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Evaluation Center on HIV & Oral Health

Presenter Disclosures

There are no disclosures for this session.

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Social Justice in Oral Health: Ensuring Access to Care for People with HIV

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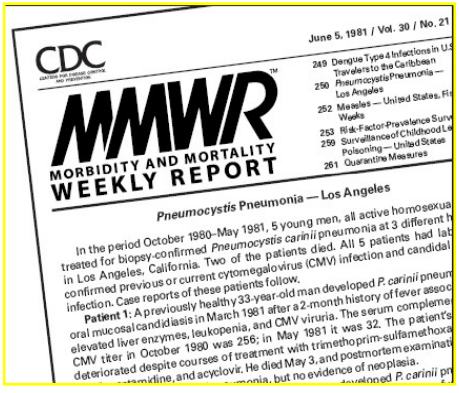
1981-CDC-first reports of AIDS infections



CDC

June 5, 1981 / Vol. 30 / No. 21

MMWR
MORBIDITY AND MORTALITY WEEKLY REPORT

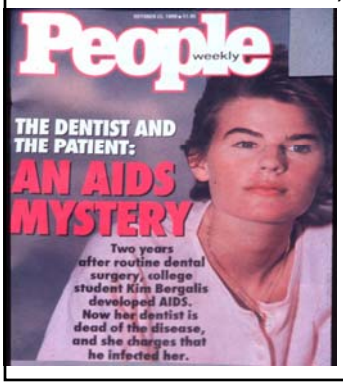
249 Dengue Type 4 Infections in U.S. Travelers to the Caribbean
250 Pneumocystis Pneumonia — Los Angeles
252 Measles — United States, First Weeks
253 Risk-Factor-Prevalence Surv
259 Surveillance of Childhood Le Poisoning — United States
261 Quarantine Measures

Pneumocystis Pneumonia — Los Angeles

In the period October 1980–May 1981, 5 young men, all active homosexua treated for biopsy-confirmed *Pneumocystis carinii* pneumonia at 3 different h in Los Angeles, California. Two of the patients died. All 5 patients had lat confirmed previous or current cytomegalovirus (CMV) infection and candidal infection. Case reports of these patients follow.

Patient 1: A previously healthy 33-year-old man developed *P. carinii* pneum oral mucosal candidiasis in March 1981 after a 2-month history of fever assoc elevated liver enzymes, leukopenia, and CMV viruria. The serum compleme CMV titer in October 1980 was 256; in May 1981 it was 32. The patient's deteriorated despite courses of treatment with trimetho prim-sulfamethoxa ...ridine, and acyclovir. He died May 3, and postmortem examinat ...monia, but no evidence of neoplasia. ...veloped *P. carinii* pn

HIV Transmission to 6 Patients in a Dental Practice, U.S.

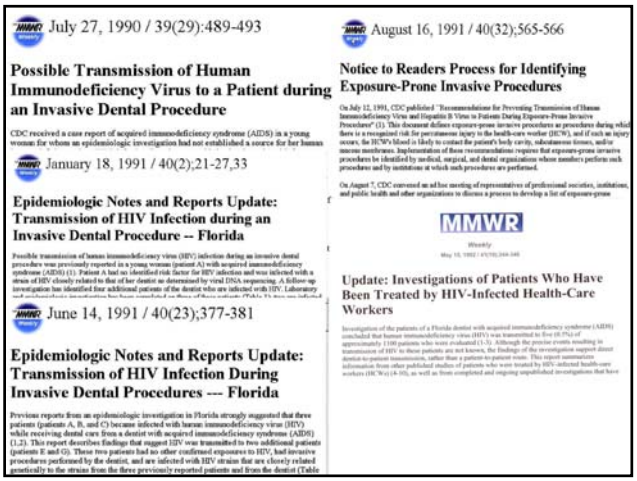


People weekly

THE DENTIST AND THE PATIENT:
AN AIDS MYSTERY

Two years after routine dental surgery, college student Kim Bergalis developed AIDS. Now her dentist is dead of the disease, and she charges that he infected her.

- Procedures performed by dentist after his AIDS diagnosis
- No other confirmed exposures to HIV
- HIV strain similar to dentist and to each other



July 27, 1990 / 39(29):489-493

Possible Transmission of Human Immunodeficiency Virus to a Patient during an Invasive Dental Procedure

CDC received a case report of acquired immunodeficiency syndrome (AIDS) in a young woman for whom an epidemiologic investigation had not established a source for her human

January 18, 1991 / 40(2);21-27,33

Epidemiologic Notes and Reports Update: Transmission of HIV Infection during an Invasive Dental Procedure -- Florida

Possible transmission of human immunodeficiency virus (HIV) infection during an invasive dental procedure was previously reported in a young woman (patient A) with acquired immunodeficiency syndrome (AIDS) (1). Patient A had no identified risk factor for HIV infection and was infected with a strain of HIV closely related to that of her dentist as determined by viral DNA sequencing. A follow-up investigation has identified four additional patients of the dentist who are infected with HIV. Laboratory

June 14, 1991 / 40(23);377-381

Epidemiologic Notes and Reports Update: Transmission of HIV Infection During Invasive Dental Procedures --- Florida

Previous reports from an epidemiologic investigation in Florida strongly suggested that three patients (patients A, B, and C) became infected with human immunodeficiency virus (HIV) while receiving dental care from a dentist with acquired immunodeficiency syndrome (AIDS) (1,2). This report describes findings that suggest HIV was transmitted to two additional patients (patients E and G). These two patients had no other confirmed exposures to HIV, had invasive procedures performed by the dentist, and are infected with HIV strains that are closely related genetically to the strains from the three previously reported patients and from the dentist (Table

August 16, 1991 / 40(32);565-566

Notice to Readers Process for Identifying Exposure-Prone Invasive Procedures

On July 12, 1991, CDC published "Recommendations for Preventing Transmission of Human Immunodeficiency Virus and Hepatitis B Virus to Patients During Exposure-Prone Invasive Procedures" (1). This document defines exposure-prone invasive procedures as procedures during which there is a recognized risk for percutaneous injury to the health-care worker (HCW), and if such an injury occurs, the HCW's blood is likely to contact the patient's body cavity, subcutaneous tissues, and/or mucous membranes. Implementation of these recommendations requires that exposure-prone invasive procedures be identified by medical, surgical, and dental organizations whose members perform such procedures and by institutions at which such procedures are performed.

On August 7, CDC convened an ad hoc meeting of representatives of professional societies, institutions, and public health and other organizations to discuss a process to develop a list of exposure-prone

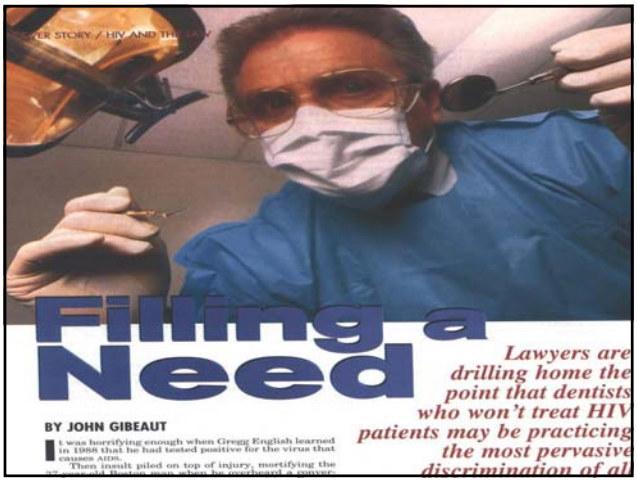
MMWR

Weekly

May 15, 1992 / 41(19);344-346

Update: Investigations of Patients Who Have Been Treated by HIV-Infected Health-Care Workers

Investigation of the patients of a Florida dentist with acquired immunodeficiency syndrome (AIDS) concluded that human immunodeficiency virus (HIV) was transmitted to five (0.7%) of approximately 1100 patients who were evaluated (1-3). Although the precise events resulting in transmission of HIV to these patients are not known, the findings of the investigation support direct dentist-to-patient transmission, rather than a patient-to-patient route. This report summarizes information from other published studies of patients who were treated by HIV-infected health-care workers (HCWs) (4-10), as well as from completed and ongoing unpublished investigations that have



ER STORY / HIV AND THE LAW

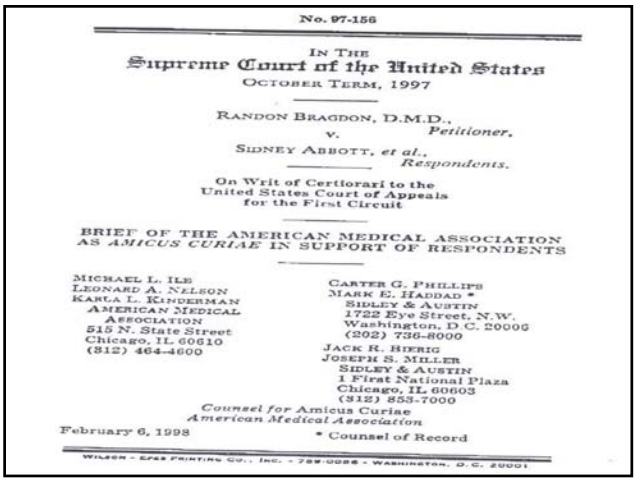
Filling a Need

Lawyers are drilling home the point that dentists who won't treat HIV patients may be practicing the most pervasive discrimination of al

BY JOHN GIBEAUT

It was horrifying enough when Gregg English learned in 1988 that he had tested positive for the virus that causes AIDS.

Then insult piled on top of injury, mortifying the



No. 97-156

IN THE
Supreme Court of the United States
OCTOBER TERM, 1997

RANDON BRAGDON, D.M.D.,
Petitioner,
v.
SIDNEY ABBOTT, *et al.*,
Respondents.

On Writ of Certiorari to the
United States Court of Appeals
for the First Circuit

BRIEF OF THE AMERICAN MEDICAL ASSOCIATION
AS *AMICUS CURIAE* IN SUPPORT OF RESPONDENTS

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February 6, 1998

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The Boston Globe

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Four Supreme Court rulings

The US Supreme Court passed judgment yesterday on four controversial issues that will affect the way this country does business in government, in the law, in medicine, and in the arts.

■ The most important of the court's decisions was to find the line-item veto unconstitutional. The court upheld a lower court's decision that Congress could not give away an "inherently legislative function." The business of a president is to either sign or veto laws, it said, not alter them. Ironically, the line-item veto was the only part of the Republican "Contract With America" that the Clinton administration endorsed. It is a pity that the Constitution does not allow a line-item veto, for there is no doubt that the public interest will suffer without it. It was one of the few effective weapons against pork-barreling misuse of public monies.

■ By turning down special prosecutor Kenneth Starr's request to see the notes of the late Vince Foster's lawyer, the court formally extended the legal survives the death of the client."

■ The court's decision that the federal ban on discrimination against the disabled extends to HIV patients even if they have none of the symptoms of AIDS is a major victory for HIV and AIDS patients. The principle the court supports is, as Justice Anthony Kennedy wrote, that "HIV infection satisfied the statutory and regulatory definition of a physical impairment during every stage of the disease." However, the court left the door open for doctors and dentists to decide, within the bounds of "objective reasonableness," when and where the treatment of a patient constitutes a health hazard.

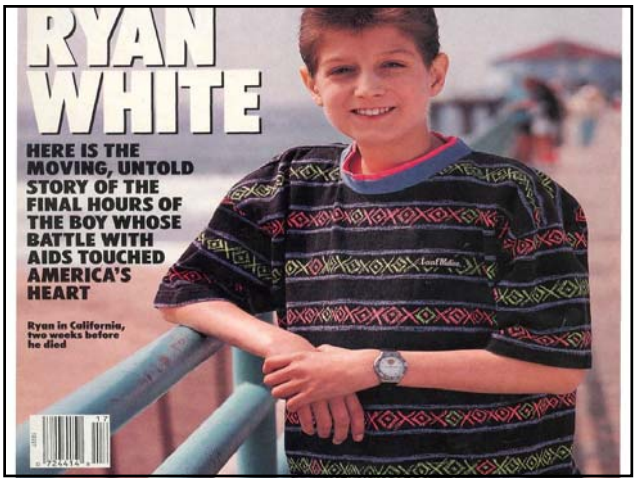
■ In a case involving the National Endowment for the Arts, the court held that the NEA does not violate the First Amendment when it refuses grants to artists whose work it considers indecent. The court's decision does not forbid the NEA from

Americans with Disabilities Act of 1990

Full title	An Act to establish a clear and comprehensive prohibition of discrimination on the basis of disability
Acronym	ADA
Enacted by the	101st United States Congress
Effective	July 26, 1990
Citations	
Public Law	101-336
Stat.	104 Stat. 327

Ryan White Comprehensive AIDS Resources Emergency Act of 1990

To amend the Public Health Service Act to provide grants to improve the quality and availability of care for individuals and families with HIV disease, and for other purposes.
S.2240
Agreed to August 4, 1990 One Hundred First Congress of the United States of America AT THE SECOND SESSION
Begun and held at the City of Washington on Tuesday, the twenty-third day of January, one thousand nine hundred and ninety.
An Act
To amend the Public Health Service Act to provide grants to improve the quality and availability of care for individuals and families with HIV disease, and for other purposes.
//Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,\\



SECTION 1. SHORT TITLE.
This Act may be cited as the "Ryan White Comprehensive AIDS Resources
Emergency Act of 1990".

SEC. 2. PURPOSE.
It is the purpose of this Act to provide emergency assistance to localities that are disproportionately affected by the Human Immunodeficiency Virus epidemic
and to make financial assistance available to States and other public or private nonprofit entities to provide for the development, organization, coordination and operation of more effective and cost efficient systems for the delivery of essential services to individuals and families with HIV disease

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Urgent need for dental care

- Most people with HIV experience oral manifestations of the disease
- Preventive care can stall progression of periodontal disease
- Preventive care/prompt treatment can reduce discomfort – better nutrition, ability to take medications
- Detection of oral symptoms may serve as trigger for medical care

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Unmet need is high

- Surgeon General's report – significant oral health disparities
- Unmet oral health needs among HIV+ people are higher than for the general population (Marcus et al, 2000)
- Unmet needs for oral health care are higher than unmet needs for medical care (Helsin et al, 2001).
- 40-50% of HIV+ do not receive oral health care.

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HRSA/HAB Special Projects of National Significance

- Oral Health Initiative, 2006
- SPNS demonstration project funding 15 innovative programs to expand access to HIV oral health care and one evaluation center
- Five year funding cycle
- 8 rural programs, 7 urban programs

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Innovations

- 4 mobile vans
- 7 with co-located medical and dental services to increase linkages to care
- Use of dental residents to deliver care
- One program at a dental hygiene school
- Use of dental case manager/patient navigator

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SPNS Sites

Innovations in Oral Health Care Project Sites

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Evaluation Sample

- All data collection ended August 31, 2010
- The final sample includes:
  - Baseline interview data for 2,469 HIV patients
  - Follow-up interview data for 1,554 study patients at 6 months and 1,391 study patients at 12 months
  - Clinic visit and services data for 2,178 patients
    - With 15,377 clinic visits and 37,374 clinic services (CDT codes)

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Dissatisfaction with dental appearance in an HIV+ sample: Looking beyond just looks

Jane Fox, MPH
Boston University School of Public Health

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The Oral Health & Confidence Connection

- Poor oral health can interfere with building self-esteem and other types of psychological development. (Warren, 1999)
- "People who value themselves more may take more care looking after themselves" (Macgregor, Regis & Balding 1997)

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The Oral Health & Confidence Connection

- Clients with low self-esteem may be less likely to comply with health advice of any kind (Macgregor & Balding, 1994)
- Poor oral health and untreated oral disease can significantly impact quality of life, including loss of self-esteem and decreased economic productivity (Healthy People 2010)

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The Oral Health & Confidence Connection

- Chavers, Gilbert and Shelton (2004) reported a large proportion of their study participants avoided certain activities such as smiling, laughing and talking because of poor oral health.
- The effect of diminished oral health on self-esteem has not been a priority among health care providers for vulnerable populations (Huff, et al. 2006)

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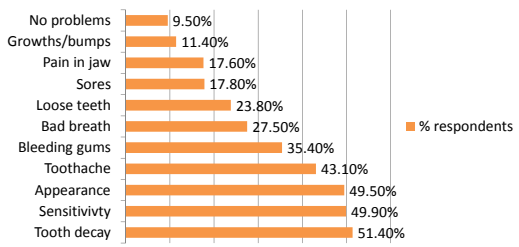
Baseline symptoms in past 12 mos



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Dissatisfied with appearance of teeth and gums

- 49.5% of the sample indicated they were dissatisfied with the appearance of their teeth and gums

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Socio-demographics characteristics

- There was no difference based on gender
- Patients were more likely to be white (54.2%) and less likely to be Hispanic (60.3%) (p<.001)
- Less likely to report no monthly income (58.5%, p<.001)
- No difference in employment or housing status.

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Oral health risks

- More likely to be current smokers (54.0%, p<.001)
- More likely to report past marijuana use (53.7%, p<.001)
- More likely to report past crack/cocaine use (55.2%, p<.001)
- More likely to report past crystal meth use (61.8%, p<.001)
- More likely to report grinding teeth in past 30 days (61.0%, p>.001)

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Health and oral health status

- More likely to report needing oral health care since testing HIV+ but unable to access it. (59.4%, p<.001)
- More likely to report going to a private dentist in the past for care (54.2%, p<.05)
- More likely to report private health insurance for health care. (58.3%, p<.001)
- More likely to receive HIV care from a private doctor. (57.1%, p<.05)
- Less likely to be taking ART (55.2%, p<.001)
- Less likely to have an HIV case manager (55.2%, p<.05)

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Oral health symptoms in the past 12 months

- Patients are twice as likely to report oral health symptoms
- More likely to report toothache (61.2%, p<.001) and tooth decay/cavities (60.7%, p<.001)
- More likely to report bad breath (70.3%, p<.001)
- More likely to report oral growths or bumps (61.2%, p<.001) and sores (62.4%, p<.001)
- More likely to report bleeding gums (60.1%, p<.001)
- More likely to report sensitivity (62.7%, p<.001)

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Quality of life and OH quality of life

- Patients were more likely to have lower MCS and PCS SF-8 scores (p<.001)
- More likely to report “quite a bit or a great deal” of oral health pain in the past 30 days (67.4%, p<.001)
- More likely to report not going out “fairly often in the past 30 days (74.4%, p<.001)
- More likely to report avoiding eating in the past 30 days “fairly often” (67.1%, p<.001)
- More likely to report the health of their teeth and gums as “poor” (69.8%, p<.001)

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Oral health appearance and employment

- I was a waiter for 24 years and then two years, three years ago I went to forklift driving because I had broke by partial to my bottom teeth, which are in the front. I stepped on them and couldn’t fix them and being a waiter, you don’t have dental insurance, restaurants don’t offer benefits. And so nobody would hire me, just that being between jobs too and nobody hires waiters with two front missing teeth or three, maybe it’s three front. I had to change jobs and went into like production, became a forklift driver because it doesn’t matter how many teeth you have. And I make less money, a lot less money.

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Oral health appearance and employment

- Well it is much that my teeth are really in horrible shape. They're very embarrassing, I mean, I'm a bartender and my face counts, it's made it so I don't smile and it's made me self conscious to go out and socialize. So it's affected me pretty--a lot actually, a large impact.

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Oral health appearance and social interaction

Sometimes you don’t even want to smile, so sometimes when you get around a group of people you start isolating yourself. You see the isolation is worse than having an addiction, because the isolation will take the place of that in itself and make you do other things.

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Oral health appearance and social interaction

I've always liked to smile, I was a cheerleader from the time I was in the 6th grade through the 12th grade and smiling was always a big deal to me. And now I don't feel like my smile is pretty and I know if I don't get it fixed they're gonna fall out …I don't feel as confident.

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Oral health appearance and social interaction

I would say for the last few years I've been hesitate to take part in some pretty much social activities just because I'm so self conscience about my appearance, my dental appearance… Going out to a club. I'm single and I like to meet new people and that's, you know, it's hard to do that. I don't feel confident … You always wonder what somebody's thinking, you know.

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Oral health appearance and self-esteem

- Yeah, because I don't smile. …I have some teeth missing and I don't like to smile and I don't like to laugh out loud because I don't like to open my mouth sometimes, and I'm afraid maybe there's some odor or something
- .

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Oral health appearance and self-esteem

- I find myself like really questioning going out at times because I don't think guys are going to be attracted to me when I smile. And I think that my smile -- my teeth have made me look older than I am. So you know it has affected me definitely. I think that that has a lot to do with the way I think of myself.

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Oral health appearance and self esteem

- I'm like aware of that I haven't been to a dentist in so long and that my teeth are dull from smoking and probably drinking and that it sort of -- I'm not like the best -- I'm not taking care of myself like I should be, like taking care of my teeth and cutting out the smoking and whatever. It prevents me from, how do I say it, it's a negative in that I don't relate as best as I could to people.

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Longitudinal changes

- There was a significant ($p<.001$) increase in the MCS scores at both 6 and 12 months. The increase in the PCS scores was significant.
- Fewer participants reported avoiding going out at the 6 and 12 month follows up interviews ($p<.001$)
- There was an increase in participants rating of the health of their teeth and gums at 6 and 12 months ($p<.001$)

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Patient dissatisfaction

…I've had to have extracted three or four teeth. I'm not sure how many and it's noticeable. So you're a bit shy to start conversations. You really don't do some thing's you might ordinarily do because you're worried about your appearance. So yes I'm not really happy with it right now, at least my appearance.

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"Your oral healthcare does affect your HIV health… You need to keep care of your teeth and if your teeth are in good shape then you should be all right as far as avoiding any infections"

A qualitative study of HIV-positive patients and their knowledge attitudes & practices around oral health care

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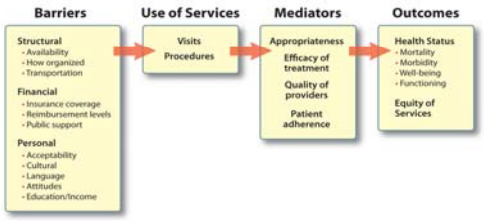
IOM Model of Access to Personal Health Care Services



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Study Objectives

Examine beliefs, attitudes, and practices of HIV-positive individuals and their impact on access to and utilization of oral health care services

- Phase 1 initial interviews:
  - Experience with oral health care prior, post HIV diagnosis
  - Knowledge and practices about oral health care
- Phase 2
  - Describe changes in patient oral health & hygiene as a result of the intervention

Describe strategies to improve HIV patient oral health care

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Methods

- 6 participating sites
  - 2 rural
  - 4 urban
- 60 in-depth interview w/patients
  - 7 – 12 interviews conducted at each site
- 39 follow up interviews on program impact
- Participant characteristics
  - 73% males, 25% females, 2% transgendered
  - 36% African-American/Black, 19% Hispanic, 38% White, 7% other
  - Age (mean): 47 years, (range 24-67 years)
  - Length of time living with HIV: 11.9 years
  - Out of dental care at least 1 year

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Analysis

- Content analysis
  - Drafted the emerging themes related to KAP
  - Compared to ADA recommended practices
  - Developed a classification of practice groups
  - Examined by demographics & child hood experience with dental care
- N-vivo 8 data sorting and coding between 2 investigators

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ADA recommended practices

- Brush teeth 2 times/day
  - Replace toothbrush every 3-4 months
- Clean between teeth daily with floss or interdental cleaner
- Eat well balanced diet and limit snacks
- Visit dentist regularly for professional cleanings and oral exams

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What do patients know about oral health care? (n=58)

- 6 categories of "good" practices
  - Brush teeth
  - Floss
  - Mouthwash (with Listerine)
  - Go to the dentist for regular check ups
  - Do not smoke
  - "Avoid sweets or candy"; diet

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Knowledge & practice: the gaps

HIGH (Brushing, flossing, dental visits, diet)=
- HIGH Knowledge= 8
- HIGH practice = 2

Medium (Brushing, flossing, dental visits)
- Knowledge= 17
- Practice= 8

Low (Brushing & flossing)
- Knowledge= 41
- Practice= 34

What can help explain these differences in knowledge and practices?

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History with patient education

- 58 % patients reported receiving a demonstration on taking care of teeth/gums
  - 77% patients as an adult by dental staff
  - 23% patients received as a child
- 42% reported not receiving/could not recall receiving a demonstration

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Values: Parental influence

- 22% patients reported no routine dental care as a child

"I very rarely go. I was not a regular client at the dentist because my parents only took me to the dentist once in my life and so I didn't know the need for follow-up dental and keeping good hygiene until I got older. "

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Attitudes about oral health care

- Oral health care is not important because I have strong teeth

"Before I was diagnosed I hadn't been in years because I was homeless and stuff. So it was I would guess maybe a good 8 or 10 years before I got diagnosed. Well basically I didn't have any problems... I mean before testing positive it wasn't that important. I didn't have time because I was you know using drugs and you know as long as there wasn't nothing bothering me you know too tough there wasn't-- you know I didn't have time to go to the dentist."

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Attitudes about the importance of oral health care

- Dental care a priority but cost too much

"There was a bigger expense and I didn't want to pay for it or I couldn't pay for it and I didn't go. But I always put it on the backburner never having had any dental problems and never seeing it really important and I never had problems with my teeth on a day-to-day basis..."

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Attitudes about the importance of oral health care

- Concerns about personal appearance

"...Well my personal appearance always has been a first priority to me but appearance is what makes you. If you're not taking care of yourself no one want to be bothered with you."

- Goes to the dentist if there is a problem
- "Just didn't go"
- Didn't like going because took too much time
- Substance use was a priority

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Changes in KAP from participation in SPNS

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Participation in SPNS oral health care program

Did you learn something new about HIV and oral health care?

- Good oral hygiene=good HIV health

"I've learned that it's important to brush your teeth, gargle and always check your mouth, your tongue and your gums to see if you have any sores"

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Participation in SPNS program

- Improvements in oral health care practices
  - Better brushing & flossing techniques & frequency
    - " Now I buy lots of toothbrushes and use them for a short time and replace them."
    - "I brush everyday instead of 3 times/week..I floss a lot more"
    - "I brush longer"

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Participation in SPNS program

- Improvements in oral health care practices
  - Reduced or stopped smoking/tobacco use
    - *" I still use snuff but I cut back a little and don't leave it in my mouth as long..."*
  - Reduced soda intake

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Participation in SPNS program

- Biggest difference from receiving care from us (SPNS)
  - Relief of pain
  - Can eat
  - Improved appearance
    - "Can eat so I gain weight…look better"
    - "Smile more.. No holes"
  - The Dental staff
    - "Friendly"
    - "High quality"
    - "Takes time to educate"
  - Easier access to care-enhanced availability
    - "I can see dentist on a regular basis"

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Participation in SPNS program

- Advice to other living with HIV about oral health care
  - Importance of oral health in overall HIV health care
    - *"I would tell them that they need to go because if your teeth are healthier that means you'll be more healthier and that'll help on your CD4 counts and stuff like that a lot. After I got my teeth and stuff fixed my CD4 cells they skyrocketed."*

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Patient perspectives on dental case managers

– Help patients communicate with dental and medical providers

– Feels more comfortable with dentist and oral health care

"My case manager comes to (dental) appointments with me..she makes me feel comfortable I can ask questions…"

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Patient perspectives on dental case managers

Explains how to take care of mouth and teeth & shares information

- *"He encouraged me to start taking care of my mouth, told me about all the hygiene, the flossing …"*

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Patient perspectives on dental case managers

Better retained in dental care

- *"I feel comfortable with her and makes me want to come to appointments"*
- *"She helps with scheduling taking, and sitting with me during the dentist and everything.. I may not have followed through if it wasn't for her"*

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Summary of findings

- HIV positive patients have limited knowledge and practice due to history:
  - Parental influence
  - Limited access to oral health education and services as an adult and child
  - Attitudes toward the value of oral health care as part of overall HIV health
- The SPNS interventions expanded oral health care service sites , they improved knowledge, attitudes and practices and retained patients in oral health care.

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Program implications

- For dental staff: patients need repeated messages about good oral practices
  - Emphasize Frequency of practice (brushing, flossing, visits)
  - Discussion of diet
  - Importance of not smoking
  - Provide educational opportunities and tools for patients about links between HIV & oral health care
- For HIV medical and social service providers:
  - Ask about oral health care needs and practices

Oral Health Status in HIV/AIDS Patients: Housing Support and Oral Health Promotion Compliance in HIV/AIDS Patients in Marginalized Communities

Case Study from Chester, PA

Co-existence/Prevalence of HIV/AIDS and Homelessness:

- Nationally, of nearly 12,000 people living with HIV/AIDS surveyed by AIDS Housing of Washington, 40% reported having been homeless at least once in the past year.
- The homeless population has a median rate of HIV prevalence at least three times higher - 3.4% versus 1% - than the general population.

Health Care Providers and Housing

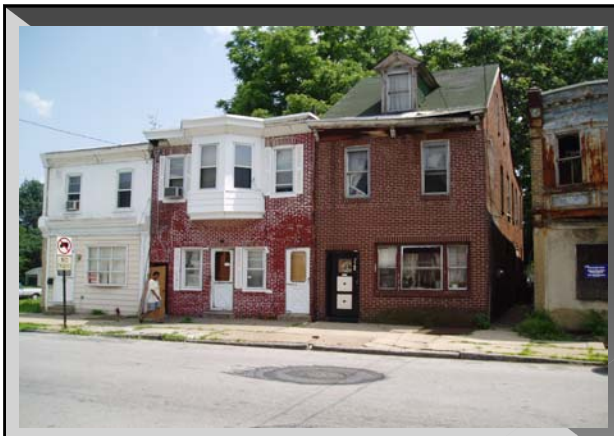
- Housing is the major missing element among services provided to AIDS patients.
- Housing is a key [missing] element to ensure the quality of life and compliance to medical treatment plans.

AIDS Care Group (ACG)

- ACG, Chester, PA
- Incorporated in 1998
- Ryan White Parts A, B, C & D; HOPWA and SPNS/HRSA

Characteristics of clients served by ACG in 2009:

- 74% of the clients were minorities
- 43% were women
- 97% were considered living in poverty
- 85% had contracted HIV through injection drug use and/or heterosexual contact
- **292 out of 1029 (28.3%) of the clients were homeless**



Clientele of ACG

- Over 1,000 patients served in 2009 for primary clinical care services and medical case management
- 629 clients received supportive services for transportation, housing, food, shelter, and clothing
- Over 2,000 HIV tests provided
- Delaware, Chester, Bucks, Montgomery, Philadelphia, Dauphin, and Lancaster Counties served

Formal and Learned Provider View of Client Needs

- 1. Medical care
- 2. Housing
- 3. Transportation
- 4. Food
- 5. Clothing
- 6. Personal Identification (SSN, ID, etc)
- 7. Benefits

Self-Reported Client Needs

- SEX
- Cigarettes
- Drugs – or old behaviors
- Food
- Housing
- Transportation
- SEX
- Phone
- SEX
- Identification
- Benefits
- Medical care

Services Provided:

- Medicine
- Dentistry
- Medical Case Management
- Nutrition
- Psychiatry
- Psychosocial services
- Transportation
- Food
- Housing
- Employment Referral
- Art Therapies

Essentiality Ranking of Supportive Service/s by Clients:

- What supportive service/s, if missing, would have made you very likely not to keep your medical/dental appointment on follow-up ?*(check maximum 2 - check two that matter the most to you)*:
  1. **Housing Support/Referral – 65%**
  2. Transportation – 39%
  3. Food – 38%
  4. Employment Referral – 29%
  5. Job Training – 22%

Current resistors to accommodate low-income people including people living with AIDS:

- People living with AIDS and former drug users are often discriminated against in low-income housing markets.
- Low-income AIDS patients and their families often cannot afford food, let alone the security deposits or down payments for low-income housing.
- Commonly, AIDS patients do not have a good credit history and sometimes have a substance abuse history made more problematic by a criminal history.

Percentage changes in Oral Health Behaviors

Behavior/Risk Factor	Baseline		Follow up		*P-value* *
	Yes	*No*	*Yes*	*No*	
Brushed in last 30 days?	92.8	7.2	98.2	1.8	*0.021*
Flossed in last 30 days?	35.2	64.8	70.8	29.2	*<0.00005*
Smoked cigarettes in last 30 days?	60.2	39.8	49.4	50.6	*0.578***
Chewed tobacco in last 30 days?	5.4	95.6	0.6	99.4	*0.0215*
Ate hard sugar candy or chewed gum in last 30 days?	66.1	33.9	51.2	48.8	*0.049*
Drank soda in last 30 days?	61.3	39.7	49.4	51.6	*0.0253*
Grind teeth in last 30 days?	23.2	76.8	4.8	95.2	*<0.00005*

** Based on McNemar's test for proportions* *** Not Significant*