molecules are also called *free radicals*. They react very easily with other molecules, and can damage cells. High levels of free radicals seem to cause a lot of the damage associated with aging.

Free radicals are produced as part of normal body chemistry. *Antioxidants* are molecules that can stop free radicals from reacting with other molecules. This limits the damage they do. Several nutrients are antioxidants.

Antioxidants are important for people with HIV, because HIV infection leads to higher levels of free radicals. Also, free radicals can increase the activity of HIV. Higher levels of antioxidants can slow down the virus and help repair some of the damage it does.

HOW MUCH DO I NEED?

You might think that all you have to do to get enough vitamins and minerals is to take a "one-a-day" multivitamin pill. Unfortunately, it's not that easy. The amounts of micronutrients in many of these pills are based on the Recommended Dietary Allowances (RDAs) set by the US government. The problem with the RDAs is that they are not the amounts of micronutrients that are needed by people with HIV. Instead, they are the minimum amounts needed to prevent shortages in healthy people. HIV disease and many AIDS medications can

use up some nutrients. One study of people with HIV showed that they needed between 6 and 25 times the RDA of some nutrients! Still, a high potency multivitamin is a good way to get basic micronutrients.

WHICH NUTRIENTS ARE IMPORTANT?

There has not been a lot of research on specific nutrients and HIV disease. However, one study showed that pregnant women in Tanzania benefited greatly from multivitamin supplementation. Also, many nutrients interact with each other. Most nutritionists believe in designing an overall program of supplements.

People with HIV may benefit from taking supplements of the following vitamins and minerals:

- **B Vitamins:** Vitamin B-1 (Thiamine), Vitamin B2 (Riboflavin), Vitamin B6 (Pyridoxine), Vitamin B12 (Cobalamin), and Folate (Folic Acid).
- **Antioxidants,** including beta-carotene (the body breaks down beta-carotene to make Vitamin A), selenium, Vitamin E (Tocopherol), and Vitamin C
- **Magnesium and Zinc**

WHAT ABOUT OTHER SUPPLEMENTS?

In addition to vitamins and minerals, some nutritionists suggest that people with HIV take supplements of other nutrients:

- **Acidophilus,** a bacterium that grows naturally in the intestines helps with digestion.
- **Alpha-lipoic acid** is a powerful antioxidant that may help with neuropathy and mental problems.
- **Carnitine** (also called acetyl-L-carnitine) may help prevent wasting and provide other immunologic and metabolic benefits,
- **Coenzyme Q₁₀** may help with immune function.
- **Essential fatty acids** found in evening primrose oil or flaxseed oil can help with dry skin and scalp.
- **N-Acetyl-Cysteine,** an antioxidant, can help maintain body levels of glutathione. Glutathione is one of the body's main antioxidants.

- **Omega 3 fatty acids** can help decrease triglycerides
- **Niacin** can help increase good cholesterol and decrease bad cholesterol

CAN NUTRIENTS BE HARMFUL?

Most vitamins and nutrients appear to be safe as supplements, even at levels higher than the Recommended Dietary Allowances (RDAs). However, some can cause problems at higher doses, including Vitamin A, Vitamin D, copper, iron, niacin, selenium, and zinc.

A basic program of vitamin and mineral supplementation should be safe. This would include the following, all taken according to directions on the bottle:

- A multiple vitamin/mineral (without extra iron),
- An antioxidant supplement with several different ingredients, and
- A trace element supplement. There are seven essential trace elements: chromium, copper, cobalt, iodine, iron, selenium, and zinc. Some multivitamins also include trace elements.

Any other program of supplements should be based on discussion with a doctor or nutritionist. Remember that higher price may not mean better quality.

FOR MORE INFORMATION

You can get more information on nutrition and HIV from these web sites and books:

Vitamins and Supplement web links,
<http://sis.nlm.nih.gov/hiv/nutrition.html#a3>

Nutrition and HIV: A New Model for Treatment by Mary Romeyn, MD, published by Jossey-Bass, Inc, telephone 415-433-1740.

A Clinician's Guide To Nutrition In HIV and AIDS, by Cade Fields-Gardner and others, published by the American Dietetic Association, P.O. Box 97215, Chicago IL 60678-7215; or 800-877-1600, ext. 5000.

Reviewed January 27, 2011

Micronutrient Supplements May Be Beneficial For People With HIV (AIDS 2010)

Posted By [Kieryn Graham](#) On August 19, 2010 @ 2:08 pm In [Featured,Headline,News](#) | [No Comments](#)

Research presented at the 2010 International AIDS Conference suggests certain vitamins and minerals, known as micronutrients, may help delay HIV disease progression and improve immune health of people living with HIV.

"The positive effect of micronutrient supplements in HIV patients goes beyond their positive effect on the immune system," said Dr. Marianna Baum, Professor of Dietetics and Nutrition at Florida International University Stempel School of Public Health, in email correspondence with The AIDS Beacon.

"They improve mood, depression, quality of life, energy levels, capacity to exercise, and [illnesses] among other factors of daily living," she added. Dr. Baum was the lead researcher on the studies.

The supplements in the studies contain micronutrients, which are vitamins and minerals that the body needs in very small amounts to produce enzymes, hormones, and other substances necessary for growth and development.

Although two of the studies are small and need to be confirmed by larger studies, results suggest that specific micronutrients may help improve immune system health of people living with HIV/AIDS.

Micronutrient Supplements May Slow HIV Disease Progression

The first [study](#) ^[1] investigated whether micronutrient supplementation could improve immune function and delay the onset of AIDS in HIV-positive adults in Botswana. Results showed that supplementation with micronutrients was safe and significantly delayed the progression of HIV to AIDS.

The study enrolled 875 HIV-positive adults and was carried out over 24 months. Participants started with CD4 (white blood cell) counts greater than 350 cells per microliter. None were on antiretroviral therapy.

Participants were randomly assigned to receive either a placebo or a nutritional supplement containing vitamin B-complex, vitamins C and E, and selenium. Researchers then monitored the participants' HIV disease progression by tracking their CD4 cell counts.

Participants whose CD4 counts dropped below 250 cells per microliter were diagnosed as having progressed to AIDS and were started on antiretroviral therapy.

Results showed that over the two-year study period, taking micronutrient supplements reduced the probability of a participant's CD4 count falling below the 250 threshold by 38 percent.

The researchers concluded that supplements may increase the amount of time before people with HIV show symptoms or need to start antiretroviral therapy.

Additional studies are currently in progress on the effect of micronutrient supplementation on illness and mortality rates in people with HIV.

Zinc May Help Prevent Immune System Failure In HIV-Positive Adults

Results from this small [study](#) ^[2] suggest that zinc supplementation is safe and may help prevent immune failure in HIV-positive adults on antiretroviral therapy.

Zinc is an important micronutrient that the body requires to develop CD4 cells and activate the immune system. Zinc is naturally found in beans, nuts, whole grains, and certain types of seafood, but can also be taken as a supplement in pill form.

Immune system failure occurs in people with HIV when their CD4 cell count is too low to protect the body from infection. When this happens, patients are at a greater risk of disease progression and death.

For the study, researchers monitored 40 HIV-positive adults who were on antiretroviral therapy and had achieved viral suppression (viral load, or amount of virus in the blood, of 50 copies per milliliter or less).

Participants were randomly assigned to receive either a zinc supplement or a placebo. CD4 cell counts and viral loads were monitored over 18 months. Immune system failure was defined as having a CD4 count of

200 cells per microliter or less.

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By the end of the study, four participants in the placebo group (21 percent) experienced immune system failure. None of the participants taking zinc supplements experienced immune system failure.

The researchers concluded that zinc supplements may help maintain immune system health when taken with antiretroviral drugs. However, long-term studies with more participants are still needed to conclusively assess the benefits of zinc supplementation in people with HIV.

Antioxidants May Improve Immune Health And Reduce Mitochondrial Damage

This small [study](#) ^[3] found that taking antioxidants may help improve immune system health and reduce mitochondrial damage.

Mitochondria are the power centers of cells. They provide the energy that cells need to move, divide, and perform other functions. HIV infection and long-term antiretroviral therapy have been associated with mitochondrial damage.

Antioxidants can help prevent damage to cells and mitochondria by scavenging free radicals – highly reactive chemicals that can damage DNA, proteins, and other biological molecules. Antioxidants are found in many fruits, vegetables, nuts, and some meats.

The purpose of this study was to see if antioxidants could help improve immune function and prevent mitochondrial damage in people with HIV who are taking antiretroviral drugs.

The study involved 25 HIV-positive adults on antiretroviral therapy. Participants were randomly assigned to receive either an antioxidant supplement or a placebo for 8 weeks. The supplement contained vitamin B-complex, vitamins C and E, zinc, selenium, N-acetyl cysteine, and α-lipoic acid.

Both groups were evaluated at the beginning and end of the study to gauge changes in CD4 count, viral load, mitochondrial damage, insulin levels, and body size and proportions.

Results showed that participants taking antioxidants had reduced mitochondrial damage compared to participants taking a placebo.

They also had small increases in the proportion of CD4 immune cells and small decreases in insulin resistance, although these were too small to be significant in this small study. There were no safety issues observed with the supplements.

The researchers concluded that antioxidants may help with immune system recovery and reduce mitochondrial damage in HIV-positive adults. However, long-term studies with more participants are still needed to confirm the benefits of antioxidant supplements in people with HIV.

For more information, please see the [AIDS 2010](#) ^[4] conference website.

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URLs in this post:

[1] study: <http://pag.aids2010.org/Abstracts.aspx?AID=10052>

[2] study: <http://pag.aids2010.org/Abstracts.aspx?AID=10288>

[3] study: <http://pag.aids2010.org/Abstracts.aspx?AID=10483>

[4] AIDS 2010: <http://www.aids2010.org/>

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Dietary Supplements May Increase Longevity Of HIV Patients

Posted By [Elisabeth Pernicone](#) On November 8, 2009 @ 1:17 pm In [Headline](#), [News](#) _

HIV positive individuals may find long term benefits from using dietary supplements in combination with antiretroviral medication.

A midterm report of a study conducted by the Tamil Nadu State AIDS Control Society showed that body mass index and hemoglobin count improved in HIV positive individuals that used nutritional supplements with antiretroviral therapy.

Body mass index is a calculation of percentage of body fat, and hemoglobin levels are proteins in red blood cells that carry oxygen.

Low body mass index and low hemoglobin levels are often problematic in those with HIV. Low hemoglobin levels can increase the risk of developing anemia, a condition in which red blood cells and hemoglobin in the blood are below normal. Anemia can often be caused by shortage of iron, vitamin B12, or folic acid.

According to a study published in the [Journal of Acquired Immune Deficiency Syndromes](#) ^[1], over 50 percent of people with HIV use alternative therapies, such as herbal medicines and dietary supplements.

Research has shown that B vitamins, selenium, and spirulina are three supplements that can be beneficial for HIV patients.

Vitamin B

Vitamin B12 deficiency has been associated with decreasing CD4+ cells, which are white blood cells that help fight infection in the body. Some studies have shown that without supplements, up to 95 percent of those with HIV may have B12 deficiencies. Vitamin B6 has also been shown to improve CD4+ cell counts.

According to the Mayo Clinic, vitamin B12 can be obtained from eating one chicken breast, one hard boiled egg, and one cup of plain non-fat yogurt daily.

Selenium

Selenium also helps strengthen the immune systems by creating antioxidants that protect the body from invaders that may damage cells. Eating foods and supplements with antioxidants are beneficial for HIV positive individuals. Beans, blueberries, blackberries, and cranberries have high levels of antioxidants.

In a study published in [Archives of Internal Medicine](#) ^[2], the supplement selenium was found to reduce the amount of HIV in the blood and increase CD4+ cell levels.

Participants who took 200 micrograms of selenium daily for nine months had a 12 percent decrease in viral loads. Participants in the control group, who were not given selenium, experienced increased viral loads and decreased CD4 levels in the same nine month period of time.

Brazil nuts, tuna, and beef are common foods that contain selenium. Brazil nuts are the highest with up to 544 micrograms per ounce. However, because of the high presence of this supplement, it is recommended that people watch their intake of these nuts.

Spirulina

Spirulina has also been proven beneficial by multiple research studies. Spirulina is blue – green alga that contains vitamin A, vitamin B1, B6, B12, vitamin C, proteins, and minerals.

A study published in the [Journal of Acquired Immune Deficiency Syndrome](#) ^[3] found that the use of spirulina inhibited HIV replication in the blood. Taking extract concentrations between 0.3 and 1.2 micrograms per milliliter reduced viral production by about 50 percent.

Spirulina can be found at most health food stores in a powder form, which can easily be added to smoothies or drinks.

What To Avoid

While supplements may seem harmless, potentially seriously drug interactions may occur.

The common herb St. John's Wort can negatively interact with many medications given to HIV patients. St. John's Wort is processed by the enzyme p450, which many other supplements and antiretroviral medications also use. Different interactions may occur that raise or lower levels of antiretroviral medicine in the blood.

Specifically the use of St. John's Wort with Crixivan (indinavir sulfate) reduced the effectiveness of this medication. Other protease inhibitors are thought to respond similarly to this drug combination.

Other supplements that are processed by p450 should potentially be avoided. These include garlic, milk thistle, melatonin, and ginseng. Other studies have shown that vitamin A may also have an effect on the p450 enzyme.

According to the National Institute of Health, garlic supplements may adversely react with ritonavir (Norvir) and increase levels of this drug in the body. However, additional studies on ritonavir and garlic did not suggest a serious interaction.

Patients experiencing side effects such as diarrhea, nausea, and vomiting with any supplement may want to discontinue use for a period of time to see if symptoms subside.

As with any medication or supplement, taking excessive amounts may be harmful. It is important that patients discuss the addition or discontinuation of any dietary supplements with their physician.

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URLs in this post:

[1] Journal of Acquired Immune Deficiency Syndromes: http://journals.lww.com/jaids/Fulltext/2003/06010/Complementary_and_Alternative_Medicine_Use_and.7.aspx

[2] Archives of Internal Medicine: <http://archinte.ama-assn.org/cgi/content/full/167/2/148>

[3] Journal of Acquired Immune Deficiency Syndrome: http://journals.lww.com/jaids/Fulltext/1998/05010/Inhibition_of_HIV_1_Replication__by_an_Aqueous.2.aspx