

## ASPECTS OF HIV/AIDS MANAGEMENT IN THE AFRICAN-AMERICAN PATIENT

### INTRODUCTION

Between July 2000 and June 2001, approximately 40,894 new cases of Acquired Immunodeficiency Syndrome (AIDS) were reported to the CDC. Seventy percent of these were in minorities. In the United States, someone is infected with human immunodeficiency virus (HIV) every 13 minutes, and someone dies from AIDS every 34 minutes. At the end of 2000, a total of 793,026 AIDS cases had been reported to the Centers of Disease Control since the beginning of the epidemic.

AIDS is an epidemic that creates a healthcare gap over time. People lose their ability to take care of themselves, maintain their insurance coverage, and maintain employment as their disease progresses. The Ryan White CARE Act (Comprehensive AIDS Resources Emergency) serves these individuals who are uninsured or underinsured who are living with HIV infection. As a result, they receive services they cannot receive anywhere else.

The Ryan White CARE Act programs are divided into five areas. Title I of the program gives grants to eligible metropolitan areas for medical/social services/human services. Title II gives grants to states and territories for case management social/support services and the AIDS Drug Assistance Program (ADAP). Title III provides grants for early intervention services for primary HIV Medical care. Title IV provides grants to serve women, children, youth, and families. Finally, Part F funds the AIDS Education and Training Centers, the Dental Reimbursement Program, and Special Projects of National Significance.

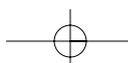
Under Part F are the AIDS Education and Training Centers (AETCs), a collaborative group of centers that provide training and education, technical assistance, capacity building and clinical consultations to service providers of the other components of the CARE Act and to other HIV organizations that provide clinical care to underserved HIV-infected patients. There are 12 regional AETCs that serve the United States and its territories, and four national AETC programs.

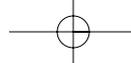
The National Minority AIDS Education and Training Center (NMAETC) is one of those national programs. The NMAETC works to provide capacity building services to minority HIV clinics and HIV organizations that provide clinical care to minority HIV infected patients. The center works with the regional AETCs to promote their work to increase the quality of HIV care through the education and training of providers of minority HIV infected patients.

This supplement is a small example of the work of the NMAETC. The success of HIV care would be diminished without highlighting the importance of cultural competence in the management of HIV-infected patients. The BE SAFE model developed by the NMAETC provides a culturally relevant framework while providing primary health-care services for African-American patients infected with HIV/AIDS. Generally HIV providers are competent in their clinical application. They are limited by capacity and not by skill and knowledge. The supplement contains the results of feedback from minority providers throughout the country and highlights some of the barriers they encounter in providing care to minority patients. The supplement also contains some unique aspects of care for the medical provider, namely the oral manifestations of HIV care. In order to provide comprehensive care to HIV-infected patients, the medical provider cannot ignore the oral care and often has to incorporate it into their management.

Finally, the work of the AETCs is collaborative; therefore it would be deficient to provide information without showing some of the resources available through other programs of the AETCs. As a result, the final article elaborates the work of the National Clinical Consultation Center. This center provides the ability to receive telephone consultations on issues of HIV management. The regional AETCs and the NMAETC also provide multiple types of clinical consultations as well as advanced-level methodologies for medical staff training/capacity building. The NMAETC through its collaborations assist the entire Ryan White Care provider networks in fulfilling their respective missions in providing culturally competent, clinically appropriate services to minority communities.

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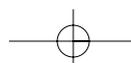
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# A MODEL FOR CULTURAL COMPETENCY IN THE HIV MANAGEMENT OF AFRICAN AMERICAN PATIENTS

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NMAETC Cultural Competency Panel

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Cultural competency is an area in which physicians of all races must work to insure they are giving their patients the best possible care. Perhaps nowhere is this better demonstrated than in the struggle to provide culturally appropriate care to black patients who are infected with HIV. The BESAFE model for cultural competency suggested by the National Minority AIDS Education and Training Center will assist healthcare providers in fostering a relationship of mutuality and health promotion.

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**Key words:** HIV/AIDS ♦ BESAFE model  
♦ cultural competency

## INTRODUCTION

The provision of culturally appropriate healthcare to African Americans who are infected with Human Immunodeficiency Virus (HIV) is an important step to eliminating the disparities in care in this population.

Barriers to health care such as cultural stereotyping of minority patients infected with HIV and distrust of the medical community can be reduced by a commitment to improving cultural competency by providers who take care of African American patients infected with HIV.

Culture includes an integrated combination of constructs that go beyond ethnicity and race. It can be referred to as an integrated pattern of

human behaviors that includes thoughts, communications, actions, customs, beliefs, values and institutions of racial, ethnic, religious or social groups (HRSA 2000). Culture is a way of life that is shared between groups of people, but it also includes components that are unique to the individual.

Health is viewed as one of these components of an individual's culture. Therefore, HIV specifically contributes significantly to one's cultural makeup. The cultural shaping that a disease such as HIV makes on an individual is associated with the emotional distress present, societal discrimination and the economic hardship it creates on the individual.

## MANAGEMENT OF HIV/AIDS

The National Minority AIDS Education and Training Center (NMAETC) pursued the development of a model for Cultural Competency in HIV with the intent of integrating its features with issues that uniquely affect the lives of individuals infected with HIV. In order to develop this model the NMAETC addressed the following questions:

- What is the available literature on cultural competency?
- What are comprehensive models of cultural competency?
- How does HIV affect the culture of an individual?
- Who should receive cultural competency training?

## METHODS

### Overview of the Model Development

The National Minority AIDS Education and Training Center convened a panel of healthcare providers with the intent of developing a model for cultural competency in dealing with African Americans infected with HIV. The panel consisted of twenty five members, including physicians, advanced practice nurses, dentists, physician assistants, clinical pharmacists, and HIV educators. The panel also represented different African Diasporas seen in the United States. These included American born, Caribbean born, Africa born, Latin American and Cape Verdean.

Members of the model development group

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### **BESAFE**

**B**arriers to health care

**E**thics in cultural competency

**S**ensitivity of the provider

**A**ssessment appropriate to a cultural determination

**F**acts related to ethnocentric physiologic differences

**E**ncounters

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attended workshops conducted by Dr. Campina-Bacote, an international expert in the field of healthcare cultural competency, where several cultural competency models were presented. Included in these was her model, which included the constructs of cultural competency, including cultural awareness, cultural knowledge, cultural skill, cultural encounters and cultural desire. Members of the group selected, reviewed, and interpreted the data. The panel also reviewed the literature on cultural competency.

The NMAETC's model was finally developed by a method of consensus. Following its development, the model was presented to groups of healthcare providers for discussion and feedback. Responses were used to guide the final development of the constructs of the model. The final version of the model was then used for the development of a book on the topic of cultural competency for providers who take care of African-American patients infected with HIV.

## RESULTS: THE BESAFE MODEL

BESAFE is a framework that uses culturally pluralistic content and perspectives based on the six core elements: Barriers to health care, Ethics in cultural competency, Sensitivity of the Provider, Assessment appropriate to a cultural determination, Facts related to ethnocentric physiologic differences, and Encounters. The following is a summary of these elements, and how they give healthcare professional a framework to provide culturally appropriate primary healthcare services to African American individuals infected with HIV.

### Barriers to Care

Barriers to care is defined as gaps to providing quality care that may be real or perceived and are compounded by the relationship HIV has to ethnicity. These barriers include African American mistrust of the medical community, access to care issues, stigmas surrounding HIV,

support systems, and bias in medical decision-making.

The disparities seen in HIV research between the participation of African American patients and white patients reflect the mistrust African Americans have for the health professional community. More widespread negative attitudes may explain why half as many African American patients as white patients attempt to obtain experimental HIV medications<sup>1</sup>. Although specific examples are often given for the mistrust seen in the black community, there is evidence that the mistrust stems from centuries of medical mistreatment and abuse<sup>2</sup>.

A review of survey data produced by the Kaiser Family Foundation in October 2000 shows that African Americans' access to health care services is compromised by an uninsured rate that is one and a half times that of whites. African Americans also seek HIV testing later than whites. Forty-three percent of African Americans had two months or less between testing positive for HIV and an AIDS diagnosis compared to 31 percent of whites. When African Americans do get access to care, it is often substandard.

Data from the HIV Cost Services Utilization (HCSUS) a national probability sample of persons with HIV receiving medical care in early 1996, showed that African Americans were 1.5 times less likely to receive prophylaxis for *Pneumocystis carinii* pneumonia than whites.

## Ethics

Ethics is defined as a science of the human condition as it applies to the morality of beliefs, values, and behavior. The sources of ethics

include reason, individual experiences and society's experiences. A large portion of these experiences may include those factors that make up one's culture. Hence, having ethics as a component of a cultural competency model is not only important as a guide of the principals of the model, but also it is a natural extension of cultural definition.

It is the duty of the healthcare worker to do no harm and to do their best for their patients. These are the principals of beneficence and benevolence. They can be looked upon as components of natural law-the ethical principal emphasizing the desire of all humans to doing what is morally good. These principals support the valuing of different cultures.

Other issues that are important in the care of individuals infected with HIV include truth telling, confidentiality, HIV research, dealing with dying patients, and the responsibility of the HIV healthcare provider. These issues often create dilemmas between the different ethical layers. These layers include the ethics of the individual, ethics of the institution, and the ethics of society.

In summary, the importance of ethics in determining the morally good practice of a healthcare provider in acknowledging and learning about their client's culture is included as a construct of the cultural competency model.

## Sensitivity of the Provider

The panel utilized Campina-Bacote's construct of cultural awareness under the heading of cultural sensitivity. The Sensitivity of the health care professional involved the process of examining one's prejudices and biases toward other cultures as well as an in-depth exploration of one's own cultural background<sup>3</sup>. The construct of cultural sensitivity was included to aid the health care professional in reducing the phenomena of cultural imposition-the tendency to impose their values on another culture<sup>4</sup>.

Before one can begin to understand another's

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Forty-three percent of African Americans had two months or less between testing positive for HIV and an AIDS diagnosis, compared to 31 percent of whites.

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## MANAGEMENT OF HIV/AIDS

culture it is important to identify one's biases and to determine where they are along a continuum that ranges from unconscious competence to unconscious incompetence.

Campina-Bacote describes this continuum beginning with unconscious incompetence, where the health care professional is not aware that cultural differences exist. Further along the continuum is conscious incompetence, remaining without an understanding of another's culture but aware of what one does not know. Next, is the consciously competent, the provider now becomes knowledgeable of the cultural differences, but is still in the process of learning about another's culture. Finally, the provider may become unconsciously competent where the knowledge of the differences between another's cultures is now appropriately incorporated in one's behavior and interaction with a person of a different culture.

### Assessment

Another construct incorporated from Campina-Bacote is the assessment. She defines this as the ability of the healthcare professional to collect relevant data regarding the patient's health history and present problem in the context of the patient's cultural background<sup>3</sup>. The ethics section stated that health care professionals are obligated to respect the rights of the patients.

As stated by Leininger, one of the rights of the patients is to have specific cultural beliefs, values, and practices. The cultural assessment includes tools that promote a mutually beneficial interaction between the provider and the client. The provider utilizes the cultural assessment to illicit cultural knowledge from the client as a component of their medical history.

### Facts

The full assessment of a patient requires the understanding of physiology, behavior, and the patient's perception of their illness. In order to

adequately design an appropriate treatment plan, the provider needs to individualize these characteristics to their patients. Therefore, an understanding from the perspective of the individual's culture including biologic variations based on ethnicity, worldviews, and culturally specific behavioral patterns are important.

Biologic variations can be misleading when treating an African American individual infected with HIV and basing it on experiences solely from a Caucasian model. Variations seen in clade HIV infectivity between different ethnic groups often show differences in the virologic and immunologic interpretations. There are different levels of risk associated with hypercholesterolemia, hyperglycemia, and other complications of highly active antiretroviral therapy between different ethnic groups. It is important for the health care practitioner to become knowledgeable of these differences if they are to effectively treat African American patients for HIV.

Worldviews are defined as a set of metaphorical explanations used by a group of people to explain life's events<sup>5</sup>. Geri-Ann Galanti states that people's worldview consists of their basic assumptions about the nature of reality<sup>6</sup>. Individuals often have differing ideas on how they perceive the causes of their health based on their differing worldviews.

For example, there are differing reasons why an individual may believe that they become infected with HIV based on their worldviews. Some individuals may believe that another person may have placed a curse on them; others may believe that it occurred because of their prior misdeeds or the misdeeds of their family. As a provider, although it is important for you to discuss the physiologic mechanisms of the disease transfer, it may negatively impact the relationship if you disqualify the client's beliefs.

### Encounters

Cultural encounter is defined as the process that allows the healthcare provider to directly engage in cross-cultural interactions with clients from culturally diverse backgrounds<sup>3</sup>.

The effectiveness of a cross-cultural encounter is dependant on prior knowledge and experiences of the patient's culture as well as the ability to be open to verbal and non-verbal messages transferred during the interaction. Although an individual can never be fully knowledgeable of another's culture, an atmosphere of respect and desire to learn from the patient can facilitate the encounter.

The goals of the cultural encounter include effective communication, the transfer of information and knowledge including medical and cultural information, and the creation of an atmosphere of mutual respect between the healthcare provider and the patient that incorporates cultural components into the therapeutic plan for the patient. The cultural encounter should occur throughout the relationship between the provider and the client. Cultural competence is a continual process that develops as more encounters occur.

## CONCLUSIONS

Cultural competency is an integral part of taking a medical history. However, it goes beyond information gathering and also includes the building of a provider-client relationship that fosters mutuality and health promotion.

Health promotion in HIV management has several components, including the treatment and prevention of HIV related complications, adherence to complicated medicine regimens, reducing emotional distress, educating family and loved ones affected by the disease, and assisting the patient to navigate the complex path of the HIV health system. The model for cultural competency introduced above will assist healthcare providers in fostering a relationship of mutuality and health promotion.

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# THE NATIONAL HIV TELEPHONE CONSULTATION SERVICE (WARMLINE): A CLINICAL RESOURCE FOR PHYSICIANS CARING FOR AFRICAN-AMERICANS

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The National HIV Telephone Consultation Service (Warmline) at San Francisco General Hospital is a free clinical consultation service that provides expert medical and clinical pharmacy guidance to clinicians caring for patients with HIV/AIDS. Consultation can be especially useful when making critically important decisions about antiretroviral therapy and opportunistic infections. The Warmline has served an essential role for the many clinicians who are not AIDS experts but play key roles in HIV care, but do not have ready access to expert consultation. In addition, the Warmline serves as a medical and clinical pharmacy resource to other AIDS experts. Because the AIDS epidemic in the US profoundly affects African-Americans, the Warmline can be a valuable resource for African-American physicians and clinicians caring for African-American patients.

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**Key words:** HIV ♦ AIDS ♦ Consultation  
♦ African-American ♦ Healthcare

## INTRODUCTION

Physicians' experience and expertise in providing care for persons with human immunodeficiency virus (HIV) disease and the acquired immunodeficiency syndrome (AIDS) varies

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greatly. Although an increasing proportion of HIV care is concentrated among AIDS experts who have both an in-depth understanding of HIV treatment strategies as well as access to specific HIV/AIDS nursing and social services, many patients are cared for by clinicians who are not HIV/AIDS experts but provide other essential primary and specialty medical care.

The percentage of African-American physicians providing HIV care and the percentage of African-American patients receiving HIV care from African-American clinicians is not known. The extent of African-American physician involvement in HIV care also varies substantial-

ly.<sup>1</sup> Because of the disproportionately large number of African-American patients with HIV/AIDS and the continuing increase in new HIV infections among African-Americans, special attention has been directed to African-American physicians' role in HIV care.<sup>2</sup>

Regardless of the physician's experience and expertise in HIV care, ready access to consultation and information about HIV/AIDS care can be critical. Among African-American physicians surveyed in 1999, 50 percent cited the complexity of patient care and their limited experience with HIV as their perceived barriers to providing HIV care.<sup>1</sup>

The National HIV Telephone Consultation Service (Warmline) based at the University of California San Francisco (UCSF) Department of Family and Community Medicine at San Francisco General Hospital offers clinicians free consultation in HIV care. This service provides prompt consultation to clinicians, regardless of their HIV/AIDS experience, including recommendations for prophylaxis or treatment against opportunistic infections and selection of combination antiretroviral (ARV) drug regimens. Because improper use of combination ARV therapies can rapidly induce life-long drug resistance, consultation can be extremely important for clinicians unfamiliar with the use of these potentially life-sustaining drug combinations. This article describes the Warmline and addresses some issues regarding African-American patients as well as the use of the Warmline by African-American physicians.

### THE NATIONAL HIV TELEPHONE CONSULTATION SERVICE (WARMLINE)

The Warmline (800/933-3413) is a free national service of the AIDS Education and Training Centers (AIDS ETCs) in the Health Resources and Services Administration (HRSA) HIV/AIDS Bureau, with funding from the Ryan White CARE Act. The Warmline has answered more than 30,000 calls from 1993 to date. Hours

are 9 a.m. to 8 p.m. EST daily, Monday through Friday. The staff is a multidisciplinary team of faculty physicians, pharmacists, and nurse practitioners with a wide range of expertise in the areas of HIV/AIDS, primary care, infectious diseases, and pharmacotherapy.

### Callers

Physicians are the most frequent callers to the Warmline (60 percent), with the majority of physicians practicing in a primary care field. Nurses or nurse practitioners (19 percent) and others involved in clinical care account for most other calls. Callers' familiarity with HIV/AIDS care is varied.

Approximately 23 percent of callers are clinicians who currently care for three or fewer HIV infected patients. These clinicians are often the only point of care for these patients, with the Warmline being the only readily available source of expert advice. Clinicians who care for large numbers of HIV-infected persons also have important consultation needs, especially regarding antiretroviral therapy, resistance testing interpretation, and other rapid changes in HIV care. Currently, 15 percent of callers manage between 11 and 25 HIV patients and 49 percent care for more than 25 patients.

Because the Warmline has been promoted strongly to public sector facilities it is not surprising that nearly 70 percent of calls come from community clinics and other public sector sites, especially those served through the Ryan White CARE Act. Most calls are from urban/suburban sites, but 21 percent of all calls are from rural settings.

### African-American Physicians'

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Currently, 15 percent of callers manage between 11 and 25 HIV patients and 49 percent care for more than 25 patients.

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## Use of the Warmline

The Warmline might be an underused resource for African-American physicians. Currently, 4.7 percent of callers are African-American. Although this percentage is greater than the 2.94 percent of African-American physicians in the US,<sup>3</sup> the prevalence of HIV disease among African-Americans and the percentage of African-American patients receiving care from African-American physicians suggest that greater use of Warmline consultation might be helpful. No data on African-American physicians' use of other AIDS expert consultation sources are available.

To increase awareness of the Warmline among African-American physicians, advertisements were placed in the *Journal of the National Medical Association* in 2001 and 2002, brochures and posters have been distributed at conferences, and continued outreach and promotion via the HRSA National Minority AIDS Education and Training Center, and Ryan White CARE Act programs.<sup>4</sup> Additional promotion via the National Medical Association will be sought.

## QUESTIONS AND WARMLINE METHODOLOGY

Questions cover a broad spectrum of clinical issues, from prevention/transmission issues and laboratory interpretation of diagnostic HIV tests to complicated antiretroviral medication drug regimen selection for persons with ARV-resistant virus. In addition, the Warmline faculty answers questions about occupational exposures to HIV and hepatitis viruses via our National Clinicians' Post-Exposure Prophylaxis Hotline (PEpline) at 888/448-4911.

The Warmline telephone consultations provide callers with highly interactive "one on one" discussions about their specific clinical problems. A collegial interactive format provides the framework for a free and confidential discussion that is otherwise unavailable in written or didactic formats. This approach is especially useful

for discussing complex and interrelated issues in selecting drug regimens, assessing drug toxicities, interpreting viral resistance tests, developing diagnostic and treatment plans for opportunistic diseases, and approaches to end-stage disease. Clinical pharmacy consultation is also integral to Warmline consultations because of the complicated issues of choosing antiretroviral drug regimens, dosing, drug-drug interactions, and drug side effects.

Rapid response times foster timely case-based clinical decision-making; nearly 80 percent of calls are answered at or within an hour of the time of call, and 95 percent are answered the same day. Caller satisfaction with the Warmline has been extremely high (>4.68 in all categories on a 1-5 Likert scale). Warmline calls are also an efficient use of clinician's time. Most calls last from 6-15 minutes, depending on the complexity of the clinical scenario.

The Warmline addresses the needs of clinicians with a wide range of experience, expertise, and comfort with HIV/AIDS. Therefore, a key component in consultation has been the respect the Warmline staff members have for all clinicians, most of whom bear incredible patient care responsibilities. Warmline and other clinical consultation calls constitute opportunities for maximal learning at the time of greatest clinical need, rather than abstract learning at conferences. Because the calls reinforce the clinician's knowledge and introduce new information through a clinically relevant approach, the impact on current and future clinical care can be substantial.

## Calls Regarding Care of African-American Patients

Currently, 24 percent of patient-specific calls concern African-American patients. However, more than 41 percent of persons living with HIV are African-American. African-Americans now constitute the largest single racial/ethnic group with HIV/AIDS, new infections continue to

increase, and African-American women and children are particularly at risk. HIV/AIDS is one of six focus areas for the Healthy People 2010 program of the United States Public Health Service.<sup>5</sup> The percentage of African-American persons who are not in care or are not receiving regular care, however, is disproportionately large.<sup>6</sup> Thus, there may be an unmet need for more consultation regarding African-American patients.

## CONCLUSIONS

The Warmline is a valuable and possibly underused clinical resource for African-American physicians and clinicians caring for African-American patients with HIV/AIDS.

Telephone consultation can provide clinicians with a convenient way to obtain expert advice in managing HIV/AIDS care and can help fill voids in communities where readily available expert consultation is not available, extensive resources and services are scarce, or when patient continuity with a primary clinician or primary health center is lacking. Although such advice does not substitute for face-to-face evaluation by experts it can serve to guide management of many dilemmas in HIV care.

Because the prevalence of HIV/AIDS and new infections with HIV among African-Americans is high, the morbidity and mortality in the African-American community is substantial, and the need for expert consultation in managing clinical problems in HIV care are challenging, the Warmline can be one component in helping African-American physicians in their work against his key clinical and public health state problem.

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## RESOURCES

**National HIV/AIDS Clinicians' Consultation Center (NCCC)**  
*<http://www.ucsf.edu/hivcntr/>*

**National HIV Telephone Consultation Service (Warmline)**  
800/933-3413

(Available 9 a.m. to 8 p.m. EST Monday through Friday for questions about HIV/AIDS, including antiretroviral therapy, clinical manifestations, and laboratory evaluation.)

**National Clinicians' Post-Exposure Prophylaxis Hotline (PEpline)**  
888/HIV-4911 (888/448-4911)  
24-hour coverage for questions about occupational exposures to HIV and other blood-borne pathogens (e.g., needlesticks, splashes)

# PROVIDER PERCEPTIONS OF KEY BARRIERS TO PROVIDING STATE-OF-THE-ART CLINICAL CARE FOR HIV-INFECTED AFRICAN-AMERICAN PATIENTS

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U.S. AIDS rates have declined among some population groups; however, African-Americans and other ethnic minorities, have experienced the least amount of decline. As a result, medical and public health authorities are tasked with developing strategies to help eliminate the disparity in HIV/AIDS incidence rates and clinical outcomes. Thus, in 1999, the National Minority AIDS Education and Training Center (NMAETC) was developed to facilitate training, clinical consultation and technical assistance to clinicians that provide care to HIV-infected minority patients. Its initial activities were designed solely to increase providers' clinical capacity to use state-of-the-art anti-retroviral therapies to treat and manage the disease. However, through focused discussions with target providers and a survey of medical care service sites, the NMAETC confirms that providers' training and assistance needs extend into non-medical domains.

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**Key words:** HIV/AIDS ♦ provider beliefs  
♦ African-American ♦ cultural competence

## INTRODUCTION

Years after the availability and use of highly active anti-retroviral therapies (HAART), HIV/AIDS remains a significant cause of morbidity and mortality. Overall, declines in U.S.

AIDS rates have occurred in the HIV-infected population groups. But, disparities in the rate of infection and AIDS-related clinical outcomes exist between the various ethnic racial groups. The underserved and ethnic minority groups, particularly African-Americans, show the least

declines in AIDS rates. African-Americans represent 12 percent of the U.S. population but accounted for 38 percent of adult and adolescent AIDS cases in 2001.<sup>1,2</sup> While there has been a decrease in opportunistic diseases and deaths among whites with AIDS between 1991 and 2001, there has been an increase in these events among African-Americans in the same period.

The ethnic disparity in AIDS-related opportunistic illness and deaths may be attributed to current and past differences in access to HIV treatment and support services. For example, although the importance of psychosocial support services are frequently reported by HIV-infected patients, they often go unmet<sup>3,4</sup>. Ethnicity appears to compound this problem. African-Americans with HIV/AIDS are more likely to have unmet social service needs<sup>3,5,6,7</sup>.

With regard to access to medical care, African-Americans are less likely to receive appropriate HIV treatment and more likely to experience delays in receiving appropriate HIV treatment<sup>5,8,9</sup>. When AZT mono-therapy was in common use, there was a lower incidence of AZT treatment among African-Americans<sup>10,11</sup>. This was not only because African-Americans were less likely to receive it but they were less likely to be offered AZT<sup>9,10,11</sup>. Now with the advent of HAART, African-Americans also have less access than whites to HAART even after adjusting for level of need such as CD4 count and number of symptoms<sup>12</sup>.

In light of these reports, medical and public health authorities must forge effective strategies to eliminate clinical treatment and care outcome disparities. A potentially effective strategy lies in improving the HIV treatment expertise of clinical providers who provide care to HIV-infected minority patients.

To this end, the Health Resources and Services Administration (HRSA), through funding from the Congressional Black Caucus, established the National Minority AIDS Education and Training Center (NMAETC) in 1999. Through training,

clinical consultation and technical assistance, the NMAETC was mandated to strengthen the HIV clinical expertise of physicians, dentists, physician's assistants, nurse practitioners, nurses and clinical pharmacists who were most likely to serve minority HIV-infected populations. It was believed that each of these six clinical disciplines has a critical role in the diagnosis of HIV-infection and/or clinical management of HIV disease.

In its initial year, the NMAETC focused primarily on assessing the training needs of African-American clinicians and/or clinicians that served African-American patients in the regions associated with each of the four NMAETC performance site locations. Needs assessment activities helped the NMAETC shape its training curriculum and ensure that training topics not only covered state-of-the-art HIV care but also specifically addressed pertinent care delivery challenges faced by the African-American providers in the above-mentioned disciplines.

Using multiple modalities – focused discussions and mailed questionnaires – the NMAETC set out to learn about African-American providers' perceptions of: 1) the causes of poor clinical outcomes in minority HIV-infected patients, 2) barriers to effective HIV care delivery, and 3) priority training and technical assistance needs. Also germane to effective programming, needs assessment activities were used to help gauge to what extent the perceived barriers and needs differed between performance site locations.

## METHODS

### Focused Discussions

The NMAETC conducted nine focused discussions with providers and held one provider panel presentation between February 2000 and February 2001 in the cities where each of the NMAETC collaborating historically black medical schools are located: Howard University College of Medicine (Washington, DC);

Morehouse School of Medicine (Atlanta); Meharry Medical College (Nashville) and Charles R. Drew University of Medicine and Sciences (Los Angeles).

Convenience samples of physicians, dentists, physician's assistants, nurse practitioners, nurses, clinical pharmacists and other health professionals who attended an NMAETC sponsored presentation on an HIV-related clinical topic were asked to remain beyond the lecture to participate in the discussion. Focused discussions were conducted immediately following the clinical presentation with those who opted to participate. In lieu of signed consent forms, the Institutional Review Board (IRB) for Human Subjects Research located at NMAETC's evaluation center at the University of Maryland approved the distribution of information sheets.

The information sheets described the voluntary and anonymous nature of discussion participation and emphasized that discussion participants could leave the discussion at any time. They also informed participants that the discussions would be audio-taped for evaluation purposes only.

Discussion facilitators explained the information sheet to the participant groups prior to beginning each discussion session. In addition, participants were asked to complete and submit anonymous forms that asked for personal and professional demographic data. Completion of participant information forms was voluntary. The participant information forms were approved by the University of Maryland's IRB. A trained facilitator using a standard topic guide led the discussions (Table 1) and subsequently, based on written notes and audiotapes, developed a written transcript and narrative summary of each discussion. Thematic topics that were emphasized by multiple participants and emerged across multiple discussion sessions were noted.

Univariate analysis of self-report data obtained from 266 participant information forms received across 10 sessions and notwithstanding repeat attenders revealed that the majority of discussion

**Table 1:**  
**SAMPLE TOPIC QUESTIONS FOR**  
**FOCUSED DISCUSSIONS WITH PROVIDERS**

Why do you think there is a large disparity between the clinical outcomes of minority HIV-infected patients and the white HIV-infected population?

What could the NMAETC do to get more minority providers involved in HIV care?

What are the priority continuing medical education needs regarding the HIV care of minority patients?

What types of education would expand your ability to care for HIV in minority patients?

participants were female (83 percent) and African-American (76 percent).

Participants were comprised of nurses and nurse practitioners (53 percent), physicians (12 percent), dentists (8 percent), physician assistants (6 percent), and clinical pharmacists (1 percent). The remaining 20 percent were from various other health and non-health professions. Professionals from disciplines not primarily targeted often attended NMAETC training meetings and identified their profession as "other" using the standardized participant information forms provided. Based on introductions that occurred prior to audio-taping, it was regularly noted that the majority of the "other" professionals served in a non-clinical role in HIV-AIDS service delivery.

### Mailed Surveys

In addition to conducting focused discussions, the NMAETC administered mailed surveys to primary medical care organizations identified using the 1999 Primary Care Programs Directory and the HRSA HIV/AIDS Bureau's roster of Ryan White Title III and Title IV funding recipients. Each targeted primary medical care organization was located in the same cities where the above-mentioned discussions were conducted.

Prior to mailing surveys, NMAETC evaluation staff telephoned the targeted organizations to verify their current addresses and obtain the name and contact number for an appropriate clinician or clinic administrator to complete the survey on the providers' behalf.

Several organizations had multiple medical care service sites within a target city. In these cases, each eligible medical care service site within an organization was included and received a separate survey. Medical care service sites that were listed in the directory/rosters but were confirmed to be no longer operational or for which a current phone listing could not be obtained were excluded from the sample and did not receive a survey. In total, 12 sites were excluded.

The remaining 69 medical care sites were identified to receive a survey packet that included a cover letter explaining the purpose of the survey, the confidential and voluntary nature of participation, the mission of the NMAETC, instructions for completing and returning the survey to the evaluators, and a phone number and e-mail address to use if participants had any questions.

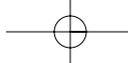
Also included were a blank survey, and

stamped, self-addressed return envelope. Before mailing, each survey was coded with a confidential number to help evaluators track responses and follow-up with non-respondents to verify that they received the mailing as well as to later assist with subgroup analyses. To sites that were non-respondent after two weeks from the mail date, researchers placed follow-up calls to verify receipt of the survey, encourage participation, offer to re-mail the survey packet, if needed, or to have an interviewer administer the survey over the telephone.

The survey contained five items that assessed current access to specific support services offering "yes", "no", or "don't know" as response options (Table 2). Another six items assessed perceptions about the benefit of additional access to each of the specific support services and about the benefit of receiving further training in HIV therapy and therapy adherence issues. Response choices for those six items were "definitely yes", "probably yes", "probably no", and "definitely no" (Table 3). Univariate analysis was used to characterize the prevalence of perceived access to support services and benefit for increased access

**Table 2: Survey Items Assessing Clinics' Access to Training/Support Services**

Question	Yes	No	Don't Know
Do providers in your health care delivery site have access to the necessary specialty referrals for HIV-infected clients such as ophthalmology, cardiology, dental care, or mental health?	1	2	3
Do providers in your health care delivery site have access to foreign language translators during the clinical visits of patients?	1	2	3
Do providers in your health care delivery site have access to case managers and/or social workers that can help clients with complex life situations improve adherence to HIV therapies?	1	2	3
Based on your observations, are ethnic minority clients as comfortable as other clients in accessing services at your health care delivery site?	1	2	3
Has your health care delivery site successfully secured funding for the care of underserved minority clients?	1	2	3
Would providers in your health care delivery site benefit from further training in HIV therapy and therapy adherence issues?	1	2	3



to support services and training. The survey, cover letter and data collection protocol each was approved by the University of Maryland's Institutional Review Board for Human Subjects Research.

Of the 69 organizational surveys mailed, 41 percent were completed and returned to the evaluators, representing 28 individual medical care sites. Surveys were completed by full-time clinic administrators for 14 of the sites, part-time administrators/part-time clinicians for 10 of the sites, and full-time clinicians for three of the sites. (One respondent did not define his or her organizational role). In some cases, larger organizations deemed it appropriate for one individual to complete a survey for several of their medical care service sites. The majority (57 percent) of the responding sites were Ryan White Care Act funded recipients, implying that they provide services to HIV-infected patients.

## RESULTS: SUMMARY OF FINDINGS

### A. Focused Discussions

Three main themes repeatedly emerged across the multiple discussion groups that described participants' perceptions of key provider needs to enhance provision of state-of-the-art HIV care for African-American patients. Those themes were: increase cultural competence, increase access to financial linkages, and increase access to comprehensive care services. Participants articulated that NMAETC training priorities should include educational components to strengthen providers' abilities to address these thematic concerns.

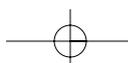
#### Cultural Competence

Discussion participants stated that minority patients continue to distrust health care providers, particularly providers who lack cultural competence and practice in a culturally insensitive manner.

In expounding, they reported that provider cultural insensitivity has subtle manifestations, such as withholding disease-related explanations from patients whom they perceive to be less educated

**Table 3: SURVEY ITEMS ASSESSING NEED FOR FURTHER TRAINING/ SUPPORT SERVICES**

Question	Def. Yes	Prob. Yes	Prob. No	Def. No
Would providers in your health care delivery site benefit from having better access to the necessary specialty referrals for HIV-infected clients such as ophthalmology, cardiology, dental care, or mental health?	1	2	3	4
Would your health care delivery site benefit from having better access to foreign language translators during the clinical visits of patients?	1	2	3	4
Would providers in your health care delivery site benefit from having better access to case managers and/or social workers that can help clients with complex life situations improve adherence to HIV therapies?	1	2	3	4
Would providers in your health care delivery site benefit from hearing about ways in which others have made their health services more comfortable and accessible to ethnic minority clients?	1	2	3	4
Would your health care delivery site benefit from training on how to secure funding for the care of under-served minority clients?	1	2	3	4
Would providers in your health care delivery site benefit from further training in HIV therapy and therapy adherence issues?	1	2	3	4



or of low-income. Further, they explained that many low-income patients struggle with unique socio-economic barriers to care. Their daily economic needs are often urgencies that compete with managing their HIV/AIDS.

Participants cited a need for providers to become more culturally competent and sensitive to the complex situational barriers facing low-income, minority patients.

It was expressed that greater cultural competence would lead to enhanced patient teaching and communications skills that would more effectively address patients' issues around prevention, treatment options and adherence barriers. Further, the lack of cultural competence among providers may have another indirect impact on minority patients' poor clinical outcomes.

In search of culturally competent providers, it was asserted that many minority HIV-infected patients choose a provider that is culturally and linguistically similar to themselves, even though sufficient numbers of minority HIV specialty providers are lacking. This often leads to patients seeking care from primary care providers who may lack expertise in up-to-date HIV clinical management. Primary care providers tend to see few HIV-infected patients annually and thus do not maintain the clinical expertise needed to manage complex emerging therapies and HIV/AIDS complications. As a result, their HIV-infected patients may not receive the quality of care needed for optimal clinical outcomes.

#### **Financial Reimbursement**

In relation to the lack of minority HIV specialists, participants stressed that the few minority HIV specialists are overtaxed with a disproportionate amount of under-insured and uninsured patients who often present in late stages of disease. It was expressed that more minority providers would become involved in HIV specialty care if they were more aware of linkages to third-party funding that would reimburse them for the financial burden incurred by caring for

low-income, HIV-infected patients. Additionally, it was discussed that HIV specialty care would be more attractive if higher salaries were offered for willingness to accept the perceived risk of working with HIV-infected populations and stay abreast of the rapidly changing complexities of state-of-the art HIV clinical care.

#### **Comprehensive Care**

Participants noted that many infected individuals meet their HIV diagnosis with feelings of denial, shame, fear, and anger. Negative emotive responses to HIV often override the patients' desire to thrive and serve as a barrier to care seeking and treatment adherence. Also, large numbers of HIV-infected substance users may require comprehensive medical, psychological and economic support to mitigate their addiction-related barriers to HIV treatment adherence.

Thus, it was believed that psycho-socio-economic issues often converge as factors that negatively impact clinical outcomes in minority, low-income and hard to reach populations. Participants further believed that clinical providers are unable to manage these patient care issues without the partnership of non-clinical providers. HIV-infected patients need access to other specialty medical services such as dental, cardiology, ophthalmology, psychiatry, etc. Yet, it appeared to them that clinical providers often lack information about the availability of comprehensive care services and knowledge of referral procedures to achieve more integrated medical care and access social support services for their HIV-infected patients.

### **B. Medical Care Service Sites' Survey**

All medical care service sites expressed having some access to each of the health services support categories covered in the survey. However, they also reported that they could benefit from increased support in each category (Table 1). Based on percentage of sites that responded "def-

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initely yes" or "probably yes" to survey items that assessed perceptions of increased training and support needs, the highest indications were in the following areas: 1) how to secure funding to care for underserved minority clients (93 percent), 2) obtaining better access to the necessary specialty referrals for HIV-infected clients (89 percent) and 3) hearing about ways to make their services more comfortable and accessible for minority ethnic clients (64 percent). Many (61 percent) primary care medical service sites also reported a need for further training in HIV therapy and therapy adherence issues.

## DISCUSSION

It is of interest that primary medical care service sites' highest reported needs for increased training and support were consistent with topics that provider discussion participants' described as key barriers to state-of-the-art HIV clinical care.

Discussion participants believed that effective training programs for clinicians would include components to help them initially address patients' psychological, social and economic barriers to HIV care. Such training programs would serve to equip providers with culturally competent communication and patient teaching skills.

It also was expressed that providers need assistance in knowing how to access non-clinical services for patient referrals to receive further psychological, social and/or economic support for coping with HIV. Finally, participants indicated a need for information that would help them increase awareness of available financial resources that would reimburse them for HIV care services. While specific clinical training

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Survey respondents were most concerned about how to secure funding to care for minority clients, how to obtain better access to specialty referrals for HIV-infected clients and ways to make their services more comfortable and accessible for minority clients.

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needs were seldom voiced as a priority, providers in these discussions perceived that several non-clinical variables are relevant.

HIV care providers are a good resource for explicating key issues that may be associated with the HIV outcome disparity between ethnic minority and majority groups. The information obtained via survey responses and focused discussions with providers are supported by other findings in the medical literature.

For example, it was perceived that minority providers and recipients are somehow marginalized from wider access to financial resources to supplement HIV care costs. Research shows that inadequate reimbursement is a significant predictor of unwillingness to treat people with HIV<sup>13,14</sup>. Doctors may be unwilling to accept HIV-infected patients due to their fear of income loss from low reimbursement for HIV treatment services and HIV-negative patient attrition resulting from stigmatic perceptions of receiving care in a medical office where infected patients also receive care<sup>14,15,16,17</sup>.

The belief that minority providers have limited access to financial incentives for HIV care services is compounded by the perception that many minority HIV-infected patients seek treatment from providers who are not knowledgeable about state-of-the-art HIV therapies. Indeed our findings are supported by Rawlings, Grimes and Easling<sup>17</sup> who found that almost half of the African-American physicians they surveyed either had no experience or a maximum of five years experience treating HIV-positive patients.

Another perception was that patient understanding, psychological acceptance, comfort, and treatment adherence are linked to improved provider sensitivity and cultural competence. Richter, Michaels, Carlson and Coates'<sup>18</sup> study of motivators and barriers to combination therapy use suggests that the doctor-patient relationship does play a role. They found that more than 50 percent of patients on HIV therapy were encouraged to start treatment by their physician.

However, African-Americans may be unlikely

to be influenced by physician recommendations to start HIV treatment. The Kaiser Family Foundation<sup>19</sup> noted that in a national survey, African Americans reported a low likelihood of discussing their HIV test results with a health professional.

In some cases, cultural competence – understanding patients' needs, providing acceptance, psychological support and a comforting environment – may require extreme dedication from providers to help special populations like substance abusers overcome treatment adherence barriers and improve clinical outcomes. Previous investigators found that provider stereotypes about groups at high risk of HIV infection appear to be related to whether physicians accept HIV-infected patients or prescribe state-of-the-art HIV therapy to their patients<sup>14,20</sup>.

Our findings using two methodologies – survey and focused discussions – supported by similar conclusions noted in the existing professional literature validate the importance of considering non-medical factors as pertinent contributors with HAART to the clinical outcomes of minority HIV-infected patients.

Further, we believe our findings serve to help others in HIV provider education to prioritize training needs and issues of concern to African-American clinicians. While the literature has reported on the association between psychosocial cofactors and HIV clinical outcomes, our investigation brings us closer to learning which psychosocial cofactors are paramount for developing a training program for a cross-disciplinary group of African-American providers.

## IMPLICATIONS

In acknowledgement of limitations, summaries of focused discussions were not developed using independent transcription processes or quantitative measurements to code or rate outcomes.

Rather, the focus group facilitator developed narrative summaries based on review of audio tape recordings and written notes of the discussions. This may have introduced a subjective bias,

thereby posing a reliability threat to the discussion findings. Further, a possibility of double counting exists in terms of discussion participants and survey respondents. The latter limitation is believed to be remote since the discussion groups targeted clinicians that treat HIV-infected patients.

In contrast, responses to survey items not described in this paper indicated that the participating medical care service sites had few clinicians that treat HIV-infected patients. Finally, the completion of multiple site surveys by a single individual in several cases may imply that responses were not necessarily independent observations.

Notwithstanding these limitations, the information convergence from focused discussions, medical site surveys and the professional literature gives credence to the accuracy of our conclusion that non-medical barriers impact the clinical care provided to minority HIV/AIDS patients.

Thus, we believe that curriculum programs designed to enhance the clinician's ability to provide care for HIV-infected patients would do well to supplement state-of-the-art clinical training with learning units on the non-medical correlates of patient health outcomes.

Compatible with these findings, we recommend inclusion of educational content that meets the following cognitive, attitudinal and skill-based objectives in provider training curricula designed to strengthen HIV care expertise.

## Cognitive Objectives

- Improve understanding of processes for patient referrals to non-medical social services in the community or related health systems.
- Increase knowledge of and access to third party reimbursement venues for HIV care.
- Increase awareness about the influence of provider communication on patients' decision-making around HAART therapy.
- Define the roles and responsibilities of general practitioners regarding HIV care services.

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- Describe multiple resources for HIV clinical updates and clinical consultation services.

### Attitudinal Objectives

- Reduce negative stereotypical beliefs about low-income, high-risk and other HIV-infected populations.
- Reduce fears regarding personal health risks of treating HIV-infected patients.
- Increase willingness and/or commitment to specialize in HIV care.

### Skill-Based Objectives

- Increase provider capacity to facilitate comprehensive health care services for patients.
- Increase provider proficiency in culturally competent communication.
- Increase provider ability to promote patient respect among the entire health care team.
- Increase provider mastery of accessing expert advice on HIV clinical management issues.

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# ORAL MANIFESTATIONS IN THE ERA OF HAART

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AIDS has reached epidemic proportions in the United States, disproportionately affecting African-Americans and other minorities. As highly active antiretroviral therapy (HAART) have improved the length and quality of life for HIV-infected people, oral health care has made similar strides. It is important that physicians and dentists recognize the earliest signs and symptoms of HIV infection in order that a timely diagnosis and patient referral can be made for early counseling testing, and treatment. At the same time, dentists have seen themselves at considerable risk from HIV infection. Some dentists believe that they may also be more at risk from stigma than other providers if they treat HIV patients.

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**Key words:** HIV/AIDS ♦ dental care  
♦ HAART

The 20th year of HIV/AIDS is a milestone in the fight against HIV/AIDS. Since the first acquired immunodeficiency syndrome (AIDS) cases were reported in 1981, AIDS has caused approximately 22 million deaths worldwide. In the United States, approximately 400,000 persons have died, and approximately 1 million persons have been infected<sup>1</sup>. The CDC estimates that 1 in 50 black men and 1 in 160 black women are infected with HIV, meaning that blacks are 10 times more likely to be diagnosed with HIV, and 10 times more likely to die of AIDS<sup>1</sup>.

Highly active antiretroviral therapy (HAART) have improved the length and quality of life for the HIV-infected person. The epidemic has affected all aspects of primary care<sup>1,2,3,4</sup>. This report outlines some of the oral health changes of the HIV-infected patient since the advent of HAART and other drug treatment regimen.

Oral manifestations of HIV infection are a fundamental component of disease progression and occur in approximately 30 to 80 percent of the affected patient population.<sup>5,6,7</sup> Factors which predispose expression of oral lesions include CD4 counts less than 200 cells/mm<sup>3</sup>, viral load greater than 3,000 copies/mL, xerostomia, poor oral hygiene and smoking.<sup>8,9</sup>

The overall prevalence of oral manifestations in HIV disease has changed since the advent of HAART. One study noted a reduction of oral lesions from 47.6 percent pre-HAART to 37.5 percent during the HAART era<sup>7</sup>. The details of this study included a significant reduction in oral hairy leukoplakia and necrotizing ulcerative periodontitis, yet there was no significant change in the incidence of oral candidiasis, oral ulcers and Kaposi's sarcoma. This population did, however, see an increase in salivary gland disease. Other

published reports show a marked increase in the number of oral warts in the HAART era.<sup>10, 11</sup>

A study of 1,424 adults who participated in the AIDS Cost and Utilization Study revealed that only 9.1 percent reported treatment for oral manifestations. After adjusting for CD4 count and other variables, African-Americans and Hispanics were significantly less likely to receive treatment. Factors which were significant for the receipt of oral health care included more than a high school education, participation in clinical trials and utilization of counseling services.<sup>12</sup> The ability to differentiate one manifestation from another, and to manage some of the more common conditions are fundamental to the overall health care of this patient population. Oral lesions are differentiated as fungal, viral and bacterial infections, neoplasms such as Kaposi's sarcoma and non-specific presentations such as aphthous ulcerations and salivary gland disease.

The following discussion will cover the most commonly seen oral manifestations seen in association with HIV infection (Table 1).

### FUNGAL INFECTIONS

The most common fungal infection seen in association with HIV infection is oropharyngeal candidiasis. There are three frequently observed forms of oral candidiasis: erythematous candidiasis, pseudomembranous candidiasis and angular cheilitis.

**Erythematous candidiasis** presents as a red, flat, subtle lesion either on the dorsal surface of the tongue and/or the hard/soft palates.

Erythematous candidiasis tends to be symptomatic with patients complaining of oral burning, most frequently while eating salty or spicy



Erythematous candidiasis on palate with areas of pseudomembranous candidiasis.

foods or drinking acidic beverages. Clinical diagnosis is based on appearance, taking into consideration the person's medical history and virologic status. The presence of fungal hyphae or blastospores can be confirmed by performing a potassium hydroxide preparation. Although erythematous candidiasis has been identified as one of the more common oral manifestations seen in association with HIV disease, this presentation is frequently under-diagnosed.<sup>8</sup> Due to the limited nature of this infection, treatment involves the use of topical antifungal therapies.

**Pseudomembranous candidiasis** appears as creamy white curd-like plaques on the buccal mucosa, tongue and other oral mucosal surfaces that will wipe away, leaving a red or bleeding underlying surface.



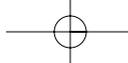
The most common organism involved with the presentation of candidiasis is *Candida albicans*, however there are increasing reports of the increased incidence of non-albicans species.<sup>13</sup>

Like erythematous candidiasis, diagnosis of pseudomembranous candidiasis is based on clinical appearance while taking into consideration the person's medical history. Potassium hydroxide preparation, fungal culture or biopsy, may be useful in obtaining an accurate diagnosis.

There has been a decline in the occurrence of pseudomembranous candidiasis in patients who are on successful highly active retroviral regimens containing protease inhibitors. A review of the literature suggests that immune reconstruction alone does not account for this reduction, but rather the added effect of protease inhibitors on candidal virulence factors such as aspartyl protease.<sup>14</sup>

Whereas there has been a decline in the prevalence of pseudomembranous candidiasis, necrotizing ulcerative periodontitis in mandibular anterior teeth is becoming more common. This condition is characterized by severe periodontal disease, necrotic ulcers on the gingiva, and a characteristic "punched-out" appearance of the gingiva. It is often associated with HIV infection and is more common in patients with advanced immunosuppression.

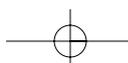
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**Table 1. RECOGNITION AND MANAGEMENT OF THE ORAL MANIFESTATIONS OF HIV/AIDS**

Oral Manifestation	Description	Treatment Options
Erythematous Candidiasis	Red, flat subtle lesion, usually found on the dorsal surface of the tongue and/or the hard or soft palate. Lesion tends to be symptomatic with patients complaining of burning or sensitivity.	Topical antifungal therapy: Clotrimazole troches 10mg (dispense 70, Dissolve 1 troche in mouth 5 times a day for 2 weeks); Nystatin oral suspension 500,000u (Hold 1 teaspoonful in mouth for 5 minutes, 4 times/day for 2 weeks)
Pseudomembranous candidiasis	White, off-white or yellow patches which can appear anywhere within the oral cavity. These lesions will wipe away leaving a red and/or bleeding surface. Treatment depends on the extent of disease.	Mild to moderate presentations, see topical antifungal therapy. Moderate to severe presentations: Fluconazole 100mg (dispense 15, 2 tabs on day 1, then 1 tab for the rest of the 2 week treatment time).
Angular cheilitis	Cracking or fissuring at the corner of the mouth.	Ketoconazole 2 percent cream (dispense 30gms, apply to affected area 4 times a day for 2 weeks).
Oral Hairy Leukoplakia	White corrugated lesion normally appearing on the lateral border(s) of the tongue that does not wipe away.	Treatment is not usually required. High dose (4gms/day) acyclovir can be used for temporary relief.
Oral Warts	Published reports indicate increased frequency of oral warts due to Human Papillomavirus in HIV+ patients. This manifestation presents as papillary lesions of normal mucosal color or hyperkeratotic. Recurrence after removal is common.	Cryotherapy or surgical excision. For lesions on the lip (external use only): Podofilox topical solution 0.5 percent (dispense 3.5ml, apply to wart twice a day for 3 days in a row. Do not apply for 4 days, then reapply if necessary.) Imiquimod 5 percent cream (dispense 3gm, apply once a day at bedtime 3 days a week, i.e. MWF or TTS.)
Linear Gingival Erythema (LGE)	Characterized by red bands along the free gingival margin that may present without the presence of dental plaque.	Dental prophylaxis, use of a 0.12 percent chlorhexidine suspension twice a day for 2 weeks, reinforcement of oral hygiene instructions.
Necrotizing Ulcerative Periodontitis (NUP)	Clinical features included ulcerated, cratered, interdental papillae, mobile teeth and a fetid odor. Patients may complain of "deep jaw pain" and spontaneous bleeding. NUP is a sign of severe immune deterioration.	Augmentin® 875mg (dispense 14, 1 tablet PO BID for 7 days or metronidazole 250mg (dispense 28, 1 tablet PO QID for 7 days), plus 0.12 percent chlorhexidine suspension twice a day for 2 weeks plus local debridement.
Oral Ulcer due to HSV	Shallow ulcerations that usually appeared on fixed or keratinized tissues.	Acyclovir 400mg (dispense 30, 1 tablet PO TID for 10 days).
Aphthous ulcerations	These painful ulcerations are characterized by a halo of inflammation and a gray or yellow pseudomembrane. Aphthous ulcerations present on non-fixed or non-keratinized tissues such as the buccal mucosal, posterior oropharynx and lingual surface of the tongue.	Minor aphthous: Orabase® Soothe-N-Seal™ and if necessary dexamethasone elixir .5mg/5ml (dispense 100mls, swish with 5mls for 1 minute then expectorate, TID until symptoms abate) .Major aphthous may require systemic corticosteroid, nutritional supplements and pain management.

*The above treatment options are intended as guidelines only. Prescribers should refer to the latest edition of the Physicians Desk reference for full prescribing information.*



lence of pseudomembranous candidiasis in the HAART era, this is still one of the most common oral manifestations seen in HIV disease. Treatment should be based on the extent of the infection with topical therapies (nystatin, clotrimazole) utilized for mild to moderate cases and systemic therapies (fluconazole) used for moderate to severe presentations. Antifungal therapy should last for two weeks to reduce the colony forming units to the lowest level possible to prevent recurrence.

As HIV disease progresses and immunosuppression becomes more severe, the incidence and severity of oropharyngeal candidiasis increase. The introduction of oral azoles, most notably fluconazole, has led to the increased incidence of azole resistant *Candida albicans* as well as the emergence of non-*albicans* species such as *Candida glabrata*, which are inherently resistant to this class of drug.<sup>15</sup> Factors that increase the probability of azole resistant strains of *Candida* presenting in the oral cavity include previous exposure to azoles, low CD4 count and the presence of non-*albicans* species.<sup>16,17</sup> To minimize the risk of resistance, topical therapies should be considered for first-line treatment of initial or recurrent cases of mild to moderate oropharyngeal candidiasis.<sup>15</sup> Systemic therapies should be utilized for moderate to severe cases.

The clinical presentation of **Angular cheilitis** is erythema and/or fissuring of the corners of the mouth. Angular Cheilitis can occur with or without the presence of erythematous candidiasis or pseudomembranous candidiasis. Angular cheilitis can exist for an extensive period of time if left untreated. Treatment involves the use of a topical antifungal cream directly applied to the affected areas four times a day for the two-week treatment period.

A periodontal disease, **linear gingival erythema** presents as a red band along the gingival margin, which may or may not be accompanied by occasional bleeding and discomfort. Linear gingival erythema is seen most frequently in associa-

tion with anterior teeth, but commonly extends to the posterior teeth. Linear gingival erythema can also present on attached and non-attached gingiva as petechia-like patches.

Research has indicated there may be a relationship between

sub-gingival colonization of *Candida* species and HIV-related periodontal conditions including linear gingival erythema.<sup>18</sup> The most recent classification of periodontal diseases by the American Academy of Periodontology grouped LGE under "gingival disease of fungal origin".<sup>19</sup> Treatment for this condition would include debridement by a dental professional followed by twice daily rinses with a 0.12 percent chlorhexidine gluconate suspension for two weeks and improved oral hygiene home care.

Chronic adult periodontal disease occurs frequently in persons living with HIV disease. Three unique presentations of periodontal disease seen in association with HIV-infection are: 1) the previously discussed linear gingival erythema, 2) necrotizing ulcerative gingivitis and 3) necrotizing ulcerative periodontitis.

The demarcation between necrotizing gingivitis and necrotizing periodontitis was created to define the difference between the rapid destruction of soft (necrotizing ulcerative gingivitis) and hard (necrotizing ulcerative periodontitis) tissues. It has not been determined whether or not these two presentations are the same or unique entities and both have been classified as "Necrotizing Periodontal Diseases" by the American Academy of Periodontology. Due to the lack of significant differences in the microbial profile of these two conditions and similarity in treatment, this discussion will be limited to necrotizing ulcerative periodontitis, which is a marker of severe



Linear gingival erythema: fiery, red band on free gingival margin of maxillary lateral and central incisors.

immune suppression.<sup>20</sup>

Necrotizing ulcerative periodontitis is characterized by severe pain, loosening of teeth, bleeding, fetid odor, ulcerated gingival papillae and rapid loss of bone and soft tissue. Patients often refer to their pain as “deep jaw pain.” Prompt referral to a dental professional for removal of dental plaque, calculus and necrotic soft tissues utilizing a 0.12 percent chlorhexidine gluconate or 10 percent povidone iodine lavage will alleviate symptoms. Patients should be placed on antibiotic therapy effective against gram-negative flora such as metronidazole or Augmentin®.

The healthcare team should address pain management, nutritional supplementation and stress the importance of oral hygiene. Timely referral to the primary care team is indicated to rule out other systemic opportunistic infections.

## VIRAL DISEASES

**HSV-1 infection** is widespread and oral manifestations of the herpes type are common. Seventeen percent of the U.S. population over age 12 experienced an oral herpetic lesion over a 1-year period.<sup>21</sup> Recurrent intraoral herpes simplex may start as a small crop of vesicles that rupture to produce small, painful ulcerations which may coalesce. Although these herpetic ulcerations are often self-limiting, the use of an antiviral medication such as acyclovir is sometimes necessary to control the outbreak. Medications such as acyclovir stop viral replication and allow the affected area to heal.

**Herpes Zoster**, a reactivation of the varicella zoster virus, can occur along any branch of the trigeminal nerve; therefore an intraoral or extraoral presentation along branches of this nerve is possible. The external lesions will start as vesicles, break open and then crust over. The intraoral lesions will start as vesicles, burst and then present as oral ulcerations. Since both of these presentations are along the trigeminal nerve, the patient’s chief complaint may be toothache of

unknown origin. Treatment options include higher doses of acyclovir (800 mg, five times a day for 7 to 10 days) or famciclovir 500 mg three times a day for 7 days.).

**Oral hairy leukoplakia** is caused by the Epstein-Barr virus and presents as a white corrugated, nonremovable lesion on the lateral borders of the tongue. Studies have shown a significant decrease in the incidence of oral hairy leukoplakia in the HAART era.<sup>7,8</sup> This condition is normally



asymptomatic and does not require therapy unless there are cosmetic concerns. Patients who present with this condition while on HAART may be experiencing a failure in their present antiretroviral regimen.

**Oral warts** due to Human papillomavirus (HPV) have dramatically increased in the HAART era.<sup>6,7</sup> Previously classified as an oral manifestation less strongly associated with HIV disease, the clinical observation of oral papillomas has increased, particularly noted since antiretroviral combination therapy has become the guidelines in the medical management of the HIV infected patient. It has been well documented that immunosuppression, HIV-related or not, predisposes the immunosuppressed patient to numerous opportunistic infections. In turn, it has been suggested that immunosuppression may likely cause the enhanced replication of HPV resulting in the increase susceptibility to infection with HPV in the HIV+ patient since oral papillomas containing HPV DNA has been observed in immunosuppressed transplant patients also.<sup>22,23,24</sup>

On the other hand, improvement in the immune status of the HIV+ patients as a result of HAART has not been sufficient to stop the epithelial cell proliferation stimulated by HPV infection. The immunologic goal of HAART is quantitative and qualitative reconstitution of the

Oral hairy leukoplakia on lateral border of tongue.

immune system.<sup>25</sup> While an increase in CD4 cell count may occur with HAART, this may result in the production of less immunocompetent cells.<sup>26</sup> One study noted the risk of oral warts was associated with a  $> \text{one-log}_{10}$  decrease in HIV RNA in the 6 months prior to oral HPV diagnosis, which suggests that this may in part be related to immune reconstitution.<sup>6</sup>

In a retrospective study where charts were randomly selected from an overall clinic population of 1280 patients seen between 1990 and 1999, an increase in the number of oral warts was particularly noted between 1996 and 1999, i.e., after the introduction of protease inhibitors as a part of antiretroviral therapy. An increase in the occurrence of oral warts was observed in a greater percentage of charts reviewed where patients were on HAART which included a protease inhibitor as opposed to patients who were on a HAART regime that did not include a protease inhibitor.<sup>7</sup> While this study may suggest that the increased incidence of oral warts is possibly a complication of the protease inhibitors, more research is warranted.

More than 100 subtypes of HPV have been described, all of which can infect epithelial cells. At least 17 HPV DNA types have been detected in oral mucosal lesions, the more common of which include HPV DNA subtypes 2, 6, 11, 13, 32 and 57.<sup>22,27</sup>

However, the presence HPV 16 and 18, more commonly observed in warts of the anogenital area, has also been reported in the oral cavity.<sup>28,29</sup> When analyzed with type-specific HPV probes, HPV 16 and 18 is observed in oral papillomas biopsied from HIV+ patients.<sup>30</sup> HPV 16 and 18 has been described as the etiologic factor in cervical carcinoma in women as well as the premalignant, cervical intraepithelial neoplasia. In addition, the risk of premalignant anal squamous intraepithelial lesions among HIV+ homosexual men was associated with high levels of HPV 16 or HPV 18 and depressed CD4 counts.<sup>31</sup> Additional research may be indicated to demon-

strate if, long-term, a malignant potential exists when HPV DNA subtypes 16 and 18 are found in oral epithelial tissues.

Further noted, a correlation exists between the incidence of HPV lesions and the seroprevalence of HPV antibodies in patients infected with HIV through sexual contact and a higher number of sexual partners.<sup>32,33</sup> In a study by Lopes & Meeks<sup>34</sup> analyzing 16 oral papillomas in five HIV seropositive male patients who acquired HIV through sexual contact, nine lesions that tested positive for HPV 16 and 18 were found in the heterosexual subjects. In a continuation of this study where seven additional oral papillomas in three HIV seropositive male patients (one heterosexual; two homosexual) were analyzed, unpublished results by the researchers showed all seven lesions tested positive for HPV 16 and 18. The presence of HPV 16 and 18 in oral papillomas may be related to oral sexual behavior. However, when found in an HIV+ heterosexual male, identification and examination (medical and/or gynecological) of the female sexual partner may be warranted due to the association of HPV 16 and 18 and cervical carcinoma in women, and, the fact that cervical carcinoma is an AIDS-indicator condition in HIV seropositive females.<sup>34,35,36</sup>

Oral warts may appear cauliflower-like, spike or raised with a flat surface. Treatment, which may involve surgery, laser surgery or cryotherapy, is problematic, as these lesions tend to recur.

## NEOPLASTIC DISEASES

**Kaposi's sarcoma (KS)** is still the most frequent oral malignancy seen in association with HIV infection, although the incidence has dramatically decreased in the HAART era.<sup>8</sup> For homosexual men with AIDS, incidence of all presentations of KS is highest in the 30-39 age group with 5 cases/100 person-years.<sup>37</sup> Kaposi's sarcoma-associated herpesvirus (KSHV) has been implicated as a co-factor in the presentation of KS in persons living with HIV disease. The overall prevalence of KSHV in Texas blood donors

proved to be 15 percent, which is higher than studies performed in other states.<sup>38</sup>

The clinical appearance of KS can be macular, nodular, or raised and ulcerated; the color can range from red to purple. Early lesions tend to be flat, red and asymptomatic, with the color becoming darker as the lesion ages. As lesions progress they can interfere with the normal functions of the oral cavity and become symptomatic secondary to trauma or infection. A biopsy is necessary for a definitive diagnosis. Treatment of oral lesions ranges from localized injections of chemotherapeutic agents, such as vinblastine sulfate, to surgical removal. For persons who present with extraoral and intraoral KS, systemic chemotherapy may be the treatment of choice. It is important that the entire primary health care team, including the primary care provider, dentist and oncologist work closely together in order to facilitate the best possible outcome. Oral hygiene should be stressed for people with oral KS.

Non-Hodgkin's lymphoma is an AIDS defining condition that, on occasion, presents in the oral cavity. This lesion tends to present as a large, painful, ulcerated mass on the palate or gingival tissues. A biopsy is necessary for a definitive diagnosis. The oral health care team should refer patients with a diagnosis of non-Hodgkin's lymphoma to an oncologist for treatment.

## MISCELLANEOUS

### Salivary Gland Disease and xerostomia

**Salivary gland disease** is clinically apparent by an increase in the size of the major salivary glands, most notably the parotids. Biopsy of suspect enlarged parotid salivary glands has revealed an increase in lymphocytic infiltrates, more specifically, CD8 cells.

This condition usually presents as a bilateral enlargement of the parotid salivary glands and is often times accompanied by symptoms of dry mouth. There has been a reported increase in the presentation of salivary gland disease in the

HAART era, which may be related to a reconstitution syndrome.<sup>11</sup>

Xerostomia or dry mouth is common complaint among people living with HIV disease. Approximately 29 percent of those participating in the HIV Cost and Utilization Study cohort reported symptoms of xerostomia. Factors which proved to be significant in the presentation of xerostomia included the previously observed salivary gland disease, use of medications to manage HIV and other conditions, smoking, and a viral load of > 100,000/mm.<sup>39</sup>

Symptoms of dry mouth can be temporarily alleviated by sucking on sugar-free hard candies, chewing sugar-free gum and by using oral moisturizers. The change in the quantity and quality of saliva may lead to increased dental decay and therefore meticulous oral hygiene should be stressed and use of prescription topical fluoride preparations encouraged.

### Recurrent aphthous ulcerations

Recurrent aphthous ulcerations (RAU) are a common occurrence with approximately 17 percent of the U.S. population reporting an episode within a twelve-month period<sup>17</sup>.

RAU present on non-keratinized or non-fixed tissues such as labial and buccal mucosa, the floor of the mouth, ventral surface of the tongue, posterior oropharynx and the maxillary and mandibular vestibules. RAU are characterized by a halo of inflammation and a yellow-gray pseudomembranous covering.

RAU, which last between 7 and 14 days in the general population, may last longer and be more painful in immunocompromised individuals. Increased pain is usually noted upon eating salty, spicy or acidic foods and beverages as well as due to trauma when consuming hard or rough foods. Treatment involves the use of topical corticosteroids such as dexamethasone elixir (0.5mg/5ml) 5 ml swished for one minute then expectorated, or for more severe occurrences, systemic corticosteroids such as prednisone. While the use of

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immunoactive agents contribute to a reduction in inflammation and therefore speed healing, these agents do not immediately address pain.

Pain as a result of recurrent aphthous ulcerations is typically managed by using topical anesthetics or systemic analgesics. Topical anesthetics do offer some relief from the pain associated with these lesions, although such relief is usually of short duration. Another consequence of use of anesthetic mouthrinses is the numbing effect on the taste buds, which results in decreased desire to eat. Diminished nutritional intake further negatively impacts patients' overall well-being. Systemic analgesics are somewhat effective, but do not specifically address localized pain associated with oral ulcerative disease. A new over-the-counter oral formulation of 2-octyl cyanoacrylate has shown promise as a barrier product for managing localized oral pain due to ulcerative disease.<sup>40</sup>



HIV disease oral ulcerative disease. Recurrent aphthous ulcer on left. Ulceration probably due to leukopenia on right.

## CONCLUSION

It is important that physicians and dentists recognize the earliest signs and symptoms of HIV infection in order that a timely diagnosis and patient referral can be made for early counseling testing, and treatment<sup>41</sup>. Candidiasis, ulcerative diseases, and periodontal disorders are the most common. Other lesions may be observed in varying stages of the disease.<sup>42</sup> A definitive diagnosis is very important to differentiate many HIV/AIDS-related oral diseases because there are many oral lesions that have similar presentations.<sup>43</sup> Greenspan noted that not only are oral lesions a significant part of HIV-related illness, but certain oral lesions play a specific part in the diagnosis and staging of HIV infection<sup>42</sup>.

There is a broad consensus that persons with HIV should see a dentist regularly.<sup>44</sup> Available evidence suggests that socially marginalized populations are more likely to report unmet needs for these services. Racial and ethnic groups, women, and injection drug users with HIV have relatively greater unmet needs for medical and dental care than do less disadvantaged groups. Several studies have shown that individuals reported unmet needs for dental care at a greater level.<sup>45, 46</sup>

Dentists have not been universally receptive to caring for persons with HIV/AIDS. In many communities it was reported that it was extremely difficult to find a dentist willing to treat HIV patients. Dentists have seen themselves at considerable risk from HIV infection. Some dentists believe that they may also be more at risk from stigma than other providers if they treat HIV patients<sup>47, 48</sup>.

In the future there needs to be a greater emphasis placed on the dental health and unmet needs of the HIV-infected patients<sup>45,46</sup>. Several reports from Ryan White Programs have indicated the number one unmet need in clinical services is oral health care<sup>49</sup>. In the Georgia HIV Consumer Survey Report 1999-2000, dental care was the most frequently reported service needed, but yet, not received<sup>50</sup>.

It is important for primary health care teams to note that severely compromised oral health in persons infected with HIV/AIDS can result in difficulty in chewing, swallowing, maintenance of salivary flow, and tasting foods. These functions are necessary to maintain an optimal quality of life and minimize the affects of other systemic diseases.

Medical and dental providers of HIV infected persons can play a significant role in the prevention and long-term successful treatment and management of HIV/AIDS infected individual. It is important to completely understand the state-of-the-art treatment methods and for health care providers to receive current updates. Education and training will better ensure the delivery of quality care for the patient.

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