

Rapid Oral HIV Screening in the Dental Setting

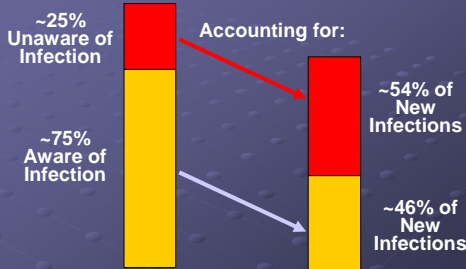
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Awareness of Serostatus Among People with HIV and Estimates of Transmission



People with HIV/AIDS: 1,039,000 – 1,185,000
New Sexual Infections per Year: ~36,000
J Acquir Immune Defic Syndr., Aug 2005

Rationale for Current Prevention Efforts

- Persons who know their status significantly reduce high-risk sexual behavior.
- Linkage to care after screening improves the course of HIV/AIDS.
- Early entry into treatment is cost effective.

Benefits of Early Diagnosis

- Early diagnosis of HIV not only prolongs healthy, productive lives, it also increases the effectiveness of antiretroviral medication and is cost effective over time.
 - Saag M, et al. CD4 Count at HAART Initiation. 8th Conference on Retroviruses and Opportunistic Infections, February 2001 Chicago, IL USA
- Possible public health benefits of cART to reduce viral load and transmission potential
- Public health benefit of contact with primary care providers
 - Metsch Lr, Pereyra M, Messinger S, de Rio C, et al for the Antiretroviral Treatment and Access Study (ARTAS) Study Group HIV Transmission Risk Behaviors among HIV-Infected Persons Who Are Successfully Linked to Care Clinical Infectious Diseases Aug 15 2008;47:577-584

Risk-Based Screening

- Risk Assessment or clinical indicators fail.
- Patients visit healthcare providers 3-4 years prior to diagnosis.
- Patients do not return for results.
- HIV testing remained flat between 2001 - 2006

2006 CDC Recommendations

Make HIV Screening a ROUTINE part of healthcare!

- All patients ages 13 to 64 years.
- Repeated annually for high risk groups.
- Eliminate pre-test counseling.
- *Elimination of separate consent process [longer term goal, state by state regs].*

Salivary Diagnostics

- Biomarkers
 - Proteins, genomic (nucleic acids)



Source: Wong DT. JADA March 2006

The Rapid Screening Solution

- 2004- development of commercially available Oral Rapid Test, FDA approved.
- Can be performed by non-laboratory staff.
- Oral Fluid, Serum or Whole Blood.



The Rapid Screening Solution

- Allows screening in non-traditional settings.
- 2.2 times more likely to receive results.
- Preferred screening method in STD clinics, correctional settings, campuses and EDs.
- Increases voluntary screening, positive effect on clinical outcomes: AIDS, transmission, and costs.

Rapid Testing Confirmation

- All HIV screening tests, whether used at the point of care or in the laboratory, will generate a certain percentage of false positive results.
- All specimens that test positive for HIV with a screening test must be confirmed by additional testing using approved methods.

CDC. False –Positive Oral Fluid Rapid HIV Tests ---New York City, 2005—2008. *MMWR*. 2008; 57:1 – 5. June 18,2008 (Early Release).

NY DOHMH Bureau of STD Clinic's Decision to Suspend Use of Oral Fluid for Rapid HIV Testing

- The NYC DOHMH BSTDC, concerned with a higher than usual percents of false positives (accuracy 99.3%), decided to suspend use of oral fluid specimens for rapid HIV screening in June 2008.
- The bureau had implemented an outstanding model to verify preliminary positive oral fluid results using whole blood with a separate rapid HIV test kit.
- NYC's STD clinics reported 99.9% accuracy using oral fluid to test over 5,000 individuals for HIV in May 2008

CDC Projects - Background

- 1999 - CDC funded University of North Carolina to explore the feasibility of HIV counseling and testing in dental offices

Screening in a Dental Clinic?

Challenges

- Lack counseling skills/HIV prevention training.
- Patient acceptance?
- Lack of interest by dental establishment.
- Outside of the "traditional" dental scope of practice.
- Issues of consent.
- Issues of confidentiality.
- Time constraints.
- Fear of results (e.g. reporting "bad news").
- Reimbursement.



Patton LL et al. Education in HIV risk screening, counseling, testing, and referral: survey of U.S. dental schools. J Dent Educ. 2002

CDC Projects - Background

- 2002 - Explored the benefits of using rapid HIV testing for postexposure management
- 2005 - Conducted a cost-benefit study of HIV screening in dental offices
- 2005-06 – Convened two meetings of national experts and community health center dentists

Screening in a Dental Clinic?

- ✓ Technologically feasible; uses oral mucosal transudate as the diagnostic fluid
- ✓ Oral swab safe for patients and dental workers.
- ✓ Additional setting for early entry into medical care.
- ✓ Cost saving to healthcare system.
- ✓ Allows dental healthcare providers to enhance the profession's contribution to patients' overall health.
- ✓ Provide a public health service.

Rapid HIV Testing in the Dental Setting

Before initiation of rapid screening:

- Time necessary to learn to accurately perform test
- Time necessary to learn pre and post test counseling
- Time necessary to put a system in place that will ensure linkage to care for those who test positive.

Rapid HIV Testing in the Dental Setting

- Pre-test counseling can be in a written format
- Post test counseling for negative results
 - Dental healthcare workers will need to be trained on the psychosocial interpretation of these results as well as methods to promote continued safe behaviors.
- Post test counseling for positive results
 - **Linking** to persons experienced in providing post test counseling that can facilitate access to treatment/care and support services.
 - Emotional response – potential mental health issues
 - Time and information needed to address patient questions and concerns

Linkage to Prevention Specialist

- Dental healthcare workers cannot initially be expected to have the same level of expertise in post test counseling for a positive results compared to a prevention specialist.
- Nor can dental healthcare workers be expected to spend the time necessary to address the emotional concerns and/or questions that a positive result can bring.
- Solution: create timely linkages to experienced prevention expertise, preferably on site, for follow-up and confirmatory diagnosis.
- Be aware of available HIV services in the community.
Follow-up...

Meeting Results: Future Directions

- Conduct demonstration projects to determine feasibility
 - Target community health centers
- Develop and implement operational models and best practices

Community Health Centers

Free Health Clinics

Source of HIV Tests and Positive Tests

- 38% - 44% of adults age 18-64 have been tested
- 16-22 million persons age 18-64 tested annually in U.S.

	HIV tests*	HIV+ tests**
Private doctor/HMO	44%	17%
Hospital, ED, Outpatient	22%	27%
Community clinic (public)	9%	21%
HIV counseling/testing	5%	9%
Correctional facility	0.6%	5%
STD clinic	0.1%	6%
Drug treatment clinic	0.7%	2%

*National Health Interview Survey, 2002
**Suppl. to HIV/AIDS surveillance, 2000-2003

Benefits of Screening in Community Health Center Dental Clinics

CHC dental clinics have an existing infrastructure that includes:

- Established mechanisms for linking patients who screen positive to confirmatory testing
- Post-test counseling, and medical treatment
- Training opportunities for dental workers to administer the HIV test
- Familiarity with informed consent and confidentiality
- Experience in billing and reimbursement
- More likely that a CLIA waiver has already been granted to the organization.

Benefits of Screening in Community Health Center Dental Clinics

- Screening in these settings also could overcome some of the barriers identified by dentists in general practice settings (reluctance of dentists to offer post-test counseling for patients who screen positive; loss of patients to follow-up).

Benefits of Screening in Community Health Centers

The likelihood of receiving results of HIV tests offered in dental clinics should be high; the time required to obtain results from a rapid oral test (20 minutes) is less than the average time of a dental visit -- thus if patients were tested at the beginning of their appointment, they would not have to wait for results.

Community Health Center of Central WY Kansas City Free Health Clinic

- 2006 – While meetings to discuss the feasibility of HIV testing in the dental setting were ongoing, Stacy Smith, RDH working with Anna Kinder, Director of the WY performance site of the Mountain Plains AETC, was offering HIV testing at the Community Health Center of Central Wyoming.
- HRSA and the CDC had received a TA request from the Kansas City Free Health Clinic to implement HIV testing as a part of routine dental care.

It's always easier to ask for
forgiveness... than permission.





Community Health Center of
Central Wyoming

- Wyoming= 515,004 (2006 estimate)
- Casper WY= 70,401 (2006 estimate)
- Community Health Center= 14,545 patients
- Community Health Center Dental Clinic= 4,975

The Project started....

- With one person saying "I want to do that..."
- April 2005
- Specialized training- meeting the pre/post test counseling requirements
- Use of posters- very successful
- Ongoing training- all staff have additional training
- Increased testing significantly at CHC

Wasn't always easy

- **Enthusiasm and attentiveness declined by staff**
 - many barriers, even religion
- **Decline in number of tests after removal of poster**
 - out of sight, out of mind
- **Staff turnover**
 - left for other positions
- **MEDICAL PROCEDURE**
 - outside of the dental practice = it is in the scope of dentistry

- **Newspaper coverage**
 - Casper Star Tribune
 - Two dentists called with questions
- **Presentations**
 - But no one is biting
 - Everyone just wants to make referrals
 - Fear in private practice: reimbursement, stigma and productivity



Some hurdles still exist

- Linkage to care- who does the private practice dentist call?
- Everything is production driven
- Don't want to be known as the HIV clinic in the small (or larger) community

Patients like it

- Many positive reports came from testing....
 - Loved being able to get floss, toothbrush, condoms and an HIV test
 - Easy access without having to see a medical provider
 - Quality time spent with my dental hygienist
 - It is free (at least for now)



So where are we now...

- Continued growing pains
 - New enthusiastic staff
 - Opt-out on new patient paperwork and on annual health history which is updated every six months
 - Testing all new patients and offering for annual with health history report
- **AND RAPID TESTING- July 1st!!!**

Wyoming is moving to Rapid - testing

- In the last two years, the State of Wyoming has been exploring the use of Rapid HIV testing.
 - Using Uni-gold®
 - Now we have a choice between Uni-gold® and Clearview®

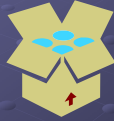
So why the switch from OraSure oral fluid to a Rapid Test?

- Return for test results
- Timing for productivity
- Loss of revenue



We just did it...

- Thinking Out of the Box... Only those who see the invisible can do the impossible.



Kansas City, just a note...



Patients' Attitudes about Rapid Oral HIV Screening in an Urban, Free Dental Clinic

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The Kansas City Free Health Clinic

Objectives

- Introduce HIV screening into a novel setting.
- Engage in latest CDC recommendation: future funding.
- Begin to resolve questions and challenges from the dental establishment.
- Prior to this report, there were no reported studies on the attitudes of patients who, regardless of their risk, are offered oral rapid HIV screening during dental visits.

Methods

Methods

Agency: The Kansas City Free Health Clinic-Dental Clinic



Methods

- The Dental Clinic is staffed by a part-time dentist and volunteer faculty from the University of Missouri Kansas City School of Dentistry (1081 dental patient encounters in 2005).
- Voluntary survey was provided to all patients in waiting room prior to a scheduled dental visit between June 8, 2007 and August 7, 2007.

Methods

- Survey questions were derived from dentist-identified barriers and existing literature about known patient-level barriers to screening in non-traditional venues.
- Results were coded and analyzed with SPSS v15.0.

Results

Participant Demographics

- 150 pts completed the survey, 85% response rate

Gender	Participants (N=150)	Percent
Male	65	43.3
Female	85	56.7
Transgender	0	0
Total	150	100.0

Age	Participants (N=150)	Percent
18-24 years	21	14.1
25-34 years	41	27.5
35-44 years	41	27.5
45-54 years	32	21.5
55-64 years	13	8.7
65+ years	1	0.7
No Answer	1	0.7
Total	150	100.0

Race and Ethnicity

Caucasian	56	37.6
African American	68	45.6
Asian American	7	4.7
Native American	2	1.3
Hispanic	11	7.4
More than one race	4	2.7
No Answer	1	0.7
Total	150	100

Sexual Orientation

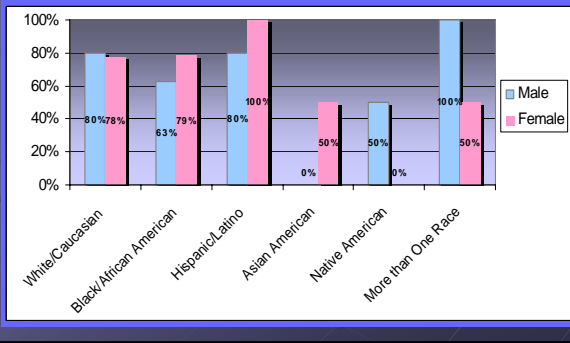
Male Heterosexual	54	36.0
Male Homosexual	3	12.5
Male Bisexual	0	0
Male Other	1	2
Female Heterosexual	64	42.7
Female Homosexual	1	0.7
Female Bisexual	1	0.7
Female Other	1	0.7
No Answer	25	16.7
Total	150	100

Acceptance of HIV Screening in Dental Office

- 73% (n=103) would be willing to be tested (p<0.001)

- 78% of females, 67% of males

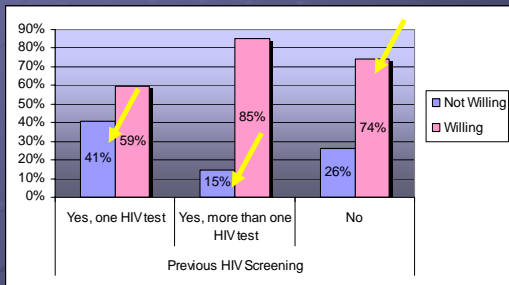
Percent of Respondents Reporting Willingness to Take a Free, Rapid HIV Screening Test during a Dental Visit, by Ethnicity/Race and Gender



Prior Screening

- 61% had at least one prior HIV test.
- Those with a history of >1 prior test were more likely to agree to oral rapid HIV screening provided by their dentist (85%) than those who had only been tested once previously for HIV (59%), $p=0.029$.

Percent of Respondents Reporting Willingness to Take a Free, Rapid HIV Screening Test during a Dental Visit, by HIV Screening Past



No Prior Screening History

- 54 respondents without prior HIV screen
 - 74% willing to take an oral screening in this setting
 - 53% White
 - 35% Black
 - 10% Hispanic

Results

- 54 respondents- no prior screening history
 - What Type of screening test would you be willing to have?
 - 70% either blood or oral swab
 - 21% oral swab only
 - 9% blood test only

Results Reporting

- 62% (n=100,) reported *It Did Not Matter* who provided HIV Screening test results to them (p=0.01)
 - Excluding "Doesn't Matter"
 - 37% My Dentist
 - 24% Personal Physician
 - 3% Dental Assistant
 - 11% Counselor
 - 13% Letter
 - 13% Other

Dental hygienists were not included as an option

Factors Leading to an Unwillingness to Undergo HIV Screening in Dental Office

- 38 respondents reported they would refuse a free, oral HIV test.
 - 17% too much dental pain today.
 - 6% fear being treated differently.
 - 6% test is not accurate.
 - 3% confidentiality.
 - 1% take too long.
 - Other known stigmas (e.g. knowing one's own status, lack of anonymity, not wanting their dentist to know) were *not* selected.

Other Factors Leading to an Unwillingness to Undergo HIV Screening in Dental Office

- 37% did not perceive themselves to be at risk.
- 24% already or recently tested.
- 13% not comfortable screening in this setting.
- 10% plan to get tested at a later time.
- 13% no reason.

Discussion

- In this pilot study, the majority of dental clinic patients responded favorably to the offer of a free, rapid oral HIV screening test.
- Participant demographics closely match the demographics of the dental clinic.

Discussion

Race and Ethnicity	Clinic %	Study %
● Caucasian	37	37.6
● African American	47	45.6
● Asian American	4	4.7
● Native American	1	1.3
● Hispanic	6	7.4
● More than one race	4	2.7
● No Answer/Unknown	1	0.7

Significant Findings

- 73% would be willing to receive the test:
 - 100% Hispanic Females
 - 80% White and Hispanic Males
 - 79% African American Women
 - 78% White Women

Significant Findings

- Most patients did not care who provided their HIV screening result.
 - "My dentist" most frequent choice in limited dataset.
- 86% of those reported they would refuse screening gave reasons *other* than those previously reported in the literature (fear, stigma, provider knowledge, anonymity, cost).

Discussion

Provider-Level Barriers

- Cost and Reimbursement
- Time
- Training
- Managing Positives

Solutions*

- CDC Cost Study ~\$18
- \$4-\$21 Staff Time
- Pilot in community health center setting
- Pilot in settings with existing linkage to care programs or ASO partnerships

*Cleveland, J.L. Presentation, National Association of Community Health Centers, Inc., The Integration of Rapid HIV Testing Into Routine Dental Care: An Exploration of Issues, Strategies and Opportunities. Conference Report. January 17, 2006. Washington, D.C.

Discussion

Policy-Level Barriers

- Funding-training
- Removal of Pre-test counseling restrictions
- Eliminate separate consent process
- Provide resources for linkage to care

Solutions



Limitations

- Limited sample size.
- Single neighborhood location.
- Patients may not have long term relationship with the free clinic dentists.
- Reasons for not accepting the survey were not assessed.

Future Studies

- Multiple sites with an improved assessment tool.
- Pilot rapid screening in dental sites with existing rapid screening/counseling and referral programs. (e.g. community health centers)
- Combine attitude assessments with actual screening
- Integrate other salivary diagnostics into dental care, further the integration of medical and dental care.

Conclusions

- **Findings:** Dental patients are willing to be screened for HIV ⁽¹⁾
 - Patients surveyed had a high degree of acceptance of HIV screening
 - Finding is contrary to dental healthcare workers' perception of patient acceptance

(1) Dietz, C., Reznik, D., et al. "Patient's Attitudes about Rapid, Free HIV Screening in and Urban, Free Dental Clinic." *AIDS Patient Care STDS*. 2008 Mar;22(3):205-12.

Conclusions

- **NOT found were:**
 - Fear of Self-Awareness of HIV result
 - Fears or Issues of Consent/Confidentiality
 - Fear of being treated differently
 - Fear of Dentist/Hygienist Knowing Results OR providing the results
 - Time constraints
 - Fear of HIV test accuracy
 - Dental pain

Summary

- Current recommendations favor HIV screening in dental settings
- Oral-based, rapid test makes it feasible for dental settings
- Community health center dental clinics most favorable type setting
- Limited window of opportunity
 - Interested settings are eager to begin now
 - Home HIV test may be available in future

Routine Testing in a Dental Clinic

Kansas City Free Health Clinic

The purpose of the Kansas City Free Health Clinic is to promote health and wellness by providing quality services, at no charge, to people without access to basic care

Growing

- 1986 Moves and changes name to Kansas City Free Health Clinic



Growing

- 1993 - Move to 39th & Main with 8 staff
- 1993 - Ryan White Title III contract
 - First Direct Federal Funding
- 1996 - The clinic grows
 - 21 Employees
 - 1st floor expansion



Growing

- 2001 - \$2.5M Capital Campaign
 - Move to 3515 Broadway
- 2008 - 85 employees



Services

- General Medicine
- Oral Health Care
- Behavioral Health Counseling
- Case Management
- Support Groups
- HIV Primary Care
- HIV Treatment Adherence
- HIV Case Management
- HIV Health Education/Prevention
- HIV Testing

Patients seen 2007-2008

14,282 unduplicated patients seen
48,517 encounters

41% female 50% Male

35% African American 43 % Caucasian
7% Hispanic

Oral Health Care

- Part Time Dentist
 - 24-32 hours per week
- Volunteer dentists
 - 3-6- hours a week
- Full time assistant
- Full time coordinator
- Receptionist

Routine testing

- Technical Assistance from HIV AIDS Bureau
- March 2007- First Site visit by TA providers
- May 2007-22nd site visit
- Clinic developed implementation plan

Implementation Plan

- All services involved
- Collaboration with State of Missouri, HIV Counseling and Testing staff
- Policies and Procedures
 - Consent
 - Testing
 - Linkage to Care

Training

- Clinic is a state supported testing site
- Already doing rapid blood testing
- State of Missouri assisted in training other staff

Testing Results

- Started testing in August of 2007
- Pilot phase for 3 months
- Now testing in all clinics, except evening
 - (that's next!!)

Results of those that refused

45 patients refused

62% female

38% male

60% African American

27% Caucasian

5% Hispanic

Testing results

August 1, 2007-June 30, 2008

- 1 positive
 - Refused further assessment
 - Suspect she knew status
- Most common reasons cited for refusal:
 - Already know they are positive
 - Just tested elsewhere

Next Steps

- Increase % of those offered test
- Implement during evening clinics
- Monitor results
 - Why only 1 positive thus far?
