Implementing HIV Rapid Testing in the Emergency Department: A Best Practice

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Acknowledgments

- HIV Prevention Community Planning Group
- MATEC
- Indiana University School of Medicine
- Wishard Hospital Rapid HIV team
- Rapid HIV planning task force
- My wife and daughter
A Brief Overview

- What is the issue?
- History of HIV testing in EDs
- Strategies for performing HIV testing in EDs
- Wishard’s testing success?
- A ‘How To’ guide for future hospitals.
Why are we all here?
Awareness of HIV Status among Persons with HIV, United States

- Number HIV infected: 1,039,000 – 1,185,000
- Number unaware of their HIV infection: 252,000 – 312,000 (24%-27%)
- Estimated new infections annually: 40,000

Awareness of Serostatus Among People with HIV and Estimates of Transmission

- ~25% Unaware of Infection
- ~75% Aware of Infection

People Living with HIV/AIDS: 1,039,000-1,185,000

New Sexual Infections each Year: ~32,000

Accounting for:

- ~54% of New Infections
- ~46% of New Infections

Marks et al. AIDS 2006;20:1447-50
HIV/AIDS Diagnoses among Adults and Adolescents, by Transmission Category — 33 States, 2001–2004

Males (n ≈ 112,000)
- MSM 61%
- Heterosexual 17%
- IDU 16%
- MSM/IDU 5%
- Other 1%

Females (n ≈ 45,000)
- Heterosexual 76%
- IDU 21%
- Other 3%

MMWR. Nov. 18, 2005
Earlier Diagnosis of HIV Infection
Benefits both Patient and Public

• Benefits for the Patient:
  – Reduction of high-risk behavior
  – Timely linkage to care
  – Improved morbidity and mortality due to HAART

• Benefits for the Public:
  – Earlier diagnosis allows for earlier treatment, which decreases HIV viral load, therefore decreasing forward transmission
  – Reduction in length of inpatient hospitalization
Health Disparity?

- The incidence has increased most dramatically over the past several years among racial and ethnic minorities, heterosexual men, women, and injection drug users.
- Approximately 250,000 remain undiagnosed, largely due to HIV’s long asymptomatic period and because many of those at risk have never been tested.
Revised Recommendations for HIV Testing of Adults, Adolescents, and Pregnant Women in Health-Care Settings
Summary of the Recommendations

- Routine screening in all healthcare settings with undiagnosed prevalence ≥0.1% for patients aged 13 to 64 years
- Repeat testing should be performed at least annually for those determined to be high-risk
- Screening should be voluntary using opt-out consent
- Consent should be integrated into general consent
- Pretest information replaces counseling
- No posttest counseling for those who test negative
Is Rapid Testing in the ED Feasible?

• Pros
  – High-risk populations use the ED as their sole source for medical care
  – Seroprevalence is relatively high and this affords an outstanding opportunity to determine risk and to test for HIV
  – Rapid tests are quick and accurate
  – Growing experience and body of literature demonstrating clinical and cost effectiveness
Is Rapid Testing in the ED Feasible?

• Cons
  – Perceptions regarding ED-based prevention efforts vary
  – Program implementation will vary depending on resources and site
  – Limited comparative data
  – Funding
Why test in Emergency Departments?

The funnel analogy!
HIV and the Emergency Department

- Unselected seroprevalence ranges from approximately 1% to 4%
- 30% of these are undiagnosed
- HIV infection is increasing in non-traditional risk groups, the same groups that commonly use the ED for primary care
- The ED serves as an important focal point for HIV identification and linkage
HIV and the Emergency Department

• A significant proportion of patients who visit the ED are socioeconomically disadvantaged and do not have regular sources of healthcare.
• These same patients are typically at increased risk for acquiring or harboring HIV infection.
• The ED often serves as their only source for healthcare and thus their only opportunity for targeting.
HIV Testing in the ED: Barriers and Strategies

• Barriers:
  – Lack of space
  – Perceived lack skills or staff
  – Concerns regarding costs of testing
  – Low adherence to specific strategies

• Strategies:
  – Referral from the ED for outpatient HIV CTR
  – Standard HIV testing in the ED with outpatient referral to obtain test results and posttest counseling
  – Rapid HIV testing
Do Emergency Departments Test?

• Academic EDs
  – 1996: 36% tested based on clinical suspicion
  – 2007: 57% offered some form of rapid HIV testing*
  – 2007: 62% offered some form of HIV testing*

• Non-Academic EDs
  – 2007: 48% offered some form of HIV testing*

...yet, how many EDs have HIV SCREENING protocols???

*preliminary results
Referral for Outpatient HIV CTR #1

- Prospective cohort study performed at Harbor-UCLA Medical Center in Los Angeles County
- Patients identified in the ED were referred for outpatient HIV CTR
- 494 referrals were made over a 2-year time period.
- 56 (11%) arrived for HIV CTR and completed testing
- Of these, 4 (7%) tested positive for HIV

Referral for Outpatient HIV CTR #2

- Three-phase quasi-experiment using financial incentives to improve compliance with this outpatient HIV CTR referral system
- Phase I and III: 20 (8%) of 252 completed testing
- Phase II: 27 (23%) of 120 completed testing
- 0 (95% CI: 0 – 8%) tested positive for HIV

HIV Testing then Referring #1

• 200 IVDU patients approached
• 168 (84%) consented to standard HIV testing in the ED with follow-up 10-14 days later for test results and post-test counseling
• 104 (62%) returned for follow-up*
• 17 (16%) tested positive for HIV
• 6 (35%) of these followed-up in the HIV clinic for medical care

*incentive offered

HIV Testing then Referring #2

- Non-clinical health educators
- Targeted “high-risk” or “symptomatic” patients during convenience/high-volume hours
- 897 high-risk patients targeted
- 494 (55%) consented for HIV CTR
- 15 (3%) tested positive for HIV infection
- 40% return rate (45% versus 33% when an incentive was used)

Rapid HIV test

Does it work?
The Rapid HIV Test

- **OraQuick® Advance Rapid HIV-1/2 Antibody Test** (OraSure Technologies) was FDA-approved in 2002
- **Uni-Gold Recombigen® HIV Test** (Trinity Biotech) was FDA-approved in 2003
- **Reveal® G3 Rapid HIV-1 Antibody Test** (MedMira Laboratories Inc.) was FDA-approved in 2003
- **Multispot HIV-1/HIV-2 Rapid Test** (Bio-Rad Laboratories) was FDA-approved in 2004
- **Clearview® HIV 1/2 Stat Pak** (Inverness Medical Professional Diagnostics) was FDA-approved in 2006
- **Clearview® Complete HIV 1/2** (Inverness Medical Professional Diagnostics) was FDA-approved in 2006
Rapid HIV Testing: The ED Experience #1

- Identity-unlinked sera from 492 consecutive ED patients
- Two rapid tests compared with standard testing
- Seroprevalence was 5.1%
- Easy, fast, with high sensitivities and specificities
- High concordance with standard testing

Rapid HIV Testing: The ED Experience #2

- Three-phase study over 3 years
- Phase I: Standard testing in the ED with follow-up 10-14 days later
- Phase II: Standard testing versus rapid testing
- Phase III: Rapid testing

Rapid HIV Testing: The ED Experience

- 3048 total patients studied
- 1448 (48%) consented to be tested over the 3 periods
- Overall seroprevalence rate was 5.4%
- A large proportion of those who received standard testing did not return to receive their test results
- A larger proportion received their test results when rapid testing was used
- Costs were comparable

Rapid HIV Testing: The ED Experience #3

- Urban, county ED
- Non-clinical health educators
- 7072 patients approached for testing over 9 months
- 1652 (29%) consented to rapid testing
- 1640 (99.3%) received their results prior to discharge
- 46 (2.8%) tested positive
- 36 (80%) followed-up in the retroviral clinic as scheduled

Rapid HIV Testing: The ED Experience #4

- Urban, county, safety-net hospital
- Physician-based, patient-targeted diagnostic testing using indigenous staff
- Laboratory-based rapid testing
- Dedicated clinical social workers provided counseling
- 681 targeted and completed HIV testing
- 15 (2.2%) tested positive for HIV infection
- 12 successfully linked into follow-up care

Rapid testing in ED works!

• Rapid testing in the ED is feasible and provides patients with timely results
• Several strategies exist
• Entry into HIV care may be facilitated when HIV results are all provided during one visit
• All EDs need to consider offering some level of HIV testing
Wishard Health Services

Rapid HIV Screening Protocol
Wishard Emergency Department

- Level 1 trauma center (Adult and Pediatrics)
- Annual census 115K patients
- 79-90 beds in ED
- 30 full/part-time physicians
- Nurse: Patient = 1:6 (sometimes more)
- CDC eligible for HIV screening
  - 2007: 55,000
Wishard HIV protocol - History

• Began October 2007
• Collaborative Task Force established
• Did not re-invent the wheel.
• Early protocol design
• Collaborative bridges came quickly!
• Pilot designed
• Funding sources
• Future outlook
To name a few...

Lee Wilbur, MD - Chair task force
Leslie Weaver, LCSW - Social Worker/Center of Hope
Gretchen Huffman, BS, RN - HIV project coordinator
Mitch Goldman, MD - Wishard ID
Danielle Osterholzer, MD - Wishard ID
John Finnell, MD - Informatics
Reagann McCreary, DO - EM resident
Elizabeth Vance, RN - Coordinator ED operations
John Baenziger, MD - Director Wishard lab
Debbie Burns - Director POC testing
Tracy Martin, BSN - Wishard ED Director
Christine Balt, NP - Wishard ID Clinic
Sandy Jones, RN - Wishard ID Clinic
Mike Wallace - Director Ryan White funds
Virgina Caine, MD - Director Health Dept
Cathy Archey-Morgan - ISDH
Jerry Burkham - ISDH
Malinda Boehler, LCSW - MATEC
Suellyn Sorrenson, PharmD - MATEC
Kathy Hendershot, BSN - Methodist ED Director
Scott Hillard, RN - Methodist ED
Protocol Design - Specific Aims

- Patient-centered public health initiative
- Involve HIV/ AIDS community organizations
- Don’t compromise ED operations
  - Do not utilize ED nurses primarily
  - Do not rely on ED physicians
- Use dedicated (external) testing personnel
- Design pilot to be full-scale model
- Establish process to evaluate effectiveness
Agency counselors - Pilot

• Why
  – Trained to be effective communicators
  – Testing in ED is community-outreach
  – Benefits the agency to document number of tests performed
  – Salary paid by agency- excellent resource.
  – Collaborative bridges in HIV community
  – We are seeing the same patients = clients
  – A ‘Win- Win’ situation
Operational Protocol

Pilot
- Two testers per 8 hour shift
- One stationed in front triage area
- Second stationed in Department - mobile

Current
- Americorp collaboration
- Volunteer services
Operational Protocol - Design

• Patient entry into ED (from front triage)
  – Triaged by RN/ Registered
  – Eligible pts then seen on Tester’s screen
  – Tester calls patient back into ‘HIV office’
    • Pre-test counseling
    • Informed consent
    • Ora-quick performed or declined
    • Patient released back to waiting room or assigned room
Operational Protocol- Design

• Tester #2 (during pilot)
  – Responsible for all patients arriving by ambulance
  – After triage, eligible patients seen on tester #2 screen
  – Tester (mobile cart) locates patient in ED
    • Pre-test counseling
    • Informed consent
    • Ora-quick performed or declined
    • Test results provided once known
Operational Protocol- Design

• Tester #2
  – Responsible for providing ALL positive test results along with post-test counseling
  – Tester #1 will call tester #2 with ALL positive test results.
  – Order confirmatory western-blot (inform RN)
  – Schedule (+) patients for urgent follow-up
Operational Protocol - Design

• Follow-up:
  – Patient ‘follow-up log’ located in ED
  – Patients scheduled 24/7 for the ‘HIV Follow-Up Clinic’
  – Clinic staffed by Leslie Weaver, MSW, LCW
    • 2 days/ week
    • Paper and electronic record of appts
    • Provide western-blot results
    • Integrate into Infectious Disease clinic
Follow-up clinic

- Consistent with mission of project
- Intent is not to duplicate CBO services
- Additional post-test counseling, emotional support, and referral
- Patient-centered, individual needs assessment
  - Menu of options
  - Medical and
  - Psychosocial needs
Operational Protocol - Design

For ‘No shows’

1. Social worker will call at home if appropriate
2. If unable to be reached, DIS system notified
3. ID clinic notified of all (+) Ora-quick pts
Wishard success

• To date:
  – Goal for positive screens: 0.25%
  – Over 1600 patients tested
    • > 1000 during pilot (4 wk)
  – 5 confirmed positive
  – Consent rate 79% - 89%
  – ‘Ripple effect’ through department and community
The sky is the limit…

- Wishard protocol can be readily expanded
- Over 55K eligible patients annually
- HUGE community impact with additional resources
- Expansion opportunities in city and State
- Early Intervention Services
  - Re-integrate KNOWN HIV pts back into care
- Partnership with local CBO’s
Bottom line

- Many of your clients seek care in your community ED’s
- ED’s should perform HIV screening
- Rapid HIV testing already proven successful
- What can we all do to advocate for these services?
A ‘How To’ Guide
Assess HIV in your community

- Evaluate your population
  - Epidemiologic information
    - Prevalence and incidence
    - Locations of high incidence
    - Demographic studies
- Consider cultural norms
  - Attitudes
  - Perception of problem
Assess HIV in your community

- Examine trends
  - Emerging communities
  - Utilization/access to health care
- Familiarize self with current HIV/AIDS resources
  - Present HIV testing methodologies
  - Past successes and failures
Know the movers & the shakers

- Identify community gatekeepers
  - Local health department
  - State health department
  - Local Infectious disease providers
  - Local hospital administration
  - Leaders of HIV/AIDS organizations
  - Advocacy groups

- Be visible
- Build relationships
Understand the initiative to make the case

• Be familiar with CDC Recommendations
  – Routine screening in all healthcare settings with undiagnosed prevalence ≥0.1% for patients aged 13 to 64 years
Understand the initiative to make the case

- Public health benefits
  - Identify the 25% of HIV positive individuals who do not know their status
  - Individuals who are unaware of their status are 3x more likely to transmit the virus
  - Identification and diagnosis can decrease numbers of transmission based on changes in risk behavior
Understand the initiative to make the case

- Individual health benefits
  - Opportunity to get tested for those that wouldn’t seek a testing and counseling center
  - Testing for those who don’t perceive personal risk
  - Opportunity to educate
  - Early diagnosis
  - Early linkage to care and services
    - Routine monitoring
    - Social services
Tools for success

- Anticipate barriers
  - Varying opinions of need for initiative
    - Resources already exist
    - Not our responsibility
    - Treat not prevent
  - Resources
    - Staff
    - Space
Tools for success

Anticipate barriers (cont.)

• Funding
  – Who will pay for this?
  – Cost to health care settings

• Other financial considerations (know your audience)
  – Cost effectiveness (traditional vs. rapid test, cost to system)
  – Potential impact on funding (county, state, agency)
Tools for success

Most importantly:
Be prepared to offer potential solutions
Advocate

• Do what you do best
  – Enhance your knowledge and understanding
  – Listen
  – Be objective
  – Practice good ethics & respect for others
  – Ask for help when you need it
  – Be persistent, patient, and assertive
  – Be clear and ask for what you want
Next steps

• Create task force early
  – Be diverse, incorporate representatives from all major players

• Designate roles
  – Base role on professional affiliations
  – Prevent duplication of efforts

• Delegate assignments
  – Clearly define tasks
  – Clearly provide deadline
Next steps

• Prepare written protocol
  – Incorporate feedback from task force members

• Keep the ball rolling
  – Advocate for continued participation
  – Routinely update key players on progress

• Have a deadline in sight
Towards the future

- Routinely assess quality of services
- Continually evaluate initiative impact
  - Feedback from patients
  - Staff (primary and secondary)
  - Funders
  - CBO’s
- Periodically evaluate relevance of project
ED HIV test guide.org
HIV Testing in Emergency Departments: A Practical Guide

Using this guide

‘Where do you want to go?’ on the left-hand side presents a list of topic areas you may navigate. Select your topic and a drop down menu with additional topics will appear. You may print sections or the entire guide. Each section contains links and information on additional resources. You may see the entire list of resources by selecting Resources under ‘Where do you want to go?’

Not sure where to go? We provide sample menus to help you get started. Whether you are simply exploring the possibilities, actively planning, or considering expanding an existing effort, you will find useful information on this site.

We aim to maintain this guide as a dynamic resource that we will periodically update with new research and feedback from users like you.

Keep Posted!
Sign up if you would like us to keep you informed regarding updates to the HIV Guide and this Web site. We will not share your information with anyone.
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...Many thanks!
Summary

• The ED is the perfect venue for HIV screening
• Barriers can be overcome
• Can’t do it alone
• Proven models exist…use them
• Be prepared for limited resources and adapt