

Formative Research of HIV Testing Practices in Emergency Rooms in Austin, Texas

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Submitted to:
Texas Department of State Health Services
HIV/AIDS Epidemiology and Surveillance Branch

Jan 22, 2007

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Introduction

In September 2006, CDC published the Revised Recommendations for HIV Testing of Adults, Adolescents, and Pregnant women in Health-Care Settings (REF). These new recommendations advise routine screening for adults, adolescents, and pregnant women in healthcare settings in the United States. Lawmakers, healthcare providers, and public health officials are seeking ways to help more people know their HIV status.

With the availability of rapid testing and result, the emergency room or department presents possibilities to be explored for routine HIV testing. Moreover, emergency departments serve vulnerable populations and attract populations with limited resources and information about health. From a public health perspective, testing in an emergency department makes sense. Yet, anyone who has been watching the news or has made an unexpected trip to an emergency department can observe that emergency departments have their own processes and issues. Clearly, there are questions to be answered in any setting before HIV testing can become routine.

In Fall 2006 the Texas Department of State Health Services began to explore the possibilities of emergency departments as settings for routine HIV testing in Texas. For Nov-Dec 2006, they contracted with University of Texas Kinesiology and Health Department to conduct a formative evaluation in Austin area hospitals to provide:

- Relevant Literature. A thorough summary of the relevant literature found in reputable research and academic sources on the topic of routine HIV testing in emergency rooms/departments in the United States (see Attachment A);
- Listing of ERs. An electronic listing of Texas emergency rooms/departments, showing: the county in which the emergency room/department is located, the number of visits and clients (if available) reported by that facility in 2005; and the HIV/AIDS prevalence and incidence rate for the county for 2005 (Attachment B);
- Results of pilot interviews. Findings from the pilot interviews at 3 Austin area emergency rooms/departments to assess current emergency room/emergency department practices, standards, and policies on HIV testing, use of various HIV testing technologies, and barriers to adopting routine testing; and
- Interview script. Draft interview script for use with key informants at other Texas hospitals emergency rooms/departments (Attachment C).

The following overarching questions were identified in a joint meeting of DSHS HIV staff and the UT-Austin research group. These questions informed the development of the interview script.

Who are the stakeholders and what are their concerns?
What are the leverage points to create support for routine HIV testing in emergency departments (ED)?
What are current practices (testing, counseling, and referral)?
 Who is conducting HIV testing on a routine basis, and how did that happen?
 Are there other routine screenings that serve as a model?
What are stakeholders' thoughts/attitudes toward routine HIV testing?

Description of Methodology for the 2006 HIV Testing project

Research team. Two doctoral health education researchers and two medical social workers comprised the research team. Together the team possessed experience in qualitative data collection and analysis, in depth interviewing, and medical social work in a hospital and in an Austin emergency department.

Instrument. The team developed a semi-structured interview protocol that covered demographic and work characteristics, opinions about routine HIV testing, current practices, and perceived barriers about the development of a policy for routine testing in the emergency department (ED). The survey included opportunity for feedback about other questions that should be included and ideas for methods for future data collection (e.g., paper and pencil questionnaires, on-line questionnaires in lieu of face-to-face interviews). The survey instrument is included as Appendix A. At the time of the interview, the interviewers summarized the rationale for the recommendations for HIV testing.

Sample. A convenience sample was recruited from four Central Texas emergency departments, with two hospitals having the majority of the respondents. In addition we interviewed two persons outside these hospitals, a community representative of the local hospital district and an executive of one of two emergency physicians groups that contract with the hospital systems in the area. The sample is fully described in the results.

Initially, the interviewers experienced some difficulty in scheduling interviews with ED staff. They then discovered that the Director of the ED or of nursing was often able to arrange scheduled times for the interviews. Physicians were especially difficult to schedule, given the nature of emergency work. However, several physicians gave partial interviews and one physician provided his thoughts and experience with diagnosing HIV in the ED by e-mail. The timing of the project, late November and December, was a barrier due to ED schedules and the interviewers' personal schedules related to the holidays.

Methods. The two social workers conducted all of the interviews, beginning with key informants they already knew. Contacts with other personnel were made with referral from the key informants. An effort was made to interview personnel in all professional roles that would be affected by routine testing. Interviews were recorded, and in the

cases when recording was not possible, the interviewers took detailed notes to summarize the conversations they had had. After each interview the interviewers transcribed their interviews and emailed them to the rest of the team. The team met periodically to review the work of the interviewers and to discuss possible avenues for more contacts.

Each team member read the interviews to identify themes. The team met as a group to discuss themes and reached agreement on the level of specificity for themes. Tables of themes organized within constructs were constructed for each question.

Results

Context: Respondents

The scope of work for the pilot project was limited to four Austin-area hospitals and personnel. The hospital emergency departments were selected for their potential to provide three different perspectives: those of (a) a city-owned hospital that provides a great deal of indigent care; (b) a private non-profit religious-affiliated hospital; and (c) two hospitals affiliated with a national for-profit system. The different hospitals serve different populations and would likely have different perspectives in their responses. In addition, a representative from an emergency room physicians group was interviewed.

Within the time constraints of a short contract period of November-December 06 and Christmas holidays, we were able to interview sixteen hospital emergency department employees and two persons outside the hospital emergency departments who would have special knowledge concerning the issue (See Table 1). From three hospitals, we interviewed at least one emergency room clinical administrator and social worker. From two hospitals, we interviewed physicians, and at one, other direct care staff. The majority of the emergency room employees had at least five years of experience.

Table 1. Description of institutions and respondents who participated in the pilot interviews (Q1)

Institution	Persons Interviewed	Experience in an ED
ED #1 City-owned hospital that provides a great deal of indigent care	1 Clinical & Nursing Director (RN) 1 Clinical Nurse Manager (PA/RN) 4 Physicians* 1 Nurse 2 Social Workers 1 Physicians Assistant	From 6 to 30 years (Median 10-12 yrs)
ED #2 Hospital affiliated with a national for-profit system	1 Nursing Director 1 Physician 1 Social Worker	From 1.5 to 30 years (Median 2.5 years)
ED #3 Private non-profit religious-affiliated hospital	1 Manager of Emergency Services (RN) 1 Social Worker	From 5 to 20 years
ED #4	1 Social Worker	10 years

Institution	Persons Interviewed	Experience in an ED
Hospital affiliated with a national for-profit system		
Other	1 Member, Hospital District 1 Executive, Emergency Physicians Group	

* Partial interviews

How do emergency rooms currently handle HIV or other testing?

Understanding the perceptions of the staff with regard to HIV testing in the emergency room provides a context for understanding staff responses to questions about the possibilities of routine HIV testing. As seen in Table 2, none of the four hospitals currently conducts routine HIV testing in the emergency room.

The non-routine HIV testing that is performed occurs in several ways, usually outside the domain of the emergency room. Testing may be conducted upon admission to the hospital, since there is time for results to be obtained. Testing is also done on a case by case basis for cause, specifically, “high risk” behavior and exposures. Otherwise a referral to outpatient HIV testing is made.

The non-routine testing process in the emergency room was described by several interviewees. According to the interviewees, a physician, physician’s assistant, or nurse practitioner orders the test, a nurse or phlebotomist draws the blood and the lab does the test. Counseling prior to the test would be done by the physician in terms of the plan of care and by social workers for specialized HIV counseling. Because of the length of time required to obtain test results, in the two instances reported, the referring physician or the “call back nurse” would call for the patient to return to receive test results and then give them in the follow-up appointment.

Perceptions about the reporting of HIV positive tests were mixed. One clinic manager noted that a positive case would be reported to the health department, while a social worker at the same institution indicated it was not reportable, except for employee exposures.

In terms of payment, private insurance, Medicare/Medicaid, or the city’s Medical Assistance Program would be billed. If there were no insurance, the patient would be billed. It was noted that private insurance might not pay unless the test were medically indicated, leaving the patient with the bill. If no payment were received, it would be non-compensated cost to the hospital and the burden would vary by the percentage of unfunded patients seen by the hospital.

Questions about routine testing other than HIV were asked to determine whether or not there is a precedent to be found in other policies in these three hospitals. One institution reported routine gonorrhea and Chlamydia testing for sexual assault victims and for those patients with STD symptoms. At another institution, questionnaires about TB are

routinely given and tests conducted on high risk patients. There are standing orders for many conditions; however, all of these examples are not routine testing, but rather complaint and/or symptom driven.

Table 2. Current handling of HIV testing by institution

Institution	Handling of HIV testing
ED #1	<ul style="list-style-type: none"> • No routine HIV testing • If being admitted to the hospital • MD may test without knowledge or consent as part of a routine blood draw if sees high risk behaviors (e.g., heroin abusers) or symptoms • Exposures, needle sticks • By patient request, but referred out • Usually refer to outpatient testing if non-emergent • Sexual assaults referred out
ED #2	<ul style="list-style-type: none"> • No routine HIV testing • For unrecognized symptoms • If being admitted to the hospital (will have time for test to get back) • Sexual assaults not done as too soon for test to be accurate
ED #3	<ul style="list-style-type: none"> • No routine testing • Done at cause, such as needle stick or exposure • If patient requests, refer out

What are the barriers to implementing routine HIV testing in the emergency room?

Interviewees were asked about perceived barriers to routine HIV testing. Table 3 depicts the reported barriers, grouped by hospital setting.

“Bogging down the system” and its accompanying implications was the most frequently identified barrier. Emergency rooms are perceived to be for medical emergencies. “Move ‘em up (into the hospital) or out.” Routine HIV testing was perceived to slow down the general "process" of the emergency room, including longer wait times for patients, "plugging up beds" needed for emergent patients, and burdening already overworked staff . Bogging down the system was also linked to financial concerns, as one private pay physician said that she would lose money if the process was slowed, and she was not able to see as many patients.

The possibility of identifying positive results seems to complicate and slow the process even more, as interviewees were concerned about responsible care and follow-up. Under

the current system, positive results mean that the physician is responsible for the patient’s care until a provider can be found. Staff are unsure about counseling with patients about their diagnoses and next steps, adequate resources in the community, tracking patients, and follow-up at the hospital for patients who test positive. Most interviewees do not see follow-up care as the purpose of the ED. A director of nursing summarized his position by stating "if you don't take their temperature, they don't have a fever".

Concerns for the patient also emerged as a barrier theme. The majority of respondents identified fear and stigma as reasons patients would not want the testing. Interviewees were worried about the finances of the tests and how that is linked to patient confidentiality – who is going to pay if the test is not medically required, and then what does the insurance do with that information? Confidentiality or the lack thereof was mentioned as a barrier. Medical records are accessible to others within the hospital system. In terms of insurance and finances, a positive test establishes a pre-existing condition and affects insurance coverage; also there is the question of whether insurance would cover the cost if the test were not medically indicated. Questions about consent were voiced by personnel in several institutions: what are the legal issues with consent for a routine HIV test? What about parental consent for teens? What about patients who are in pain and would not understand consent nor be able to take in the consequences of a positive test.

Costs, in terms of money and resources, was identified as a barrier to routine testing. Interviewees clearly believed that hospitals would need to “gear up” in the labs, personnel, and time in order to accomplish routine testing.

Table 3. Perceived barriers to routine HIV testing, by institution

Institution	Perceived Barriers
ED #1	<ul style="list-style-type: none"> Consent issues <ul style="list-style-type: none"> Legal issues with consent Parental consent for teens Patient Finances <ul style="list-style-type: none"> Parents’ insurance would get test bill (confidentiality) Cost to patient If not medically necessary, insurance won’t cover it. Money and resources <ul style="list-style-type: none"> Additional personnel needed Cost Reliability of rapid test? CLEA regulations regarding lab tests Staff time (social workers would be, ethically, conducting pre- and post counseling) Perceived Purposes of emergency room <ul style="list-style-type: none"> Resentment by staff regarding non-emergent issue of testing ER is not the place for this Bottleneck in system <ul style="list-style-type: none"> Longer wait time, turn-around time ER is at capacity now

Institution	Perceived Barriers
	<p>Patients would leave AMA because of longer time Would add at least a half hour to each patient's length of stay and tie up rooms</p> <p>Perceived attitudes of patients Patient fear of getting tested</p> <p>Concerns of staff Staff concern about approaching patients with results Staff concern with negative reaction People hate change RNs are already overworked Patients might come to the ED for an HIV test alone; "free opportunity with no thought to the system"</p> <p>Confidentiality Medical records are accessible to anyone in the hospital network</p> <p>Follow-up Compliance Physicians don't have rapport with patients to make that kind of diagnosis Patients may not provide phones and addresses for follow-up</p>
ED #2	<p>Responsible care and follow-up Provider responsible for follow-up care ED can't do follow-up care Finding the patients to give test results No time for counseling Lack of quality control with rapid test</p> <p>Attitudes of patients Majority of patients will say no to testing</p> <p>Insurance concerns Positive test establishes a preexisting condition that affects insurance coverage Patients don't want it on their records</p> <p>Bottle-neck the system Bog down/slow down the ED process "Plugging up" the bed Time management Additional paperwork for nurses Nurses have as many as 6 patients each</p> <p>Perceived purposes of ER ER is about diagnosis</p> <p>Consent Patients in pain and can't give consent</p> <p>Money and resources Need money for hiring, testing Private ED physicians paid for the number of patients they see</p>

Institution	Perceived Barriers
ED #3	Attitudes of patients Stigma of test Patients afraid to know People wouldn't want routine testing Responsible care and follow-up Positive results require crisis intervention Money and resources Require more work by lab techs, social workers Expensive
ED #4	Responsible care and follow-up Responsibility & liability of physicians for follow-up Limitations of the ER for follow-up Ethical dilemma from lack of follow-up Shift work complicates follow-up Difficulty of giving results in person Timeliness of community clinics access Patients have to qualify for clinics Tracking of patients would be a lot of work Lack of a policy/procedure for follow-up care Influence on ER process Increase potential wait times in the ED, delays in being treated Fill beds in ED, possibly needed for emergent patients More hospitalizations if HIV identified Costs to patient Financial barrier: who would pay Money and Resources May need to hire more staff
ED physicians group	Influence on ER system Bog down the system Movement main focus of ED Costs to hospital Add to staff burden Perceived purpose of ER "Totally out of the question" "Physicians totally laughed" "Where would it stop...would ED be asked to do TB tests, pregnancy tests"
Community member of hospital district	Perceived attitude of patients People in trauma not sure what hearing Positive results scare people Consent issues Age limit for consent

What were the facilitators and positive attitudes with regard to HIV testing in the emergency room?

While the interviewees were quick to point out barriers to HIV testing in the emergency room, they were also able to identify positive reasons and facilitators for promoting testing. Table 4 depicts the comments grouped by institution.

A public health perspective seems to underlie the verbalized positive support. Identifying positive individuals is seen as a way to keep the public safe and help individuals toward timely receiving timely treatment. Emergency rooms are viewed as a logical site where vulnerable populations who would not otherwise be tested could receive the test. One provider explained, "it's the right thing to do", and several thought there would be public support as long as it is handled well, since the testing is in the interest of safety of the patients, providers and others.

While money issues were described as a barrier by some interviewees, others believed that the low cost of HIV testing linked with the potential positive public health returns is a positive aspect to routine testing.

Table 4. Perceived facilitators/positive attitudes to HIV testing by institution

Institution	Perceived Facilitators/Positive Attitudes
ED #1	<p>Public health perspective</p> <ul style="list-style-type: none"> Interest of safety of clients and others Better to know the diagnosis than not know so I support routine testing from that perspective Identifying more people is a good thing <p>ER as a good site to identify</p> <ul style="list-style-type: none"> ERs are a good point; widespread net over vulnerable population <p>Functionality</p> <ul style="list-style-type: none"> Would not add to my burden (physician) <p>Perceived support</p> <ul style="list-style-type: none"> Large majority would support General public and providers would support depending on how it is handled.
ED #2	<p>Public Health perspective</p> <ul style="list-style-type: none"> You can get at a lot of people that way Great to find out quickly and get people to the right follow-up From a public health standpoint, several of us would view as a really good thing. <p>Positive experience</p> <ul style="list-style-type: none"> Wonderful idea because I was part of a place that had it <p>It's the right thing to do</p> <ul style="list-style-type: none"> Most people in ED would support because it's the right thing to do <p>Money and resources</p>

Institution	Perceived Facilitators/Positive Attitudes
	Cost of tests is low
ED #3	Voluntary In favor of it as long as it's voluntary Think it's a good idea Money and resources Lots of resources (names them) Costs of tests is negligible
ED #4	People would support, but functionality is not practical
Community member of	Safety for providers Providers would know up front and could protect themselves
ED physicians group	Could see possibility if an independent process

What would it take to make routine HIV testing in the emergency room happen?

Interviewees were asked, "What would it take to make routine HIV testing in the emergency room happen?" Table 5 depicts the responses grouped by institution.

Different perspectives were expressed by the interviewees, depending upon their roles within the emergency department. The composite would promote successive implementation of routine testing. Education and training for staff were viewed as vital for a successful rollout as necessary to provide patients with appropriate support. Changes in policies would be necessary to allow for responsible ways to handle confidentiality, successful referral and follow-up, and accountability.

Testing is not just testing; it requires (at least) obtaining consent, testing procedures, lab work, diagnoses, counseling, waiting for results, follow-up and referral. Depending upon how the emergency department is configured, staffing and space requirements could be different. Adjusting procedures and infrastructure would be necessary to incorporate HIV testing into current emergency room processes. In addition, interviewees perceive that systems for tracking the case all the way to transfer of care are needed.

Finally, resources and money were mentioned by every interviewee. Making routine HIV testing is viewed as needing more of everything.

Table 5. Changes needed for routine HIV testing in ER, by institution

Institution	Responses
ED #1	Education and training for staff Good education roll-out for staff Staff education regarding how to support patients Training of staff Tests for competency

Institution	Responses
	<p>Education/social marketing for clients Need media to educate public for why testing and to decrease stigma and fear</p> <p>Positive promotion Presenting in a positive manner</p> <p>Create a procedure or infrastructure that supports Make minimally intrusive on ED routine Staff time for support, education, blood draw Have one specially trained support person Need more counseling, case management, identification of resources</p> <p>Policies Policies regarding confidentiality Policies regarding follow-up A process approved and a policy in place, with accountability Adherence to CLEA lab regulations Policies to document asking</p> <p>Confidentiality Separate and confidential space to be tested</p> <p>Money and resources Someone to pay for it Huge financial costs to the hospital must be covered Costs of tubes, gloves, gauze, reagents, equipment, staff</p>
ED #2	<p>Responsible follow-up Work out relationship with HIV clinic to have slots for ED referral Resources for follow-up</p> <p>Consent Redoing consent forms</p> <p>Education and training Training all staff Information and education for staff</p>
ED #3	<p>Money and Resources Resources for counseling and medical follow-up Funding for new resources</p>
ED #4	<p>New approaches Special team made up of doctor, social worker, case manager to educate, explain, support & refer</p> <p>Responsible follow-up Procedure/process for follow-up System for tracking the results, contact information for patients, and informing the patient in-house, including transfer of case to physician on duty</p> <p>Education Training for staff</p>

Institution	Responses
	Money & Internal Resources More staff (especially in lab) More time More equipment More money
Community	Responsible follow-up Follow-up would be essential
ED Physicians Group	Possible if it were an independent process

Who would be impacted by routine testing?

Respondents viewed routine HIV testing as a process that would involve everyone, from the patients and their families, to the emergency department staff, to the facility. Their responses are depicted in Table 6, grouped by institution.

Table 6. Who would be impacted by routine testing?

Institution	Responses
ED #1	Patient population Staff All in the ER: nursing team, lab draws, physician, support services, social services, child life specialists, chaplain Facility Kids of patients, family Everyone
ED #2	Entire ED Social worker if positive tests punted back Risk of misinformation from one of the staff who might not be well-trained ED in general
ED #3	More work in ED for lab More work for social workers if positive
ED #4	All staff All patients All potential patients

Who would support the idea of routine HIV testing in the emergency room?

Responses to this question varied, and as one provider put it, “it depends on your beliefs about the illness.” With regard to the healthcare providers, it sounds like a nice idea, but the issue of practical functionality looms large. With regard to patients, one provider

believed that if offered, “patients would say ‘yes’ in a heartbeat,” while another provider countered, “no one will be ‘beating down the doors’ to be tested.

Interviewees perceived that supporters of routine testing would include individuals with a public health or academic perspective, newly trained health care providers, individuals who have worked with down-trodden populations, and health departments.

Responses are depicted in Table 7, grouped by institution.

Table 7. Who would support the idea of routine HIV testing in the emergency room?

Institution	Responses
ED #1	Depends on beliefs concerning HIV illness Support depends on beliefs concerning illness Patients If offered, patients would say yes in a heartbeat Department of Health Infection Control Unit of hospital
ED #2	Newly trained health care providers Those just out of residency & military would support People out of residencies in big programs that see a lot of down-trodden people Great to have in teaching settings, university-related hospitals Public health / academic physicians Academic physicians are more supportive of public health; private are more concerned about costs.
ED #3	No one will be “beating down the doors” to be tested.
ED #4	People would support the idea, but the functionality is not practical. Routine testing is such a foreign concept

What would you want to know if you were part of an effort to provide routine HIV testing?

Looking for ways to leverage support, interviewees were asked what they would want to know if they were part of an effort to provide routine HIV testing. For the most part, their responses were pragmatic, reflecting a desire to do the best job possible. Table 8 depicts their responses, grouped by institution.

The desire for education was foremost. Interviewees, in general, did not see themselves as being very knowledgeable about HIV, treatment, and resources. They wanted to know contextual information and statistics, prognoses, community resources, and current practices. They also wanted to know more about the testing process and wanted assurance about the validity and reliability of test results. As one interviewee said, “Positive results don’t mean much without treatment and education.”

They wanted to know more about aspects of dealing with clients – how to counsel and refer, when to involve family members, where to refer.

Interviewees were interested in linkages within the health care community - learning more about collaboration with other testing sites and HIV services.

Interviewees also wanted feedback about their efforts - where the data go, whether or not the goals of the CDC are being met, and what treatment patients are receiving.

Table 8. What would you want to know if you were part of an effort to provide routine HIV testing?

Institution	Responses
ED #1	Education about testing and the testing process What process will look like? Reliability of the test Which tests to be used; false positives In service Education about HIV: CDC statistics, HIV changes over the years More information overall: morbidity, statistics, what’s going on, Information about counseling and referral When to pull in other family members? Where to refer patients? Follow-up What resources are out there? Information about the infrastructure Collaboration with other testing sites and HIV services How many people should be hired to handle extra jobs
ED #2	Where to refer?
ED #4	Beyond testing Are goals being achieved Where the data goes What treatment will HIV+ patients get Positive results don’t mean much without treatment and education

Other thoughts

After an interview in which respondents were asked about process, procedures, barriers and facilitators, they were asked what other thoughts they had that they had not had an opportunity to express. Table 9 depicts their responses, grouped by institution.

The concern or question expressed most often at the conclusion of the interview was whether or not the emergency room is the appropriate place to conduct routine HIV testing, given current policies and procedures. This sentiment was grounded in several perspectives. Competing interests are seen by the interviewees in the emergency room, such as presenting traumas or the desire to fix patients and send them on their way.

Competing interests are seen by the interviewees in public health, such as other diseases being more prevalent, and perhaps more infectious, than HIV. Interviewees were also concerned about the emergency rooms' ability to conduct routine testing and "reinventing the wheel", when there are other places in the community that offer testing and follow-up.

Interviewees also had suggestions for approaches to routine testing, as well as alternatives to routine testing. Among their suggestions:

- Create a staff that does nothing but routine testing, rather than impose upon current staff
- Sponsor a mass screening and education event, rather than make screening routine
- Create a roving team that screens, similar to the group that comes to the hospitals from the STD clinic. "In Houston, there is a roving team that comes into the ERs to do psych assessments to get people into treatment. It's not part of the ER, but it is still being offered." As another example, "the sexual assault nurse examiners (SANE) are called in for specific situations. One is always on duty or on call."
- Have someone's primary role to do HIV duties
- Provide money to conduct a pilot program as a demonstration
- Provide more free HIV testing centers
- Engage the physician groups that serve ERs. Conduct a focus group at the biannual meeting of ED physicians

Table 9. Other thoughts, questions, and concerns

Institution	Responses
ED #1	<p>Stigma</p> <p>Confidentiality HIPPA</p> <p>Question rationale for routine HIV testing in ER Why is Hepatitis C not coming up, when it is 5 times more prevalent? Could do routine testing for Hepatitis C, also More appropriate to address in clinics? Are we testing trauma patients Is this another unfunded mandate from the government? Could become regulatory since Texas health department is involved Why does it need to be done in ER; most patients have other connections to MHMR, Arch, Salvation Army—why not there if it can be done so easily. Who did the tests in Chicago?</p> <p>Concerns about tests results Is there still an issue of false positives & false negatives</p> <p>Suggestions for approach Create a little testing staff group, separate group that tests Would be worth doing a pilot program if someone would provide \$\$ More free HIV testing centers</p>

Institution	Responses
	<p>More federal funding for testing centers</p> <p>Concerns about ER’s ability to conduct Most people who come back for labs don’t see doctor; HIV would need to see a doctor Should techs be responsible for such a test. Everyone in the ER would need to be trained to deal with positive results</p>
ED #2	<p>Other questions to ask on survey: Do you change practice patterns when you have a patient with HIV? How long do you think it would take to establish a new resource for the patient? Suggestions for approach Do a focus group at biannual meeting of ED physicians group Offers description of Cook County</p>
ED #4	<p>Question rationale for routine HIV testing in ER Are we reinventing the wheel? Other sites are available. Hospital had rather do a mass HIV testing with tents, etc. rather than do routine testing in ER. Suggestion for approach A roving team from STD clinic that goes from ER to ER doing HIV tests</p>
ER physician group	<p>Has 77 physicians in group and would be glad to help out</p>

Summary & Implications

Emergency room staff from four Austin-area hospitals and other identified key informants were interviewed about their thoughts regarding routine HIV testing in an emergency room setting. While the interviewees were limited in number in this formative research, their responses highlighted important areas to explore and the need to continue additional interviews across the state.

Engage as many stakeholders as possible in the process of implementing routine HIV testing. Interviewees believed that implementing HIV tests routinely would not be an isolated process of adding one additional procedure to their routine. Instead, they perceived that it would impact “everyone” from the patients and their families to all emergency room staff and the facility itself. They also believed that making HIV testing routine would impact all the emergency practices, including gathering consent, conducting counseling and testing, laboratory work, diagnosis, and especially follow-up.

Address perceptions of the purpose of the emergency room, and address the supporting infrastructure. The interviews perceive emergency rooms/departments as places to handle medical emergencies, and HIV testing was not necessarily considered to be an emergency. Accordingly, providing testing would interfere with the emergency room processes and would slow down the systems currently in place. Among their greatest concerns was the ability of the emergency room staff to provide responsible and timely feedback to patients who test positive for HIV. Concerns for the patient were expressed in terms of confidentiality, consent, and finances.

Explore ways in which timely, responsible follow-up for HIV positive patients can occur. One of the most frequently verbalized concerns about the emergency room as a site for HIV testing was the idea that emergency departments are not prepared to provide follow-up for HIV positive clients. Ethical issues regarding continuity of care should be addressed.

Continue to explore the keys identified by interviewees to making HIV testing routine: education and training, adjustments in procedures and infrastructure, changes in policies, resource needs, and money issues.

Identify and engage individuals who will support routine HIV testing. According to interviewees, these individuals are likely to be individuals with a public health or academic perspective, newly trained health care providers, individuals who have worked with down-trodden populations, and health departments.

Enlist stakeholders to identify strategies and problem solving approaches to the implementation of routine HIV testing. Several interviewees offered suggestions, such as forming HIV testing teams, networking with other community services, or identifying contract “on call” specialists to deal with positive results.

Educate and train stakeholders about HIV and the benefits of a public health approach. Interviewees have typically been focused upon emergencies and expressed a need for and an appreciation of education and training. Explore ways to provide feedback to ERs about their efforts.

Engage community physician groups, such as the owners of the Emergency physician groups and faculty from university-related emergency departments, in the exploration and problem solving process. Interviewees were concerned about physician response being key to ER acceptance of routine HIV screening. Consider making them members of an advisory committee about the project. Include physicians who did their residency at Cook County and saw the pilot program in operation.

Explore the implications of routine HIV testing with some insurance companies, since payment and implications of a positive result were perceived as barriers among the interviewees. Provide this information during future interviews.

Engage medical personnel from the follow-up clinics where HIV positive patients are seen in conversations/consultation about the project. (such as The David Powell Clinic, Wright Wellness Center, AIDS Services, etc.)

Recommendations for future research

With regard to gathering more information across the State, the following points are important to consider:

- Arrange ahead of time with hospitals to participate in the survey. Schedule interviews/survey in advance to avoid interfering with patient care and ensure that staff members have more time to be interviewed. Plan to interview evening staff, also.
- Seek and interview people who have had experience with HIV testing.
- The hospital ERs identified in this formative research highlight how different hospitals serve different clientele and may have different perspectives. It would be important to continue to explore differences by looking at ERs in small or rural communities versus larger communities.
- Explore the possibility of online survey or paper survey with certain stakeholders.
- Some interviewees reported a need for more information if they were asked to be part of an effort to make HIV testing routine. Interviewers should be able to present to interviewees findings from research literature, such as information from the Cook County study.
- Be able to provide statistics on HIV in the interviewee's area and the potential impact of routine HIV testing on the community. Explore whether or not knowing the estimated rate of positive results influences responses for the different facilities/areas?
- Provide information with the interviewees about rapid response tests, since many interviewees did not even know that a rapid response test is available.
- Contact Rebecca Roberts, Director of Research at the Cook County ED in Chicago, and interview her regarding the process leading up to the project at their ED. Also, if the testing is ongoing in Cook County, learn about the funding? Also ask her if there are similar projects in other ED's in the country.
- Conduct the survey in the larger ED's in TX such as Parkland, UTMB Galveston, and University Hospital in San Antonio.
- Interviewees seemed more interested in routine HIV testing in the ER if it is conducted as an independent process in the ER. Consider framing the questions

to future interviewees in terms of an independent process conducted by specially trained professionals.

ATTACHMENT A

Formative Research of HIV Testing Practices in Emergency Rooms

Review of Relevant Literature

HIV/AIDS Demographics

The demographic prevalence rates of HIV have changed over the 20+ years of the epidemic. Despite the onset of the disease within certain communities, the pandemic has crossed many demographic and socioeconomic boundaries, which has dramatically increased the number of individuals at risk for contracting the virus (Walensky, Losina, Steger-Craven, & Freedberg, 2002). HIV has disproportionately fallen on populations of color; many of whom have their first or only interaction with health care providers through emergency departments (Alpert, Shuter, DeShaw, Webber, & Klein, 1996).

Many studies have found that new seroprevalence rates are highest among males, Blacks, Latinos, and those without insurance (Kelen et al., 1999; CDC, 2001). However, since the onset of the virus, the proportion of individuals infected with HIV through heterosexual contact has continued to increase (Haverkos, Chung, & Norville, 2003). Thirty-five percent of new HIV infections that were diagnosed between the years of 1999-2002 were acquired heterosexually, and the majority of these new cases were among women (CDC, 2004). At the time of diagnosis 82 percent of persons diagnosed with AIDS reported that they were living in a large metropolitan areas (Gallant, 2004), and in several studies, HIV+ patients were already seriously ill when they came in to receive initial treatment (Beckwith et al, 2005; CDC, 2001). In fact, Samet et al (1998) found that 36.5% of patients who presented for initial HIV medical care had CD4 counts less than 200 cells/ μl ¹.

AIDS Exceptionalism

HIV/AIDS has been treated differently than other diseases in virtually every nation, including the United States. The traditional public health strategy entailed a commitment to rely on prevention measures that were voluntary, that respected the rights and privacy of those infected with the virus and for those at risk of contracting the virus (Bayer, 1999). The virus has been governed by rules related to written consent, voluntary testing, counseling, and prohibitions against third-party notification and name-based reporting (Bayern & Fairchild, 2006). These practices have been termed “HIV/AIDS exceptionalism.”

With the development of new advances in the drugs available to successfully treat the virus, HIV/AIDS exceptionalism has also taken on an economic burden. As it is, each HIV therapeutic innovation has made the disease, which was once deemed a death

¹ μl = A unit of volume equal to one-millionth (10^{-6}) of a liter.

sentence, more chronic and manageable. However, these advances have also made tertiary prevention of the disease more expensive to maintain. As a result, persons with HIV have been given hope of prolonged survival that, for many, is out of reach due to the lack of adequate health coverage or no coverage. As a result, the U.S. government began taking on the costs for the HIV/AIDS treatments in 1987 due to the fact that more than two-thirds of the patients with HIV/AIDS lacked adequate health coverage (Casarett, & Lantos, 1998). In 1990, state AIDS Drug Assistance Programs (ADAPs) moved under the Ryan White Comprehensive AIDS Resources Emergency (CARE) umbrella. With the advent of new drugs and therapeutic breakthroughs, ADAPs began to see costs increase by as much as 400% in the late 1990's (Casarett & Lantos, 1998). To better control the increases in cost, state programs began to regulate the number of individuals who were eligible for support. Washington, D.C., implemented a limit to how many individuals could be enrolled in specific programs; Missouri introduced monetary caps per individual enrolled in an ADAP program; Louisiana along with 14 other states started waiting lists for individuals who were in need of HIV prescription treatment; and North Carolina simply stopped authorizing new clients to receive services under ADAP (Bayer, 1999; Casarett & Lantos, 1998).

While HIV/AIDS exceptionalism has worked to protect those infected with the disease against stigmatization and discrimination; exceptionalism seems to have also become a public health threat. HIV/AIDS exceptionalist prohibitions against routine testing, third party notification, and mandatory reporting have not protected the public against the spread of the disease, nor has providing health care and medications slowed the transmission of the disease (Frieden, Das-Douglas, Kellerman, & Henning, 2005).

The stigma and discrimination that individuals with HIV/AIDS have faced since the inception of the epidemic seem to have been the driving force for exceptionalism. However, many other medical conditions are associated with stigma and discrimination towards those who have the condition. For instance, cancer, diabetes, mental illness, and physical disabilities all have stigma and discrimination associated with bearers of these conditions. Yet, there are special programs that provide benefits to those with HIV/AIDS and the absence of such benefits for individuals with other stigmatizing illnesses with much higher mortality rates than HIV raises ethical concern (Bayer, 1999; Casarett & Lantos, 1998).

Indeed, the era of exceptionalism seems to be coming to a fast approaching end. The availability of more advanced antiretroviral therapies has made it possible to treat effectively those who are infected with HIV, thereby increasing the importance of early detection and tracking (Jansen, 2005). In addition, these new therapeutic innovations have made a strong case for implementing HIV antibody tests in a more routine manner similar to other blood tests.

CDC Guidelines

The Center for Disease Control and Prevention (CDC) has issued recommendations regarding HIV Testing in Acute Care Hospitals since 1993. These early

recommendations stated that hospitals with a HIV seroprevalence rate of 1% or more, or an AIDS diagnosis rate greater than 1 per 1,000 discharges, should adopt a policy of offering HIV counseling and testing routinely to all patients age 15 to 64 (CDC, 1993). CDC also recommended routine testing for all pregnant women regardless of risk. The insurgence of rapid testing, further prompted CDC to develop guidelines for the use of rapid testing during labor and delivery or postpartum, if mothers had not undergone prenatal testing for the virus prior.

More recent CDC recommendations have been extended to include all medical settings and individuals age 13 to 64. Key in this mandate is that patients would be told that HIV testing was a part of “routine” care. Implicit in this notion is that signed consent would not be necessary because as a part of routine care “general consent” is implied (Jansen, 2006). However, CDC has recommended that patients have the option of “opting out” of testing. This bold move on the part of CDC again seems to signal the end of AIDS exceptionalism, which has distinguished public health policy with regard to AIDS from approaches to other communicable diseases in this country (Bayer & Fairchild, 2006). Indeed, CDC believes that the treatment of HIV/AIDS as an exceptional disease has contributed to delays in receiving test results, in the transmission of the disease, missed opportunities to screen for HIV, and the leveling decline in the incidences of HIV (CDC, 2006). In short, the rates of newly diagnosed HIV infections have not decreased and the number of individuals unaware of their HIV positive serostatus has not substantially changed (Beckwith, 2005). In fact, recent reports have found increases in HIV infections (CDC, 2003; Kelly, Hoffman, Rompa, & Gray, 1998; Scheer, Chu, Klausner, Katz, & Schwarcz, 2001). In Texas the incidence of newly acquired HIV infections have remained constant with increases found in some demographic groups. Between 2004 and 2005, HIV/AIDS cases in Texas increased within Hispanic populations and have not leveled off within other ethnic groups (TXDSHS, 2005).

Many barriers related to access to treatment and early diagnosis of HIV infection have also prompted CDC to announce updated HIV testing recommendations. Previously, CDC (2001) recommended that physicians offer HIV testing as a part of routine health care to all patients in high prevalence areas (exceeding 1 percent), to all patients practicing high risk behaviors in low risk areas, and to patients who request HIV testing. CDC has now implemented new strategies, “Advancing HIV Prevention: New Strategies for a Changing Epidemic” (AHP) (CDC, 2003). This new initiative emphasizes the importance of “routine” assessment of HIV in all medical settings. In addition, AHP places an emphasis on the use of rapid HIV tests to facilitate quick results and linkage to care for individuals in high prevalence areas, individuals with high risk behaviors, and for women during labor and delivery who had not been tested prior.

However, outpatient medical treatment continues to have barriers to access for individuals who are at highest risk for HIV infection (Kelen, Shahan, Quinn, et al., 1999). First, among the barriers is the limited knowledge and skills among health care providers about HIV pretest counseling and testing. A recent study found that medical school graduates entering into internal medical fields, particularly primary care, still had not been trained in HIV pretest and posttest counseling, were unaware of the recent CDC

guidelines for HIV testing as well as of the rapid tests available for HIV testing, and stated that they felt “uncomfortable” giving HIV positive results to patients (Green & del Rio, 2000). Secondly, emergency room departments continue to be the only access to health care for many individuals who lack adequate health care coverage. Therefore, emergency room departments may be the only place for many patients to receive HIV counseling and testing (Kelen et al, 1999). While this presents a barrier to outpatient medical settings, the demonstration that many metropolitan emergency departments have high rates of undiagnosed HIV infection among their patient populations (Alpert, Shuter, DeShaw, Webber, Klein, 1996; Kelen, Hexter, Hansen, Tang, Pretorius, & Quinn, 1995; Schoenbaum & Webber, 1993) also seems to present an opportunity and thus routine HIV screening in emergency room departments may play an important role in the national strategy of early detection of HIV infection (Hutchinson et al., 2004). Previous studies report that ranges of undiagnosed HIV infection in emergency departments fluctuate between 1 percent up to as high as 13 percent and that approximately 25 percent of undiagnosed HIV patients presented with no identifiable HIV risk factors (Alpert et al., 1996; Goggie et al., 2000; Kelen et al., 1995).

Benefit of Early Testing & Detection

Legislative debates over HIV testing have been particularly focused on who should be tested, when people should be tested, where testing should be made available, and who should have access to testing results (Morin, 2000). In the United States, most HIV testing has been targeted towards populations perceived to be at high risk for transmission of the virus including men who have sex with men (MSM) and IV drug users (IDU). Today, medical advances have modified the progression of HIV to AIDS and has vastly increased the potential importance of early HIV detection, which has returned the focus on the early detection of HIV (Morin, 2000). However, identifying infected individuals has become a major impediment in controlling the spread of the virus and in early intervention efforts (Alpert et al, 1996; Frieden et al, 2005). Large numbers of newly infected persons infected through heterosexual contact have raised awareness for the need of routine testing rather than risk-based testing. Research demonstrates that approximately one-fourth to one-third of HIV-positive cases are unaware of their serostatus (CDC, 2004; Samet et al., 2001; Wurcel, Zaman, Zhen, & Stone, 2005) and many are unaware of their risk for HIV, particularly if their source of infection was through heterosexual intercourse (Samet et al., 2001).

Many benefits have been observed when pregnant women are screened routinely. CDC estimates that approximately 38% of infected children were born to mothers whose status was unknown prior to delivery (Anderson et al., 2005). Early detection of HIV has proven beneficial to decrease the likelihood of vertical (mother to fetus) transmission of the virus. Early detection allows pregnant mothers to begin antiretroviral treatment that has been found to be more effective than zidovudine, which in past studies has been found to reduce vertical transmission of the virus to the fetus by 63% (Boyd, Simpson, Hart, Jonstone, & Goldberg, 1999). The use of public health approaches of universal screening and treatment has all but eliminated perinatal transmission of the virus (Frieden et al, 2005). Currently, four states (Texas, Michigan, Tennessee, and Arkansas) require

testing of all pregnant women unless they refuse, and 13 other states including California, Florida, Maryland, and New Jersey require that providers offer HIV testing to pregnant patients on a routine basis (Bayer & Fairchild, 2006; Hodge, 2004).

Early detection of HIV has been argued as an important factor in decreasing the transmission of the virus and improving treatment outcomes. Researchers argue that knowledge of HIV status allows patients the opportunity to seek early treatment and begin antiretroviral medications, tuberculosis testing, and other treatments to aid against opportunistic infections typically associated with HIV (Hogg et al., 2001; Kaplan, Masur, Holmes, et al., 1995). Finally, research has demonstrated that knowledge of HIV+ status aids in the decrease of risky behaviors, thereby decreasing transmission of HIV to others (Dejarlais, Perlis, Arasteh et al., 2004; Kelen, Shahan, Quinn et al., 1999). However, some research suggests that while early detection is important, there is no direct evidence which demonstrates the most optimum time to initiate Highly Active Antiretroviral Therapy (HAART). In fact, research has found that nearly complete immune restoration can be achieved with viral suppressive therapy, even when CD4+ counts are very low (Phillips et al., 2001; Staszewski et al., 1999). Yet, research has found that early detection and treatment provides patients the best chance to begin treatments that aid in warding off other opportunistic infections, which have been found to increase mortality rates (Hogg et al., 2001). Sanders and colleagues (2005) found that early detection and treatment resulted in an increased life expectancy.

Related to the notion of early detection is the idea of “missed opportunities” to test patients during “routine” medical visits (Frieden et al., 2005). Some research demonstrates several missed opportunities in which patients could have been assessed but were not. In one particular study, Jenkins et al (2006) found that 34% of patients who were found to be seropositive had at least 1 medical encounter, either in an emergency department, primary care, acute care hospital, or an STD clinic, prior to their diagnosis. In another study, it was found that two-thirds of the inpatients newly diagnosed with AIDS received medical services during the preceding 12 months prior to their HIV/AIDS diagnosis (CDC, 2001).

Reporting and Informed Consent

Reporting of new HIV cases also continues to be a controversial issue. In particular, name-based reporting to public health registries have been argued to place individuals infected with HIV/AIDS at risk of discrimination in various arenas (Work, school, in their community, etc) and may even place them in physical danger. However, this argument is not new and has spanned across several diseases (Frieden et al., 2005). Conflicts over reporting date back to the beginning of the tuberculosis and syphilis outbreaks. Yet, both of these conditions currently have required name-based reporting to disease registries (Bayer, 1999). Nevertheless, AIDS activists continue to voice concerns with regards to name-based reporting due to continued public disdain and stigma concerning HIV/AIDS.

Despite voiced concerns on the part of AIDS activists, state legislation regarding name-based reporting began to change in the 1990's due to concerns about informing those who test positive for the virus; proper counseling about transmission of the virus; creating the possibility of notifying infected persons when better treatments become available; creating programs for effective partner notification; and permitting those in charge of surveillance to better accomplish their mandates. In 1991, New Jersey became the first high prevalence state to implement name-based reporting. By 1998, 32 states had adopted name-based HIV reporting, which included states such as Colorado, Florida, Maryland New York, New Mexico, Oregon, Pennsylvania, Texas, and Washington (Bayer, 1999; Lansen, 2005). Due to the fact that many states require name-based reporting of positive HIV tests to a national disease registry, Hodge (2004) reports that many states still require written consent for HIV testing; only 5 states (Connecticut, Montana, New Hampshire, New Mexico, and Texas) do not require written informed consent to perform HIV testing (see Table 1). Yet, none of these states require informed consent for CD4+ cell testing (Frieden et al., 2005). CD4+ counts equal to or less than 200/ μ l have been included by the CDC as an indicator for the presence of HIV/AIDS (Lansen, 2005). CD-4 testing then allows physicians who treat patients who have refused HIV testing to order CD4+ testing when they deem it necessary, in order to gather other information that is an indicator of a patient's HIV status (Lansen, 2005).

Table 10. State laws concerning HIV and CD4 testing

States requiring written consent	AL, AZ, CA, CO, DE, DC, FL, HI, IL, KY, LA, ME, MD, MA, MI, NJ, NY, ND, OH, OR, PA, RI, TN, VT, WA, WV, WI
States requiring any form of consent (verbal or written)	CT, TX
States that do not specify need for consent	MT, NH, NM

Rapid HIV Tests

Until recently, the only procedure available to diagnosis HIV was to perform a HIV enzyme-linked immuno-sorbent assay (ELISA) followed by a Western blot or immunofluorescence assay as a supplemental test to confirm HIV, positively (Branson, 2000; Wurcel, Zaman, Zhen, & Stone, 2005); this test could take up to two weeks to obtain results. A problem with this lengthy procedure is that many people failed to return to get the results of their test, and an estimated one-quarter of HIV positive results were never delivered (AIDS Surveillance Reports, 2005; Hightgow, Miller, Leone, Whol, Smurzynski, & Kaplan, 2003). Research suggests that nearly 50% of the individuals, who are tested each year for HIV, fail to return for their test results (Sullivan, Lansky, & Drake, 2004). Persons who were most likely not to return for their HIV test results were women (60%), African Americans (63%), heterosexuals (56%), and individuals with a history of drug use (66%) (Hightow et al, 2003).

New developments of rapid HIV tests (OraQuick, Uni-Gold, Recombigen, Reveal G2, and Multispot) approved by the FDA for use in the United States have provided new hope in decreasing the number of “serostatus unknown” HIV-infected persons. It has been found that rapid tests enable persons to receive their HIV test results in about 30 minutes rather than up to two weeks associated with standard HIV tests (CDC, 2006) which increases the likelihood of individuals receiving their results from 69% to 99% (Metcalf et al., 2005). In addition, rapid tests have been found to have similar sensitivity and specificity as standard HIV tests (Branson, 2000; CDC, 2003).

Each of the new rapid tests includes instructions for the labs on how the test works, and product information sheets that are to be provided to the patient (Greenwald et al., 2006). All four tests are interpreted visually and require no extra instrumentation. In each test, HIV antigens are affixed to a strip or membrane on the inside of the test (see Table 2 for test details). If HIV antibodies are present in the specimen being tested, the test kit displays an indicator that is visually detectable (Greenwald, 2006). However, positive results from any of these rapid tests still must be confirmed with a Western blot analysis (similar to the ELISA) (Branson, 2000).

Table 11. Rapid HIV test

Product	Manufacturer	Sensitivity %	Specificity %	Time takes	Screens
OraQuick	OraSure Technologies	Whole blood: 99.6 Oral Fluid: 99.3 Plasma: 99.6	Whole blood: 100 Oral Fluid: 99.8 Plasma: 99.9	20 min.	HIV-1 HIV-2
Uni-Gold	Trinity Biotech	Whole blood: 100 Serum/Plasma: 100	Whole blood: 99.7 Plasma: 99.8	10 min.	HIV-1
Reveal G2	MedMira Laboratories	Serum: 99.8 Plasma: 99.8	Serum: 99.1 Plasma: 98.6	5 min.	HIV-1
Multispot	BioRad Laboratories	Serum: 100 Plasma: 100 HIV-2: 100	Serum: 99.9 Plasma: 99.9	15 min.	HIV-1 HIV-2

Sensitivity = P(test positive/disease); Specificity = P(test negative/no disease)

Implementation of Rapid Testing

Although implementing routine HIV testing in emergency departments may be the most optimal place to reach those most at risk; emergency room implementation does present challenges. Some have argued that while emergency departments (ED) treat many undiagnosed HIV cases, providing effective HIV pre-test counseling to all patients in EDs would not be feasible (CDC, 2006; Kelen et al., 1996). Multiple emergency department-based limited feasibility trials and cost-benefit studies provide evidence that EDs are a optimal place to offer HIV screening to high-risk patients (i.e., those with identifiable risk factors) or high-risk populations (i.e., those where HIV seroprevalence is at least 1%) (Irvin et al., 2000; Rothman et al., 2003). However, the high volume of cases seen in EDs makes providing pretest counseling to all those serviced in their department virtually impossible. Providers are usually too busy to provide pre-test

counseling to every patient offered an HIV test. In fact, only 18.6% of all rapid HIV tests are delivered through Emergency Departments (NASTAD, 2006). It is possible that current policies related to required pre-test counseling, time constraints, and patient volume may have impacted the number of HIV tests offered in EDs. Despite these challenges, studies have found that financial costs associated with administering HIV tests in emergency room departments are comparable to the costs associated with other blood tests (Rothman et al., 2003). Kelen and colleagues (1999) found that the costs per ED patient tested, counseled, and resulted positive with standard testing were \$18, \$39, and \$601, respectively, and that costs for rapid tests were \$18, \$36, and \$1,124, respectively.

Research indicates that despite the fact that rapid test gives patients the option of receiving same day results, patient acceptance of rapid HIV testing across different settings range from 27% to 98% (Spielberg, Branson, Goldbaum et al., 2003; Wurcel et al., 2005). However, acceptance of standard and rapid HIV testing in emergency room departments has been found to be very good, with nearly 50% of patients approached consenting to HIV testing (Kelen et al., 1999). Irwin and colleagues (1996) found that patients from a large inner city emergency department were more likely than inpatients to accept testing, counseling, and return for results than hospital inpatients.

The advent of rapid HIV tests seems to have improved the acceptance of HIV testing. Several new studies have found that both patients and providers preferred rapid HIV tests over conventional HIV tests (Ekwueme et al., 2003; Medcalf et al 2002). Ekwueme and colleagues (2003) estimated that approximately 94.9% of patients would accept rapid HIV testing and would return for the confirmatory results at a rate of 95% compared to a 65% return rates for standard test results of HIV infected persons and 58% return rate of uninfected persons reported by CDC. Medcalf and colleagues (2002) found that 98% of all persons seeking HIV testing in three sites (Newark, Long Beach, and Denver) preferred rapid HIV tests over conventional HIV tests and 13% of the patients reported that they would not have tested at all if the rapid HIV test had not been available.

There a number of studies that have reported that patients still hold reservations about routine testing in different medical settings. Boyd and colleagues (1999) found that pregnant women were happy that HIV testing was available; however most believed that they were at low or no risk for contracting the virus and therefore felt that HIV testing did not need to be performed. Other studies have reported that many patients experience anxiety and fear related to receiving results from HIV tests (Hutchinson et al., 2004) which negatively impacts their return rates and has been reported as a factor related to why many do not get tested (Spielberg et al., 2003; Kellerman et al., 2003). In addition, patient anxiety about HIV testing has also been found to be negatively associated with the implementation of routine HIV testing in medical settings (Sullivan, Lansky, & Drake, 2004). Although testing may create anxiety, eliminating the delay in receiving test results may increase acceptability of HIV testing. Research has found that those who express the most anxiety about testing tend to prefer to receive their test results in the same day (Hutchinson et al., 2004; Medcalf et al., 2002). In addition, the availability of

different types of HIV testing may increase individual willingness to be tested, due differences in consumer preference (Rotheram-Borus, Leibowitz, & Etzel, 2006).

Pretest Counseling

The main purpose of HIV pretest counseling is to reduce the spread of the virus through educating about modes of transmission, assessing risk, recognizing behaviors that increase risk, and developing a plan to take specific action to reduce risk. Also included in HIV pretest counseling is the description of the meaning of the results of the various tests. Both face-to-face and computer-assisted interviews have been found to be useful approaches in these efforts. Information that individuals should receive in counseling can be found in the Center of Disease Control and Prevention Revised Guidelines for HIV Counseling, Testing, and Referral: MMWR Report, 2001. It should be noted that research has consistently reported that diagnosis and appropriate counseling is associated with decreasing risky behaviors associated with the transmission of HIV among those who are seropositive (Jenkins, Gardner, Thrun, Cohn, & Burman, 2006); however, it has been more difficult to ascertain if these same benefits hold true for those who test seronegative (Rotheram-Borus et al., 2006).

Counseling related to prevention should focus on the patient's circumstances and needs, so that the patient can set specific goals for reducing their risk behaviors. CDC reports that flexibility is important in any prevention and counseling process. In addition, all preventative counseling efforts should be presented in a language that is clear and explicit to the patient (Gallant, 2004).

HIV/AIDS exceptionalism has demanded the need for pretest and posttest HIV counseling. However, no other infectious disease (e.g., tuberculosis, syphilis) or life-threatening conditions (e.g. cancer, diabetes) requires pretest or posttest counseling. Thus some feel that the pretest counseling prerequisite to performing HIV tests perpetuates stigma related to the disease (Bayer, 1999; Rotheram-Borus et al., 2006).

The introduction of rapid HIV tests to medical settings has created some unique challenges also with regard to pre-test counseling particularly related to the assessment of patient preparedness for test results (Greenwald et al, 2006). Conventional tests gave patients 2 weeks to prepare themselves for the results, whereas rapid test results only give patients 30 minutes to prepare and be counseled. Given the fast return of results associated with rapid HIV tests, patients receiving results from a rapid HIV test must be counseled in simple terms about the meaning of a rapid test, with the provider placing an emphasis on the need of a confirmatory test and scheduling a return visit for results of the confirmatory test. Despite the type of HIV test performed, all patients should be counseled on risk reduction behaviors while awaiting results of their confirmatory test (CDC, 2006). Although CDC encourages counseling for the prevention of HIV infection, simplified counseling has also been promoted by the department. Simply stated, CDC believes that pretest counseling should not be a barrier to HIV testing (Gallant, 2004).

Barriers to Routine Testing

The CDC HIV routine testing recommendations continue to be of current concern and of hot debate. There have been several write ups in the last month in popular news papers such as The New York Times and USA Today. However, there appears to be a disconnection between CDC HIV testing recommendations and actual testing practices among physicians (Simmons et al., 2006). As noted earlier, routine testing of pregnant women has been suggested by CDC but is not universally followed in the United States (Castrucci, Kamb, Hunt, 2002). More recently CDC has made recommendations for routine testing for the general population. However, a recent study found that while physicians in Rhode Island (n=106) and Mississippi (n=203) regularly recommended “high risk” patients to receive HIV testing, they only recommended 54% of pregnant patients, and 37% of sexually active patients age 18-50 years of age to receive HIV tests (Simmons et al., 2006). High risk behaviors in the past have been used to signify men who have sex with men, injection drug users, and those who have multiple sex partners who do not know their HIV status; this trend seems to minimize the heterosexual spread of HIV. In fact, research suggests that when risk-based assessment is used to offer testing, approximately 70% of HIV-infected persons are missed (Chen, Branson, Ballenger, & Peterman, 1998). Some have argued that any of the following clinical presentations or historical triggers presented in Table 3 should raise a physician’s suspicion of HIV infection (Freedberg & Samet, 1999). Due to the above concerns many have begun to promote the use of routine HIV testing over risk-based testing (CDC, 2003; Freedberg & Samet, 1999; Liddicoat et al., 2006; Walensky et al., 2002).

Routine Testing as Screening

It seems that many physicians do not realize the benefits of routine HIV testing. Some suspect this response is due to the fact that routine testing has only increased the number of positive tests conducted by 2.7 percent (Freedberg & Samet, 1999). Thus physicians generally view HIV tests as a diagnostic test rather than a screening tool. This viewpoint of ordering tests would imply that certain tests should only be used as a screening device if the test results are positive at some regular frequency (i.e. 1 in 4 or 1 in 10). However, it could be argued that physicians do not expect a 20% or even a 10% positive result in cancer tests yet they still order them routinely.

Table 12. Clinical presentations and historical triggers as risk of HIV infection

Clinical Presentations	Historical Triggers
Sexually Transmitted Diseases Herpes Gonorrhea Abnormal Papanicolaou Smear Trichomoniasis Syphilis Hepatitis B virus Chlamydia Pelvic Inflammatory Disease Condylomata acuminata (penile warts) Other Infections Tuberculosis Recurrent vaginal candidiasis Community-acquired pneumonia Varicella zoster virus Skin Psoriasis Seborrheic dermatitis Systemic Mononucleosis syndrome Weight loss Bell palsy Generalized lymphadenopathy or unexplained focal adenopathy Pregnancy	Psychiatric Hospitalization Alcohol detoxification or dependence Homelessness Cocaine or crack use Unsafe sex with partner whose HIV status is unknown or positive

Why then would physicians need a 20% positive return rate HIV test results in order to find it necessary to use as a diagnostic tool? This question is rhetorical, of course; the point is that physicians need to be trained to see that even 1 in 1,000 is a large number of new HIV cases (CDC, 2001). Rather than focusing on the positive rate of return as a judgment to administer HIV tests routinely, physicians might focus on the fact that HIV is a disease that has substantial morbidity and mortality. In addition, HIV also has treatments that are effective in improving individual health outcomes, but need to be implemented during the acute phases of the disease and prior to the occurrence of late stage symptoms for the most effective outcomes (Freedberg & Samet, 1999). Finally, tests for HIV are minimally invasive and have very good sensitivity and specificity in detecting the disease. It would appear that these aspects of the HIV disease and testing meet the criteria for general screening in the medical setting. Additionally, research indicates that by lowering the threshold for offering HIV tests, the actual number of individuals tested increases by nearly twofold and substantially decreases the number of undiagnosed HIV cases (Walensky et al, 2002).

Some argue that the initial cost of HIV testing may also be a barrier to routine testing. In the long term, savings on our society will be great; however, short term, routine HIV

testing requires individual health care institutions to absorb costs that may be difficult to justify given the current financial restraints facing many health care systems. Routine testing appears to extend the lives of persons infected with HIV and prevent the spread of HIV, while being no more expensive than providing other screening tests for illness such as diabetes, high blood pressure, and cancer (Ekwueme, Pinkerton, Holtgrave, & Branson, 2003; Sternberg, 2005). In addition, it has been found that rapid HIV testing for all adults in areas of the United States with a HIV prevalence of at 20% delivers value comparable to many other screening tools for other chronic diseases (Paltiel et al, 2006) and remains cost effective even if provided every three to five years (Paltiel et al., 2005). Furthermore, indirect costs of transportation to specific HIV testing sites could be reduced by targeting individuals in medical settings such as emergency room departments (Walensky et al., 2002).

The move to make HIV testing more routine has encountered little opposition, but there is resistance to the elimination of pretest counseling and specific written consent. Many fear that without a requirement for written consent, testing would in effect become a requirement (Bayer & Fairchild, 2006). Supporters of this argument, state that the elimination of written informed consent could also result in HIV tests being performed without the patient's knowledge (CDC, 2006). Despite the evidence that suggests that early diagnosis can help HIV-infected persons, routine HIV testing remains controversial. Some groups believe that requiring routine HIV testing among particular populations would be virtually the same as requiring mandatory testing (Walker et al., 2004). The AIDS Treatment Activists Coalition (ATAC) argue that individuals in prisons often receive no pretest counseling or education about HIV and thus they may be unaware of the repercussions of testing positive for HIV while imprisoned. For these populations as well as others that may be similar in perceived power such as juveniles, persons with severe mental illness and illegal immigrants, consent may not mean the same as it means to others. Often times, individuals in situations with little power and control do not realized that they have consented to receive HIV testing or that they have been actually tested for HIV, despite signing a consent form.

Some believe that the CDC recommendation to routinely test when the prevalence rate in a particular area is greater than or equal to 1%, is impractical. These researchers argue that health care providers would need specific knowledge about the population-based estimates of the prevalence rates of HIV in the areas in where they provide services; under normal circumstances doctors do not have ready access to this level of information (Beckwith et al., 2005). In addition, Beckwith et al (2005) argue that risk for HIV infection is largely based on social networks, the prevalence rate of HIV within those networks, and individual risk behaviors. Patients are not always willing to discuss their social networks or their risk taking behaviors with their physician. In addition, some patients may not be aware of their risks. For example, persons who are infected with HIV through heterosexual transmission have been found to perceive themselves to be at low risk for HIV infection (Beckwith, 2005). Given this, it would seem virtually impossible for physicians to determine risk attributable to social networks in a brief doctor-patient encounter.

The time constraint of a typical patient visit has also been argued to impede on physicians' ability to routinely offer HIV counseling and testing to their patients (Beckwith et al., 2005; Troccoli et al., 2002). Some research indicates that a typical office visit in primary care takes less than 18 minutes; this could mean that even "brief" HIV counseling could take an entire visit (Greenwald et al, 2006). The performance of routine testing that must incorporate pretest counseling in high patient volume climates such as primary care clinics, urgent care, or emergency departments seems impractical (CDC, 2006). Instead, many argue that HIV testing should be offered as routinely as a Pap Smear, mammogram, or any yearly examination in various clinical sites including primary care, health clinics, hospitals, urgent care, emergency departments, and STD clinics (Morin, 2000). In these situations, information would be provided through a pamphlet, brochure, or video. In fact, in the United Kingdom the use of a leaflet to replace verbal pretest counseling was found to be effective in increasing the number of individuals who agreed to be tested for HIV (Rogstad, Bramham, Lowbury, & Kinghorn, 2003). After the patient viewed the leaflet or video, then if the provider felt it necessary or if the patient requested, additional counseling would be provided by a trained counselor. Patients would still have the right to refuse tests or "opt-out" of testing as is the current practice with other routine tests (Beckwith, 2005). Research has demonstrated that offering routine testing where adults have the option to refuse leads to higher rates of test acceptance (Jones, 2004; Weis, Foresman, Cook, & Matty, 2000).

Patients not returning for confirmatory results for rapid HIV test have also been reported as a challenge (Greenwald et al, 2006). The Centers for Disease Control recommends that those who do receive a reactive test result from rapid HIV tests should be told, "Your preliminary test result is positive, but we will need to run a confirmatory test of your HIV status. In the meantime, you should take precautions to avoid transmitting the virus." Researchers argue that patients who have received reactive test results from rapid HIV tests have received some initial information that there is a high likelihood that they are HIV seropositive compared to having no results from conventional tests (Greenwald et al, 2006). In addition, if name based reporting were to be implemented, patients could then be tracked and notified of their confirmatory results as well as informed of new therapeutic advances.

Application

There are many proven interventions (routine screening, linkage to care, use of condoms, and clean needles) that could prevent most transmissions of HIV (Frieden et al., 2005). To successfully implement routine HIV testing in all medical settings, it would seem important for medical and schools of nursing to begin regular practices of training their students on routine testing and counseling for HIV. It would also seem necessary to improve community-based efforts of counseling individual patients to prevent the transmission of the virus, to provide patients and physicians with support to facilitate patients return to care. The integration of behavioral health care providers into medical settings such as primary care, urgent care, and emergency departments may also be necessary to implement routine testing and counseling in all medical settings. Routine HIV testing has been found to be cost effective and clinically efficacious (Paltiel et al., 2005).

Broad accessibility to rapid HIV testing has the potential to inform many HIV positive adults of their infection status soon after viral acquisition. In order to take advantage of this potential, it will be necessary to make HIV testing a routine procedure. Utilizing the current CDC estimate of new HIV cases of 40,000 per year times the average amount to care for a HIV positive person (200,000 a year), if routine HIV testing could prevent half to two-thirds of these new cases that would be an estimated savings of four to five billion dollars a year (Frieden et al., 2005).

Several barriers were indicated by this review related to access to care and thus limiting individual opportunities for testing. Systematic barriers that limit access to health care need to be reduced for many in order for more individuals to receive HIV testing. CDC has made recommendations for the routine offering of HIV counseling and testing in all medical settings where HIV-infected persons may seek care for non-HIV illness (CDC, 2001a). However, for this recommendation to be fully implemented, individuals must have access to health care services in order to receive services from a physician or other health care provider on a regular basis (Bond, Lauby, & Batson, 2005). In addition, it would seem important to expand regular HIV testing to all women, and not just those who are receiving prenatal care, in order to reach those who may be at risk for acquiring the HIV but not pregnant.

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ATTACHMENT B

Formative Research of HIV Testing Practices in Emergency Rooms

Electronic listing of emergency rooms in Texas

An electronic listing of Texas emergency rooms/departments, showing: the county in which the emergency room/department is located, the number of visits and clients (if available) reported by that facility in 2005, and the HIV/AIDS prevalence and incidence rate for the county for 2005 is provided. The Texas Hospital Inpatient Discharge Public Use Data File, 2005, was obtained through collaboration with DSHS HIV/AIDS Epidemiology and Surveillance Branch.

Of the 345 hospitals listed:

- 63 (18.3%) hospitals had HIV rates by ER admission 1.0% or higher
- Park Plaza Hospital in Houston experienced the highest rate of HIV by ER admit (9.57%), and the highest HIV rate by all admissions (6.19%)
- In all cases where numbers were available, HIV rates by ER admit were higher than HIV rates by all admissions
- Counties with more than 1 hospital with HIV Rates by ER admit over 1%: Houston (n=20 hospitals), Dallas (N=9), Bexar (N=6), Tarrant (n=4), Travis (n=4), Brazos (n=2), Cameron (n=2), El Paso (n=2), and Fort Bend (n=2).

Table 1 lists the top 20 hospitals in Texas according to HIV rate by ER admit.

Table 13. Top 20 hospitals in Texas according to HIV rate by ER admit, 2005.

Rank	Hospital	Hospital City	Hospital County	HIV Rate by All Admissions	HIV Rate by ER Admit
1	Park Plaza Hospital	Houston	Harris	6.19%	9.57%
2	Parkland Memorial Hospital	Dallas	Dallas	5.24%	7.61%
3	Lyndon B Johnson General Hospital	Houston	Harris	4.42%	7.55%
4	Ben Taub General Hospital	Houston	Harris	4.40%	7.18%
5	Brackenridge Hospital	Austin	Travis	3.06%	4.62%
6	Memorial Hermann Hospital	Houston	Harris	1.87%	4.42%
7	Southwestern General Hospital	El Paso	El Paso	2.06%	4.31%

Rank	Hospital	Hospital City	Hospital County	HIV Rate by All Admissions	HIV Rate by ER Admits
8	Doctors Hospital-Tidwell	Houston	Harris	3.10%	4.15%
9	CHRISTUS St Joseph Hospital	Houston	Harris	2.05%	4.02%
10	John Peter Smith Hospital	Fort Worth	Tarrant	2.46%	3.96%
11	Renaissance Hospital	Houston	Harris	1.83%	3.48%
12	Memorial Hermann Northwest Hospital	Houston	Harris	1.67%	3.22%
13	University of Texas Health Center-Tyler	Tyler	Smith	2.36%	3.06%
14	Baylor University Medical Center	Dallas	Dallas	1.59%	2.83%
15	Metropolitan Methodist Hospital	San Antonio	Bexar	1.36%	2.78%
16	Doctors Hospital-Parkway	Houston	Harris	1.78%	2.72%
17	St Paul University Hospital	Dallas	Dallas	1.47%	2.60%
18	R E Thomason General Hospital	El Paso	El Paso	1.54%	2.54%
19	St Davids Hospital	Austin	Travis	1.38%	2.54%
20	West Houston Medical Center	Houston	Harris	1.11%	2.49%

References

Texas Hospital Inpatient Discharge Public Use Data File, 2005. Texas Department of State Health Services, Center for Health Statistics-THCIC, Austin, Texas.

ATTACHMENT C

Formative Research of HIV Testing Practices in Emergency Rooms

HIV ER INTERVIEW

Issues to be identified for the report/survey

Who are the stakeholders and what are their concerns?

- Who are the stakeholders?
- What is the procedure for gaining access to the stakeholders?
- What are their concerns and issues?

What are the leverage points to create support for routine HIV testing in emergency departments (ED)?

What are current practices (testing, counseling, and referral)?

Who is conducting HIV testing on a routine basis, and how did that happen?

Are there other routine screenings that serve as a model?

What are stakeholders' thoughts/attitudes toward routine HIV testing?

Introduction

My name is XXX, and I am working with UT Austin on a contract with the DSHS to look at the potential impact of the CDC's recommendations for routine testing for HIV in emergency departments. As you are an important member of the emergency department team, we'd like to have your insights about the idea of routine HIV testing in the ED.

This interview is part of a state-wide study regarding the possible implications of the CDC guidelines. Research has suggested that ED represents a missed opportunity to identify HIV+ individuals who would not otherwise be identified. Knowing whether one is HIV positive or negative leads to healthy decision-making and reduced spread of HIV.

Your name will not be attached to any of your responses. We will report your role, and length of time in the ED.

Date: _____

Hospital: _____

Location: _____

Start Time of day: _____

End Time of day: _____

Questions and probes

Role:

1. How long have you worked with the emergency department at this facility?
2. How does your emergency room currently handle HIV testing?

If no, are there any circumstances under which you would conduct HIV testing?
(for example, high risk individuals or pregnant women)

If yes,

Who orders the tests?

Who performs the tests?

Is education or counseling provided prior to the test? If yes, who does that?

Who pays for the tests? How is insurance handled?

How are the results handled? With regard to

informing the patient,

any reporting

providing counseling, support or referral?

3. Is there any testing done routinely in the ED? If yes, what types? Would there be protocols that might be relevant to providing HIV testing in the ED?

4. What are your thoughts about providing routine HIV testing in the ED?

Who will this impact?

Who would support the idea?

What would be the barriers to implementing HIV testing in the ED?

*(If they say time, then ask In what way would time be a barrier?
If appropriate, "Our research suggests that a finger prick test can be read after 20 minutes.")*

What would it take to make routine HIV testing in the ED happen?

(such as procedures, associations, policies, identified persons or positions)

5. How would *your* job/role be affected by routine HIV testing in the ED?

Time? Duties? Training?

6. What costs do you see involved in providing routine HIV testing in the ER?

7. What resources would be needed to implement routine HIV testing in the ER?

If no response, "what comes to your mind?"

8. What would you want to know if you were part of an effort to provide routine HIV testing?

9. What are the resources your community has to refer to when patients do not have a PCP or insurance?

10. What number or percent of your patients are uninsured or indigent?

Interview Wrap up

11. What other questions should I ask you, or what other thoughts do you have?

12. Who else should we talk to?

13. Do you know someone who has a different opinion/idea than you?

14. Can I contact you later to see if you have more thoughts on the subject?

15. Do you have any final questions or comments?