2004

IDCR: Infectious Diseases in Corrections Report, Vol. 7 No. 12

Infectious Diseases in Corrections

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IDCR

INFECTIOUS DISEASES IN CORRECTIONS REPORT

FORMERLY HEPP Report

Dec. 2004 Vol. 7, Issue 12

SPONSORED BY THE BROWN MEDICAL SCHOOL, OFFICE OF CONTINUING MEDICAL EDUCATION

ABOUT IDCR

IDCR, a forum for correctional problem solving, targets correctional physicians, nurses, administrators, outreach workers, and case managers. Published monthly and distributed by email and fax, IDCR provides up-to-the moment information on HIV/AIDS, hepatitis, and other infectious diseases, as well as efficient ways to administer treatment in the correctional environment. Continuing Medical Education credits are provided by the Brown University Office of Continuing Medical Education. IDCR is distributed to all members of the Society of Correctional Physicians (SCP) within the SCP publication, CorrDocs (www.corrdocs.org).

SUPPORTERS

IDCR is grateful for the support of the following companies through unrestricted educational grants:
Major Support: Abbott Laboratories, Boehringer Ingelheim and Roche Pharmaceuticals.
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IDCR MISSION STATEMENT

We changed our name from HEPP Report to IDCR (Infectious Diseases in Corrections Report) to encompass all infectious diseases that impact the correctional setting. IDCR's goal is to educate correctional health care providers about the appropriate medical management of prisoners infected with HIV, hepatitis, TB, and other infectious diseases; to encourage these providers to improve their networks with correctional, academic or community-based infectious disease experts; and to promote a level of infectious disease care in correctional facilities that is equivalent to the "community standard."

USE OF HIV RESISTANCE TESTING IN ANTIRETROVIRAL THERAPY DECISION MAKING

By Dr. Ian Frank, Attending Physician; Director, Antiretroviral Clinical Research; and Associate Professor, Department of Medicine, University of Pennsylvania

As HIV replicates, mutations in the HIV genome develop due to errors in the transcription of RNA to DNA by the viral enzyme reverse transcriptase. When these errors are introduced into viral genes, a mutation may result. If the mutation occurs in one of the HIV proteins that is a target of an antiretroviral drug, the result may be decreased susceptibility or resistance to that drug, and lack of inhibition of viral replication by that drug. All progeny virions that are produced from a cell harboring mutant, resistant virus contain the same mutation or set of mutations. Approximately one mutation is introduced into the virus genome with each cycle of virus replication.[1] Because HIV replicates at such a rapid rate - roughly one to 10 billion viral particles are produced daily[2] - virtually all possible mutations in the HIV genome are generated within a patient on a daily basis. In this way, all HIV patients, including those naïve to therapy, harbor a diverse population of viruses with differing susceptibilities to the currently available antiretroviral drugs. When a patient starts antiretroviral therapy, failure to achieve or maintain plasma viral loads below quantifiable levels invariably leads to the selection of virus that contains mutation(s) that confer a survival advantage to the virus; in this case, there is some degree of resistance to one or more drugs within the patient's combination. Virus that is resistant to a drug within one class of antiretroviral agents is often cross-resistant to other drugs within the same class. Thus, when patients develop resistant virus, the potential to construct effective combinations of antiretroviral medications declines quickly. In order to achieve the goal of inhibiting virus replication and maintaining immunologic function in individuals who will live with HIV infection for decades, the selection of combinations that limit resistance and maintain therapeutic options for those who fail is essential.

Assays are now available that allow for the identification of resistant virus. The value of resistance assays has been validated by (1) improved outcomes in randomized clinical trials in which treatment decisions are made with resistance data compared to those made without this information and (2) from clinical trials that demonstrate improved virologic outcomes when patients receive more agents to which their virus is sensitive as determined by resistance tests.[3-5]

Types of Resistance Assays

Assays that report HIV resistance do so in two ways. Phenotypic resistance tests measure the concentration of drug needed to inhibit the replication of a patient's virus. Typically, this is quantitated by specifying the concentration of

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WHAT'S INSIDE

USE OF HIV RESISTANCE...
(continued from page 1)

drug needed to inhibit 50% or 90% of virus replication (IC50 or IC90), or by comparing the fold-change in drug concentration required to inhibit the replication of the patient's virus compared to a representative, wild type, sensitive virus isolate. Genotypic resistance tests report the presence of specific mutations in the amino acid sequences of the HIV genome that encode the reverse transcriptase or protease enzymes, the targets of the HIV reverse transcriptase and protease inhibitors, or the part of the HIV genome that encodes a specific region that is the target of the HIV entry inhibitor.

Interpretation of Resistance Tests
For phenotypic tests in order to know whether a drug is potentially active against a virus, one must compare the IC50 or fold-change in virus susceptibility to a particular drug to the "clinical cut-off" of that drug. The clinical cut-off refers to the fold-change of virus susceptibility above which the drug has less activity in vivo. Often there are two cut-offs. Virus with a fold-change in susceptibility below the lower cut-off is fully susceptible, while virus with a fold-change in susceptibility above the higher cut-off is very unlikely to be inhibited at all. Virus with a fold-change between the cut-offs is partially susceptible. One of the limitations of the use of phenotypic resistance tests is that clinical cut-offs have not been clearly established for some of the nucleotide reverse transcriptase inhibitors or protease inhibitors used alone or boosted with ritonavir.

Genotypic resistance tests report the codon(s) in the amino acid sequence of the virus that differs from wild type. Only those mutations with known impact on virus susceptibility are typically listed. With each mutation reported three pieces of information are usually given: the number of the codon in the amino acid sequence that is mutated, the wild-type base, and the mutant base. Genotypic resistance tests provide an interpretation that assesses the impact of the particular set of mutations observed in the patient's virus on the susceptibility of that virus to available drugs. This interpretation is derived in one of two ways. One method is the application of an algorithm based upon a set of rules that link specific mutations with known patterns of resistance to a drug. The algorithms used for interpretation need to be regularly updated in order to include newly described mutations associated with resistance. Rules-based algorithms often fail to consider the interaction that several mutations may have on virus susceptibility. The second method for interpretation of genotypic resistance is the VirtualPhenotype™ (Virco). In this system, the sequence of the patient's virus is matched with viruses that have similar genotypes stored in a database. The viruses represented in the database have had phenotypic virus susceptibilities performed. The virtual phenotype provides the average fold-change in IC50 of these viruses, gives the approximate proportions of matched viruses in the database that are fully or partially susceptible or resistant, and indicates whether the patient's virus is more likely to be sensitive or resistant. The virtual phenotype does not report whether the patient's virus is sensitive or resistance; it provides an estimate of the probability that the virus is sensitive or resistant.

> Resistance testing is recommended in all patients with virologic failure prior to beginning a new antiretroviral combination.

Limitations of Resistance Testing and Discordance Between Phenotypic and Genotypic Resistance Test Results
There are certain limitations to the use of resistance tests. Because the current phenotypic and genotypic resistance test methodologies require PCR amplification of segments of the HIV genome, these assays may not be successfully performed when the patient's viral load is low. Generally, the viral load needs to be above 500 to 1,000 copies HIV-1 RNA/mL to obtain a result. In addition, resistance tests should be obtained with the patient continuing on therapy. Resistant virus in patients who stop therapy may decline in concentration as it is out-competed by wild type virus that is warehoused within latently infected cells.[6] The resistant virus will re-emerge if the selective pressure of therapy is resumed. Therefore, if patients have been off therapy for one or more months, it may be best to resume therapy for a period of time prior to obtaining a resistance test. Resistance tests results are, most reliably, a reflection of the pattern of resistance to the drugs the patient is currently taking. Mutations present at one time point may not be detected at a second time point after a patient has switched therapy. Mutant virus on one combination that is lost following a change in therapy will reemerge if the patient cycles back to drugs that were used previously. For these reasons, when considering modification of an antiretroviral combination, resistance tests are a better indication of what drugs will not be effective, rather than an indication of what drugs will be effective. In addition, knowledge of prior patterns of resistance may be of value when selecting a new combination with the knowledge of a recent resistant test result.

Indications for Use of Resistance Tests
The International AIDS Society (IAS) - USA and the Panel on Clinical Practices for Treatment of HIV Infection of the U.S. Department of Health and Human Services (DHHS) have published recommendations on the use of resistance tests.[7,8] Both expert panels recommend resistance testing in patients with acute HIV infection or recent HIV infection, defined as seroconversion within the past one to two years. This recommendation is based upon a study that identified a cohort of patients with acute HIV infection, and demonstrated that of those who were infected in 1999 and 2000, 14% were infected with drug resistance virus.[9] In addition, drug resistance can be quite stable in this group of acutely infected individuals, with resistance to all classes of agents persisting for over a year in some patients.[10] The guidelines differ with respect to recommending resistance testing prior to initiating therapy in patients with chronic infection of more than two years duration - the IAS panel recommends testing, while the DHHS panel recommends considering it. A recent report in 10 major U.S. cities demonstrated that patients with chronic HIV infection were just as likely to harbor resistant virus as those with acute infection.[11] Resistance to the nucleoside reverse transcriptase inhibitors was most common. Therefore, resistance testing in antiretroviral naïve patients is increasingly common, irrespective of the duration of infection. Resistance testing is recommended in pregnant women with quantifiable viral loads in order to optimize therapy and minimize the risk of vertical transmission.

Resistance testing is recommended in all patients with virologic failure prior to beginning a new antiretroviral combination. Patients with a quantifiable viral load on their initial combination may have virus that is resistant to only one, or perhaps two, agents in their combination. These individuals have many options for their next combination, and their therapy should ideally be switched to three new drugs, even if they exhibit virus that is only resistant to a single agent. In patients who fail multiple regimens, the pattern of resistance is typically complex. Resistance testing is used to optimize the therapeutic response, but the goal of achieving an undetectable viral load may not be possible. In addition, if a patient's CD4+ lymphocyte count is high, it may be prudent to withhold an agent or class of

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SPOTLIGHT: IDSA CONFERENCE UPDATE

By Courtney Colton, IDCR Managing Editor*

This year the Infectious Diseases Society of America (IDSA) hosted a seminar at which Drs. Godofsky, Sulkowski, Dieterich, and McGovern all gave lectures pertaining to coinfection and monoinfection with hepatitis C virus (HCV) and HIV. Below are the highlights from this seminar.

HCV affects an estimated four million persons in the United States with a prevalence of approximately 1.8% in the general public. The prevalence of HCV for those incarcerated is much higher. The number of inmates with HCV is approximately 255,000, giving a prevalence of 15%. This risk is not contained within correctional facilities, since those released can transmit HCV to their home communities when they return.

In recent years, the incidence of acute HCV infection in the U.S. has declined, in part to mandatory blood supply screening. The most significant risk factors for HCV transmission include injection drug use, accounting for approximately 60-70% of all new cases of HCV, and sexual transmission, accounting for up to 20% of new cases. The limited number of clinicians treating HCV, approximately 2,200, and limited resources, including time, staff, and education, are inadequate in meeting the needs of the large number of patients who are infected with HCV or with both HCV and HIV.

While HCV and HIV have similar modes of transmission, the efficiency of transmission of each virus is very different. The HCV virus is transmitted primarily through blood, with injection drug use being the leading route of transmission. The leading route of transmission for HIV is unprotected heterosexual contact. Based on the different modes of transmission, both demographic and clinical differences in the HIV/HCV-coinfected and HIV-monoinfected patient can be seen. In outpatient studies, coinfected persons have been found to be more likely to have used injection drugs, to be older, to be nonwhite, to have received less than 12 years of education, and to have undergone care with use of public funds. HIV exacerbates the natural history of HCV; among those infected with HCV, those with concurrent HIV infection are less likely to have cleared infection with HCV than those without HIV infection. HIV infection has also been associated with higher HCV RNA viral load and a more rapid progression of HCV-related liver disease. Accordingly, guidelines have been developed for the management of HCV in HIV-infected persons. These guidelines recommend initial treatment of HCV in HIV-infected persons with pegylated interferon plus ribavirin for 48 weeks. Additionally, HIV/HCV-coinfected persons on HCV treatment should be monitored closely given the high likelihood of adverse effects.

The AIDS Pegasys Ribavirin International Co-Infection Trial (APRICOT) evaluated the efficacy and safety of pegylated interferon alfa-2a plus ribavirin (PEG IFN alfa-2a plus RBV) in 868 HIV/HCV coinfected patients. Patients were randomized to one of three 48-week regimens. The overall sustained virologic response (SVR) of 40% was the highest in the regimen including PEG IFN alfa-2a plus RBV, compared to an SVR of 12% and 20%, for regimens excluding ribavirin.

Drug-associated hepatotoxicity has emerged as a major issue in the era of highly active antiretroviral therapy (HAART). In patients infected with HIV, hepatotoxicity can lead to liver-related morbidity, discontinuation of treatment, and death. Drug reactions are classified into two categories: predictable drug reactions, which are often dose-dependent, and unpredictable drug reactions, which are host-dependent and not dose-dependent. Unpredictable drug reactions occur when a drug is converted into a metabolite that is either toxic or acts to provoke some hypersensitivity reaction. Furthermore, unpredictable drug reactions are further classified into immunologic idiosyncratic reactions, such as hypersensitivity reactions accompanied by fever and rash, which occur with a short latency of onset, and idiosyncratic metabolic reactions, characterized by a long latency before onset. Patient vulnerability to liver injury is dependent on the toxification/detoxification processes involved in drug metabolism. Up-regulation of cytochrome P450 (CYP 450) can increase production of certain toxic metabolites. Factors contributing to increased susceptibility to drug-inducted liver disease include age, gender, HIV infection, and alcohol use.

Disclosures: **Nothing to disclose*

USE OF HIV RESISTANCE...*(continued from page 2)*

agents if it is unlikely that the patient will achieve an undetectable viral load, in the hopes that when newer agents are available a combination can be constructed that will be more successful in reducing the viral load below detectable levels.

Selecting Genotypic or Phenotypic Resistance Testing

Phenotypic resistance testing is more costly than genotypic testing. Therefore, genotyping may be preferred in resource limited settings. However, in true resource limited areas, neither of these may be an option. Despite the high cost of this monitoring, the selection of the most effective combination, and the prevention of additional virologic failure, virus resistance, and CD4+ count decline will be the most cost effective strategy in the long run, as it better achieves the most effective combination of drugs and limits or delays treatment failure. A genotypic resistance test is usually adequate when testing a treatment naïve patient prior to initiating therapy or evaluating a patient failing on their first combination. However, the more complex the mutational pattern, the greater the value of a phenotypic resistance test. Patients who have failed more than three combinations will often harbor multiple mutations, and both a genotypic and phenotypic resistance test may be necessary to optimize the next combination.

DISCLOSURES:

**Speaker's Bureau for both Virco and Virologic*

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Letter from the Editor

Dear Correctional Colleagues:

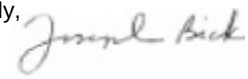
Beginning with the uprising at the Stonewall bar in New York City in 1969, a new sense of freedom and pride reverberated across this country among gay men and women. Twenty-five years ago, the first cases of a strange "gay plague" were recognized in this country. In major city centers across the U.S., young gay men were diagnosed with mysterious illnesses that had previously only been seen in those with severe immunodeficiency due to cancer or chemotherapy. By the early eighties, much of the enthusiasm of the seventies gave way to fear, ignorance, and ostracism directed towards the lifestyle of those infected. Precious years were lost, during which education and prevention efforts might have changed the course of the epidemic. Worldwide, millions have died, tens of millions of children have been orphaned, and over 40 million people have been infected with HIV.

Thankfully, this past decade has brought hope to some of those who are living with HIV. Antiretroviral therapy continues to evolve, and many of those who are HIV-infected now have a chance to live longer more productive lives. Woefully, however, the benefits have been limited to a relatively small group of individuals in wealthier countries. Most of those who are HIV-infected around the world are not even aware of their infection, and most of those who are infected have no realistic hope of ever acquiring life-extending treatments. And, perhaps because of the failure to respond more forcibly in the early years of this epidemic, the virus has now made dramatic inroads to all sectors of humanity… men, women, children, gays and straights, injection drug users, hemophiliacs, and others.

As we commemorate World AIDS Day on December first this year, let us pause to remember all of those who have suffered through the years as a result of this virus. Let us especially remember the women- our mothers, sisters, aunts, wives, daughters, and lovers. Women not only have the highest incidence of new infections, but because of their role as caregivers and nurturers are disproportionately affected by HIV as well. Let us continue to speak out for society's marginalized HIV-infected persons… prisoners, injection drug users, commercial sex workers, the poor, and others. As Martin Luther King once said, "our lives begin to end the moment that we stop speaking out about things that matter".

This month, IDCR features a review of HIV resistance testing by Dr. Ian Frank, and we reprint tables from the Stanford database on resistance mutations. California DOC inmate Michael Simmons offers an insider's view on inmate peer education programs, we offer highlights from recent conferences, and we announce the selection of Dianne Rechtine as the first recipient of the Stephen Tabet Award for Excellence in correctional healthcare. Next month, we will bring you an update on changes in HIV treatment guidelines. Thank you for your continued readership, and we welcome your suggestions for future topics.

Sincerely,



Joseph Bick, MD

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O Pharmacist O Medical Director/Administrator O HIV Case Worker/Counselor O Other

ADDRESS: _____ CITY: _____ STATE: ___ ZIP: _____

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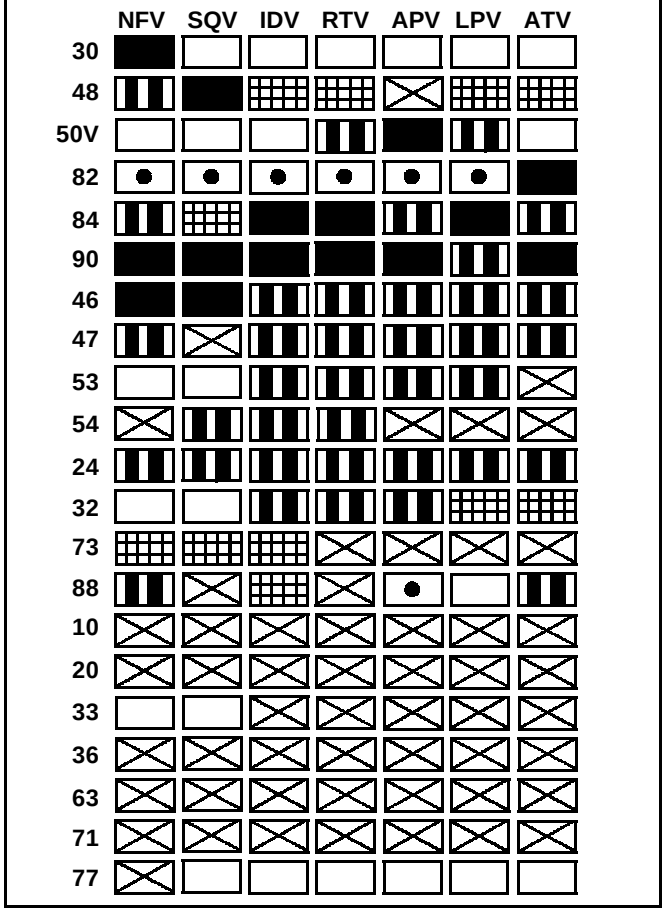
Faculty Disclosure

In accordance with the Accreditation Council for Continuing Medical Education Standards for Commercial Support, the faculty for this activity have been asked to complete Conflict of Interest Disclosure forms. Disclosures are listed at the end of articles. All of the individual medications discussed in this newsletter are approved for treatment of HIV and hepatitis unless otherwise indicated. For the treatment of HIV and hepatitis infection, many physicians opt to use combination antiretroviral therapy which is not addressed by the FDA.

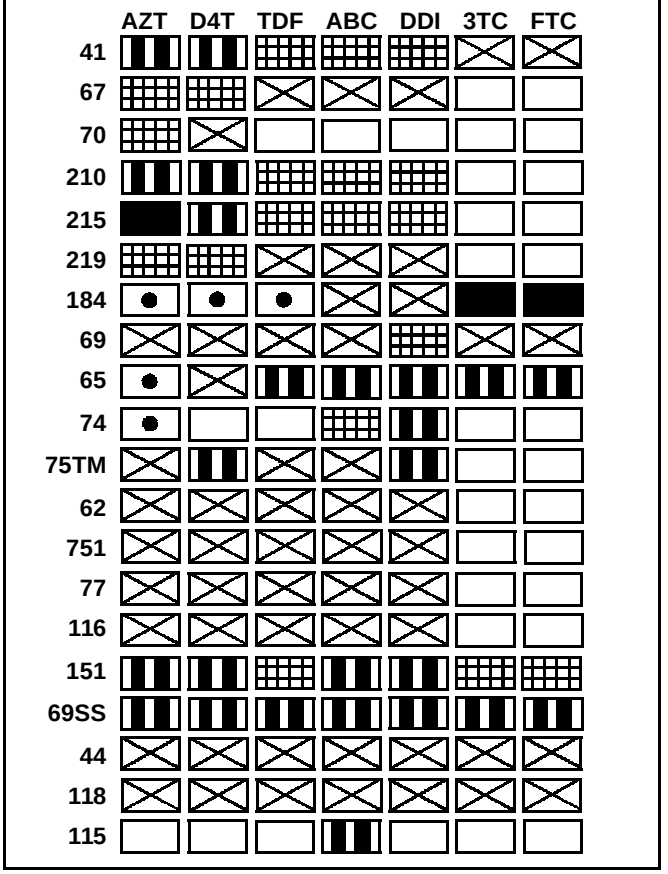
HIV DRUG RESISTANCE

- **High Level Resistance**
- **Intermediate Resistance**
- **Low Level Resistance**
- **Contributes to Resistance**
- **No Resistance**
- **Hypersensitivity**

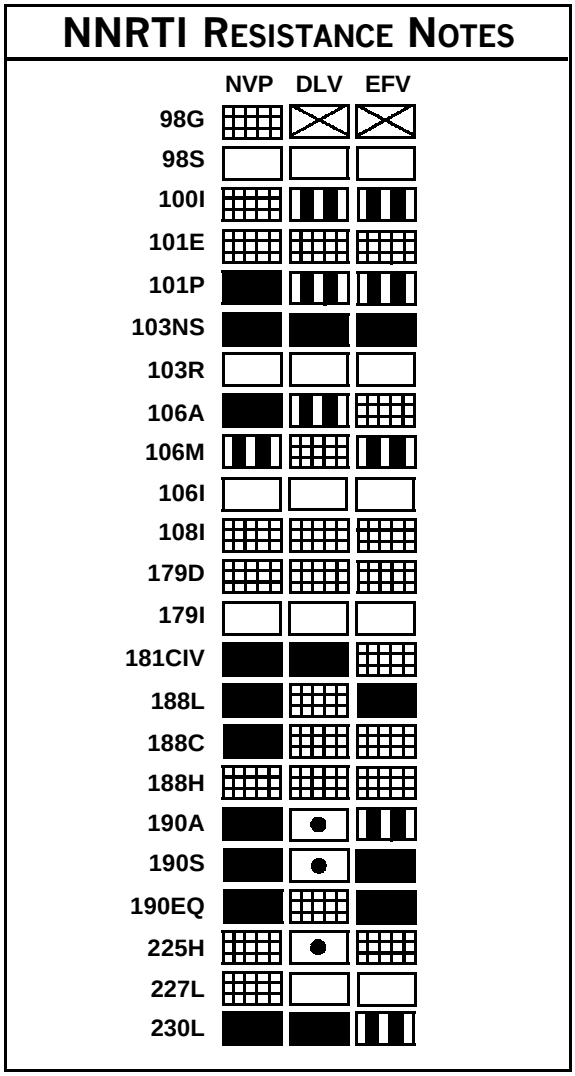
PI Resistance Notes



NRTI Resistance Notes



NNRTI Resistance Notes



Taken from the **Stanford HIV Drug Resistance Database** for more information visit http://hivdb.stanford.edu

Tables last updated October 25, 2004

INMATE PEER EDUCATION PROGRAMS: 101

By Thomas Michael Simmons, incarcerated at California State Prison, Lancaster, where he serves as an Inmate Educator of the Inmate Peer Education Program*

Prison populations have swollen to juggernaut proportions in recent years. Each institution is not only a microcosm of disparate cultures, ethnicities, and lifestyles compressed into a seething mass of apathy, despair, distrust and uncertainty - but also a petri dish fermenting transmission of any number of communicable diseases.

Unconfined to prison walls, infections may be carried back to society itself upon a prisoner's release, or even by staff and visitor contact with the infected. This brings serious challenges to prison administrators and health care providers alike, especially in times of constrained budgets. However, opportunities do exist for intervention.

In 1996, the Joint United Nations Program on HIV/AIDS (UNAIDS) emphasized the importance of health care/disease prevention by stating, "Prisoners are the community. They come from the community, they return to it. Protection of prisoners is protection of our communities."[1]

In the late 1980s, the California Department of Corrections' Health Care Services Division (HCSD) created the Inmate Peer Education Program (IPEP.) While similar programs now exist elsewhere (Florida, Louisiana, Texas, etc), all share a unique commonality in challenging the long-held stereotype of "convict mentality", and bring about an opportunity for positive change in the attitudes and behaviors of others. Peer educators are able to "speak the language" of other inmates, and may share similar experiences - thus having a more inherent credibility than those who represent "the system" (often distrusted or even ignored). Peer educators can be quite successful in winning the trust of the inmate population. Inmate educators also develop a positive focus and purpose in their lives, empowered by the perception of their ability to influence others in ways never believed possible - thus improving self-esteem, knowledge, and renewed commitment to the community.

Peer education programs focus on developing student attitudes and feelings, encouraging honesty, cooperation, and independent learning.

Peer education programs focus on developing student attitudes and feelings, encouraging honesty, cooperation, and independent learning. Such programs emphasize mutual respect, discussion, and reinforcement of positive behavior. Peer programs provide a more humanistic approach, recognizing that learning is a change that develops in oneself that results from experiences. Through their efforts and behaviors, peer educators promote change in the prison culture and some of the socially accepted "norms" as a result. Through this commitment, peer educators can be deeply affected. As they see the change they bring about in others through fairness and balance in their presentations, inter-group relations overcome racism, sexism, and culturalism. Stereotypes are replaced by a more positive socialization; differences in others are acknowledged and embraced.

Developed and audited by the HCSD, Field Operations, Office of Continuing Education and Training, the IPEP is designed to serve the prison population throughout the state. Inmate educators are trained to provide current, medically correct health information to raise awareness regarding infectious diseases (HIV, hepatitis, STDs, TB, Staph), as well as other health-related subjects that plague the prison system, and society at large. Daily operations and supervision are delegated through each institution's chain of command to the staff member designated as the Institutional Peer Education Coordinator.

Those selected to become peer educators have a tremendous responsibility - not only do their peers expect them to be knowledgeable and current on recent developments in infectious disease, but staff and inmates alike expect them to be positive role models. Inmate educators are held, and hold each other, to a high standard of conduct. A screening and training process is employed, and subsequent to certification, all agree to adhere to a set of standards and expectations - failure of which are grounds for removal from the program. Such a process is used to avoid participation of those who may have their own "personal agendas" that are adverse to the mission of the program.

Candidates are recruited by either referral or through postings in the housing units. The applicant's central file is reviewed to see if there are case factors that would impede his/her credibility and effectiveness, or pose a threat to security. Applicants are interviewed by the IPEP Coordinator, who then determines their suitability for training. A rigorous training program ensues, after which the candidate gives presentations that are evaluated by the group and coordinator. Upon successful completion, certification is issued. Work does not stop here, however, as all Peer Educators must participate in regular training sessions and Continuing Medical Education, and conduct a minimum of one presentation per quarter to maintain certification. Educators offer a variety of services including formal classes, informal groups/support groups, and personal counseling, in order to combat the enormous amount of ignorance and misinformation that exists within and outside the prison. Misconceptions that have bred fear, prejudices, and stigmatization are countered by the vital exchange of information which improves the general public's health and safety, as inmates often relay information to relatives and friends, either at visits, by mail, or telephone. Educators have also shared current information on disease management with medical staff unaware of recent developments.

Program success is a collaborative effort between peer educators, the HCSD, administrators and custodial staff that wholly

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First Annual Stephen Tabet Award Presented at NCCHC

The first annual Stephen Tabet award was given to Diane Rechtine on November 14, 2004 at the National Conference on Correctional Healthcare in New Orleans, La. Dr. Rechtine has exhibited unending dedication to improving correctional healthcare and has tirelessly advocated for her patients. All of us at IDCR believe that Dr. Tabet would be proud of this wonderful clinician being recognized as the first recipient of this award. Next month, managing editor Courtney Colton will present a spotlight on the career and accomplishments of Dr. Rechtine.

Inmate Peer Education...*(continued from page 6)*

depends on involvement and support which are vital in enabling access to housing units, classrooms, and work sites. Equally important is support given by individuals and community-based organizations (CBOs), where training and resources are acquired or shared. Prison administrators are realizing that peer-based programs have four key advantages: credibility, range of services, benefits to inmates and peer educators, and cost-effectiveness.

Problems that beset the program are the occasional obstacles raised by lockdowns, correctional staff who are either unaware of the program's efficacy, or unwilling to accept the idea that inmates can take on personal responsibility for themselves and others. Yet, as the program grows, such obstacles are removed. Another problem that arises is the availability of accurate and current information. Inmates in maximum-security institutions cannot directly access websites created by various health agencies/organizations. They must depend on the kind support of agencies like the CDC, NIH, Immunization Action Coalition, American Foundation for AIDS Research, IDCR, AIDS Project: Los Angeles, Immunization Action Coalition, UNAIDS, and a host of others to obtain such invaluable educational tools freely.

Here at the California State Prison in Lancaster, the IPEP has continued to receive the excellent support of the warden, associate wardens and custody staff in enabling its mission to continue.

Peer education continues to remain an effective means of addressing HIV/AIDS, hepatitis, STDs, and TB cases within the prison system(s), as well as target populations in the public sector. One often gets lost in the eddies of mass campaigns that exist to address the various epidemics, unable to see clearly how it takes each individual person's efforts to create changes in people's lives, and eventually changes that would bring such epidemics under control. Even the smallest, seemingly insignificant person can change their world, their future, and that of the world around them. Peer education proves that.

DISCLOSURES:
**Nothing to Disclose*

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Highlights of the 2004 Annual NCCHC Meeting in New Orleans

Contributed by Joseph E. Paris, PhD, MD, Annie De Groot**, MD and Courtney Colton^*

The 2004 annual Conference of the National Commission on Correctional Health Care took place on November 13-17 2004 in New Orleans, Louisiana. This meeting is one of the most important gatherings of correctional health care providers that take place every year. Prior to the conference, IDCR hosted a pre-conference seminar and the Society for Correctional Physicians held its annual meeting. The conference sessions featured eight simultaneous tracks over three days, to the desperation of some attendees, who had too many quality presentations to choose from. Fortunately, audiotapes and handouts from are still available for sale (to obtain copies visit https://www.nrstaping.com/ncchc/ncchc2004fall.php).

Over 200 correctional healthcare workers attended IDCR's pre-conference seminar, which was made possible again this year with the generous support of GlaxoSmithKline (GSK). Karl Brown MD (Infectious Disease Supervisor at Riker's Island Jail) provided a great number of detailed slides that illustrated the manifestations of syphilis, gonorrhea, chlamydia, and chancroid in correctional settings. Joseph Bick MD, (IDCR Co-chief editor and Director of the California Medical Facility, California Department of Corrections) spoke on infection control within the correctional setting, illuminating a number of barriers to cleanliness that impact on the transmission of infections in prisons and jail. Annie De Groot MD (IDCR Co-chief editor, Brown University) provided an update on HIV treatment recommendations for pregnant women. She pointed out a number of medications that are contraindicated and suggested that participants keep up with changes in the guidelines by accessing the Health and Human Services website on (http://hab.hrsa.gov/womencare.htm). Neil Fisher MD (Medical Director at Martin Correctional Institute) concluded the IDCR pre-conference seminar with a discussion on new 2004 HIV medications and guidelines, which will be the focus of the January 2005 issue of IDCR.

IDCR board members also presented seminars during the conference proper. Jody Rich MD discussed methadone maintenance and harm reduction in state and federal prisons. Joe Paris MD, PhD presided over a symposium on hepatitis C virus (HCV) that discussed HCV screening and testing, the role of liver biopsy, and treatment guidelines. David Paar MD delivered a rousing seminar on HIV treatment guidelines from his perspective as a correctional HIV provider in the Texas Department of Corrections.

DISCLOSURES: **Nothing to disclose*
***Consultant and Speaker's Bureau: Abbott Laboratories, Boehringer Ingelheim Pharmaceuicals, GlaxoSmithKline, Gilead Sciences, Merck, Roche Pharmaceuticals, and Schering-Plough*
^Nothing to disclose

SAVE THE DATES

World AIDS Day
December 1
Get Involved and Make a Difference!

14th Texas HIV/STD Conference
December 13-17
Austin, TX
Visit: www.tdh.state.tx.us/hivstd/conf/2004/default.htm

Conference on Retroviruses and Opportunistic Infections
February 22 – 25, 2005
Boston, MA
Visit:
www.retroconference.org/2005

Management of HIV/AIDS in the Correctional Setting: A Live Satellite Videoconference Series "The Triply Diagnosed Patient: HIV, Mental Health & Substance Use"
March 9, 2005
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Improving the Management of HIV Disease Regional CME Courses
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RESOURCES

HIV Resistance Testing Fact Sheets:
www.aids.org

Project Inform:
www.projinf.org

www.aegis.com

IN THE NEWS

Efficacy of Valacyclovir and Acyclovir for Suppression of HSV Evaluated
The efficacy of valacyclovir and acyclovir on genital herpes simplex virus (HSV) shedding was assessed in a double-blind, three-period crossover trial involving 69 HSV infected patients. Patients were assigned to one of three groups; 400mg oral acyclovir twice daily, 500mg oral valacyclovir twice daily, or placebo twice daily. After seven weeks of initial treatment, each participant crossed over to the second treatment for seven weeks, and then to the third treatment for the final seven weeks. It was found that both valacyclovir and acyclovir were associated with lower HSV shedding, both in quantity and frequency, as measured by PCR and culture, compared to the placebo. Total suppression of HSV viral replication was not achieved in either of the treatment groups.
Anna Wald, Rachna Gupta, Elizabeth Krantz, et al. JID, 2004.
NATAP-www.natap.org

Michigan Prisons Get $1.2M to Test for HCV
Governor Jennifer Granholm recently signed legislation giving $1.2 million for a new HCV testing and treatment program for Michigan prisoners. This is the state's first step in a plan to fight the spread of HCV inside its 42 prisons. Granholm proposed the program earlier this year after a State Journal report in September 2003 found up to 18,000 of 48,000 Michigan inmates harbor HCV.
NATAP-www.natap.org

Long-Term Outcome Looks Good
Data was obtained for 343 patients with chronic HCV and then evaluated for sustained virological response (SVR), defined as no detectable HCV-RNA in serum at six months of treatment. Of 343 patients treated for chronic hepatitis C, 286 patients had a SVR. Among the patients with a SVR, the rate of decompensated liver cirrhosis and HCC was 1.0% and 0%, respectively. The standard mortality rate was 1.4 and there was no statistically significant difference in mortality between sustained virologic responders and the general population, matched for age and sex. Combination therapy leads to higher sustained virologic response rates than does monotherapy. In patients who had been treated with interferon monotherapy, the late relapse rate was 4.7%. In patients who were treated with both interferon and ribavirin, after four years of follow-up, the late virologic relapse rate was 3% and 1%, for patients treated for 24 and 48 weeks, respectively. After treatment with pegylated interferon with or without ribavirin, after 4 years of follow-up, a late relapse rate of 0.8% was reported.
Gut. October, 2004.
NATAP-www.natap.org

Solid-Organ Transplant in HIV-Infected Patients
Traditionally, HIV-infected patients are often not considered for solid-organ transplants, including liver and kidney. However, improvements in antiretroviral therapy, opportunistic infection prophylaxis, and treatment to prevent rejection have made solid-organ transplant a possibility for HIV-infected patients. In one study, 26 and 19 patients received kidney and liver transplants, respectively. At a median follow-up of 314 days, two of the 26 patients who received kidney transplants died, while four of 19 patients who received liver transplants died. Death from opportunistic infections occurred in one of the kidney recipients and one of the liver recipients. At follow-up CD4+ cell counts were maintained and HIV RNA levels remained largely suppressed. This study indicates that in carefully selected patients, baseline immunologic and virologic values can be maintained, and opportunistic infection complications are often infrequent.
www.iasusa.org
NATAP-www.natap.org

HIV/AIDS in Women on the Rise
In 1992, women accounted for 14% of all AIDS cases in the United States. However, by 1999, women accounted for more than 20% of all AIDS cases. The epidemic has increased principally in African American and Hispanic women, with these two groups accounting for 81% of all AIDS cases reported to date among United States women. African American women and Hispanic women account for 67% and 14% of all AIDS cases in women, respectively. Of women living with AIDS, the two main reported transmission routes for HIV infection are heterosexual exposure (38%) or injection drug use (25%). Additionally, women aged 35-44 years were most likely to have contracted HIV through injection drug use, while women aged 20-24 were most likely to have contracted HIV through heterosexual exposure. States with the highest prevalence of AIDS cases in women include Florida, Georgia, South Carolina, Maryland, Delaware, New Jersey, New York, and Connecticut.
NATAP-www.natap.org

HCV Clearance Examined in Injection Drug Users (IDUs)
A retrospective cohort of IDUs with HCV infection was established to examine spontaneous viral clearance, defined as two consecutive negative HCV RNA test results after infection. Estimates of viral clearance at six, 12, and 24 months were 27%, 42%, and 45%, respectively, for IDUs who experienced HCV antibody seroconversion between 1992-1996, compared with 19%, 34%, and 34%, respectively, for IDUs who experienced seroconversion between 1997-2002. Most cases of viral clearance occurred within the initial 12 months after the estimated time of infection, but spontaneous viral clearance did extend to as late as 24 months.
Marianne Jauncey, Joanne Micallef, Stuart Gilmour, et al. JID, October 2004.
NATAP-www.natap.org

Self-Assessment Test for Continuing Medical Education Credit

Brown Medical School designates this educational activity for 1 hour in category 1 credit toward the AMA Physician's Recognition Award. To be eligible for CME credit, answer the questions below by circling the letter next to the correct answer to each of the questions. A minimum of 70% of the questions must be answered correctly. This activity is eligible for CME credit through May 31, 2005. The estimated time for completion of this activity is one hour and there is no fee for participation.

1. There are currently three different types of assays commercially available to evaluate for HIV resistance: phenotype, genotype, and inhibitor resistance tests. True or False?
   a. True
   b. False

2. Regarding genotypic resistance testing, which of the following statements are true?
   a. The viral amino acid sequence that differs from wild type is reported.
   b. An interpretation that assesses the impact of a set of mutations is provided.
   c. Testing can be reliably conducted when the HIV viral load is below 250.
   d. A and C
   e. A and B

3. Resistance testing is recommended in the following situations:
   a. Patients with acute HIV infection
   b. Males over the age of 60
   c. Patients with chronic HIV infection who are failing anti retroviral therapy
   d. A and C

4. Which of the following are true?
   a. HCV accelerates the progression of HIV disease.
   b. HIV accelerates the progression of HCV disease.
   c. Those who are coinfected with HIV and HCV are less likely to respond to interferon and ribavirin than those who are monoinfected with HCV.
   d. Ribavirin should not be used in those who are infected with HIV due to the potential for toxicity.
   e. B and C
   f. A and B

6. Genotypic resistance testing is more costly than phenotypic resistance testing. True or False?
   a. True
   b. False

7. Failure to identify resistance mutations during HIV genotyping ensures that mutations are not present: True or False?
   a. True
   b. False

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