

HIV Specialist

HIV Behind Bars

SPECIAL ISSUE

In partnership with the
National Commission on
Correctional Health Care



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EXECUTIVE DIRECTOR, AAHIVM

Get Out of Jail Free of HIV

WE HAVE MORE INDIVIDUALS incarcerated per capita than any other nation in the world. Providing optimal healthcare for this population is a challenge, especially as it relates to HIV. In 2015, the rate of diagnosed HIV infection among inmates in state and federal prisons was more than three times greater than the rate among people who are not incarcerated. This population also suffers a higher incidence of substance abuse and mental issues, complicating their treatment while incarcerated and once they are released.

While most of these individuals were infected before they entered prison; an even larger number of infected individuals are released from prison into the general population. Without proper continuity of care, these individuals represent a substantial vector for the spread of HIV in the general population.

For this issue of *HIV Specialist*, the Academy was fortunate to partner with the National Commission on Correctional Health Care (NCCHC), the leader in improving the quality of health care in jails, prisons and juvenile confinement facilities.

NCCHC identified the authors of the articles, all recognized experts in various aspects of correctional health care for inmates infected with HIV. We are grateful for their involvement and support. We are also grateful for the long and continuing leadership in the HIV correctional field of Dr. Zelalem Temesgen of the Mayo Clinic, and the Immediate Past Chair of AAHIVM National Board of Directors.

While only 37 of our members identify correctional facilities as their primary setting of care, many more of our members will treat former inmates after they have been released. Thus the article on reentry and continuity of care will be especially important to most of our readers. In addition, articles by Drs. Spaulding, Fisher, Treisman and May focus on other aspects of HIV care in correctional facilities including HIV/HCV co-infection and mental health.

Shifting from prisons to politics, I'd like to reflect on my last column from the December issue of *HIV Specialist*. In it, I said the following:

Each new administration brings with it new challenges and new opportunities. I urge all of us, the staff and the members of the Academy and the HIV community at large, to meet those challenges and take advantage of those opportunities. We should urge President-Elect Trump to put in place policies and programs that will end the HIV/AIDS epidemic in the US.

I think I may have been too optimistic! As you know, many of our nation's health care programs are under attack by the new administration. This includes the repeal/replace/repair of Obamacare, the potential for substantial changes in Medicaid, as well as a \$54 billion cut in government-wide discretionary funding (the programs we care for) to pay for an equal increase in defense funding.

In response, we have redoubled our advocacy efforts and launched the "All Together Now" campaign to highlight all the ways we are working on your behalf. Recently we were a leader in drafting and sending an advocacy letter with 950 signatures to every U.S. Congressman and Senator. In addition, we helped several of our chapter chairs send 28 similar letters to their own U.S. Senators. Our advocacy efforts will continue to be paramount as we work for you, the HIV care provider, and your patients.

We cannot support a proposal that would reduce overall access to medical care and medical treatment for patients with HIV and other long-term life-threatening medical conditions. Ultimately, an Obamacare replacement plan should be better in all ways than the one it replaces—rather than one that conforms to political philosophy.

HIV



James M. Friedman

James M. Friedman

While only 37 of our members identify correctional facilities as their primary setting of care, many more of our members will treat former inmates after they have been released.

In the **NEWS****New HIV Infections Drop 18% in Six Years**

THE NUMBER OF ANNUAL HIV INFECTIONS in the U.S. fell 18% between 2008 and 2014, from an estimated 45,700 to 37,600, per new estimates from the Centers for Disease Control and Prevention (CDC) presented during the Conference on Retroviruses and Opportunistic Infections (CROI) in Seattle. Progress, however, was not the same among all populations or areas of the country.

"The nation's new high-impact approach to HIV prevention is working. We have the tools, and we are using them to bring us closer to a future free of HIV," said Jonathan Mermin, M.D., director of CDC's National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. "These data reflect the success of collective prevention and treatment efforts at national, state and local levels. We must ensure the interventions that work reach those who need them most."

In addition to the national decline, a new CDC analysis also examined trends by transmission route from 2008 to 2014 and found annual HIV infections dropped:

- 56% among people who inject drugs (from 3,900 to 1,700);
- 36% among heterosexuals (from 13,400 to 8,600);
- 18% among young gay and bisexual males ages 13 to 24 (from 9,400 to 7,700);
- 18% among white gay and bisexual males (from 9,000 to 7,400);

And substantially in some states and Washington, D.C.—Washington, D.C. (dropping 10% each year over the six-year period); Maryland (down about 8% annually); Pennsylvania (down about 7% annually); Georgia (down about 6% annually); New York and North Carolina (both down about 5% annually); Illinois (down about 4% annually); and Texas (down about 2% annually).

CDC researchers did not find any increases in annual HIV infections in the 35 states and Washington, D.C., where annual HIV infections could be estimated—they decreased or remained stable in all those areas.

For more information: <https://www.cdc.gov/nchhstp/newsroom/2017/croi-hiv-incidence-press-release.html>

Study: STI Testing and Treatment as Part of PrEP May Reduce Bacterial STIs among Gay & Bisexual Men

A JOINT MODELING STUDY by The Rollins School of Public Health at Emory University and the Centers for Disease Control and Prevention (CDC) suggests that for gay and bisexual men, pre-exposure prophylaxis (PrEP) for HIV prevention, along with testing for and treatment of sexually transmitted infections (STI), can reduce HIV and some STIs, even when condom usage is reduced.

The findings were presented during the 2017 Conference on Retroviruses and Opportunistic Infections (CROI) in Seattle.

In the study, led by Samuel Jenness, PhD, assistant professor of epidemiology at Emory's Rollins School of Public Health, researchers used a model to forecast how many new cases of gonorrhea and chlamydia could be prevented if 10–90% of PrEP-eligible gay and bisexual men began taking PrEP and underwent bacterial STI testing and treatment every six months, as CDC recommends. Researchers also examined how reduced condom use would affect new cases of those STIs among the population.

Their model showed that:

- More than 40% of chlamydia infections and 42% of gonorrhea infections would be prevented over the next decade if 40% of PrEP-eligible gay and bisexual men took PrEP and were tested twice a year for STIs. This would occur even with a 40% reduction in condom use while on PrEP.
- The estimated reduction in bacterial STI cases was attributed to frequent STI testing as part of well-delivered PrEP care that would increase the early detection of asymptomatic infections that often remain undiagnosed, untreated, and transmitted to sex partners.
- STI cases would likely increase if STIs went untreated in more than half of PrEP users, suggesting the important role of clinicians to perform this testing for their patients taking PrEP.
- Increasing STI testing frequency from twice a year to four times a year would not dramatically affect the prevention of chlamydia or gonorrhea—reducing new cases by an additional 5 percent.

For more information: <https://www.cdc.gov/nchhstp/newsroom/2017/croi-prep-study.html>



In the NEWS

USPSTF Issues Draft PrEP & HIV Screening Research Plans

The U.S. Preventive Services Task Force (USPSTF) has developed draft research plans on topics related to HIV prevention and screening. They are:

- Pre-exposure prophylaxis (PrEP) for the prevention of HIV infection.
- HIV infection screening in asymptomatic adolescents and adults.
- HIV infection screening in pregnant women.

Each final research plan will be used to guide a systematic review of the evidence by researchers at an Evidence-based Practice Center. The resulting Evidence Reviews will form the basis of the USPSTF Recommendation Statement on each topic. Details may be reviewed at

www.uspreventiveservicestaskforce.org.

The USPSTF is an independent, volunteer panel of national experts in prevention and evidence-based medicine. The Task Force works to improve health by making evidence-based recommendations about clinical preventive services such as screenings, counseling and preventive medications.

The Agency for Healthcare Research and Quality, within the Department of Health and Human Services, has been authorized by Congress to convene the Task Force and to provide support for its work.

VA Research Working to Improve HIV Care for Rural Vets

DR. MICHAEL OHL, of the Department of Veterans Affairs' (VA) Iowa City VA Health Care System, is creating a model, "Telehealth Collaborative Care" to improve the quality of care for veterans who live far from specialty clinics.

Telehealth Collaborative Care uses videoconferencing to connect rural veterans with HIV with VA specialists. Approximately 18% of the 26,000 Veterans under VA care for HIV live in rural areas and have limited access to high-quality, HIV specialty clinics.

"Veterans should have easy access to HIV testing and state-of-the-art HIV care regardless of where they live," said Ohl, an infectious disease specialist. "We know that compared to their urban counterparts, rural veterans with HIV enter care with more advanced illness, are less likely to receive the latest advances in HIV treatment, and have lower survival rates. We want to change that."

Ohl's study explores rural veterans'

interest in using video telehealth at close-by, VA community-based outpatient clinics, (CBOCs) to maintain their ongoing care. CBOCs serve as satellite clinics for large VA medical centers. Veterans can telecommunicate, via video at CBOCs, with an HIV specialist at the larger facility.

Through interviews with the veterans, Ohl and his team are finding that most of those offered telehealth are choosing to take advantage of the option. VA offers close to 50 telehealth specialties. During fiscal year 2016, more than 700,000 veterans completed approximately 2 million telehealth appointments.

For more information about VA's work in HIV and AIDS, visit <http://www.hiv.va.gov/patient/index.asp>. Information about Ohl's study may be found at http://www.hsrd.research.va.gov/research/abstracts.cfm?Project_ID=2141702405.



More Options for Prevention; Impact of Vaginal Bacteria on Oral PrEP

ELIZABETH RUSSELL, PhD, MSc, senior advisor for biomedical prevention technologies in the Research Division of the Office of HIV/AIDS, reported from CROI on two important studies:

One CROI presentation introduced a drug, GS-CA1, in a new class of antiretroviral drugs called capsid inhibitors, which can stop the HIV virus from replicating at multiple points.

"Because of this, a potential injection or implant would only need a small dose of the drug to protect users from HIV, limiting side effects, product size and costs," Dr. Russell reported on USAID.gov. "An equally exciting feature of this drug is that it stays in the body long after it's delivered, with the potential for dosing only once a month or even less frequently. While the drug is still very early in development, it is definitely one to watch."

Dr. Russell reported on a CROI session that followed up on research presented last summer at the 2016 International AIDS Society Conference, which showed women using an antiretroviral gel for PrEP with certain bacteria in their genital tracts had increased rates of HIV infection and that these bacteria may have absorbed the vaginally-applied drug tenofovir, preventing it from stopping HIV if needed.

"At CROI, we heard research confirming this finding, but other research found that PrEP taken in pill form was effective in preventing HIV infection in women, regardless of the type of bacteria in their genital tracts when it was taken orally," she said. "More research will be needed to ensure vaginal products in development will be effective, but it is reassuring to know that oral PrEP can work for women."

Dr. Russell noted that new prevention products are on the horizon. "When a woman has multiple options, she has a better chance to find a product that she can fit into her life and consistently use to stay healthy and lead her best life for herself and her family," she said.

More information: <https://www.usaid.gov/what-we-do/global-health/hiv-and-aids/information-center/hiv-and-aids-research-corner/croi-2017>

Kaiser Analysis Shows ACA Medicaid Expansion Increased Health Coverage for People with HIV

A NEW ANALYSIS FROM the Kaiser Family Foundation finds that rolling back the law's Medicaid expansion could significantly impact coverage for people with HIV.

Nationwide, Medicaid coverage for people with HIV in care rose 6% between 2012 to 2014, when Affordable Care Act (ACA) coverage expansions took effect, the analysis finds, an increase largely driven by states that expanded Medicaid, where

Medicaid coverage rose by 12% over the same period. Those in Medicaid expansion states also saw the share of people with HIV who are uninsured drop from 13% to 7%. States that did not expand Medicaid saw no significant changes in coverage for people with HIV during this time.

The analysis also finds that an increasing share of people with HIV in care rely on the Ryan White HIV/AIDS Program, rising from

42% in 2012 to 48% in 2014. Ryan White reliance for those with private insurance increased by 15%, and by 7% for those with Medicaid, demonstrating the ongoing role of the program in the ACA era.

"Prior to the Affordable Care Act, people with HIV faced limited access to insurance coverage due to several barriers, including pre-existing condition exclusions, high costs, Medicaid eligibility limitations, and

other challenges," wrote Jennifer Kates and Lindsey Dawson in the Kaiser Family Foundation report.

However, they pointed out, several key provisions of the ACA removed these barriers. "With discussion underway about the future of the ACA, including repealing it in full or in part, it is important to understand how the ACA has changed coverage for people with HIV," they wrote.

Gilead Awards \$22 Million for HIV Cure Research

Gilead Sciences, Inc. has announced the recipients of its HIV cure grants program, a fund totaling more than \$22 million, which will support 12 new HIV cure research projects conducted by leading academic institutions, non-profit organizations and community groups, focusing on translational research, efficacy studies in animal models and community perspectives of HIV cure.

The following institutions and corresponding projects will receive funding to complete their research over the next three years (Institution/Principal Investigator/Project Name):

- Massachusetts General Hospital—Galit Alter, Ph.D.—Development of a Novel Class of Broadly Functional Antibodies (bFabs) That Can Kill the Viral Reservoir Within Lymphoid Sanctuaries.
- Fred Hutchinson Cancer Research Center—Lawrence Corey, M.D.—Adoptive Transfer of Genetically Protected and Genetically Modified Defined Populations of CART Cells as a Modality to Achieve HIV-1 Cure.
- Foundation for the National Institutes of Health, National Cancer Institute, Center for Cancer Research—George N. Pavlakis, M.D., Ph.D.—Efficacy of Heterodimeric IL-15 Treatment Regimens in Reducing SIV Reservoir.
- Johns Hopkins University School of Medicine—Robert Siliciano, M.D., Ph.D.—Measuring the Latent Reservoir for HIV.
- University of Zurich, Institute of Medical Virology—Alexandra Trkola, Ph.D.—SEEK, UNCOVER and ELIMINATE: Eliciting Antiviral and Infected Cell-Directed Activities Towards a Cure of HIV-1.
- Institut Pasteur—Olivier Schwartz, Ph.D.—Novel Methods to Visualize and Eliminate the HIV-1 Reservoir.
- Aarhus University Hospital—Ole Scheltz Sogaard, M.D., Ph.D.—Combining a TLR9 Agonist With Broadly Neutralizing Antibodies for Viral Reservoir Reduction and Immunological Control of HIV Infection: A Randomized, Placebo-Controlled Trial.
- University of KwaZulu-Natal—Thambi Ndung'u, Ph.D.—The FRESH Study: Females Rising Through Education, Support and Health ('FRESH') Acute HIV Infection Cohort.
- Case Western Reserve University School of Medicine—Michael M. Lederman, M.D.—Reservoir Reduction with Interleukin-2 and Transcriptional Activation.
- AIDS Foundation of Chicago—Amy Johnson, Ph.D.—Chicago Unites in Research to End HIV (CURE HIV).
- Project Inform—David Evans—Assuring Successful Community Participation in HIV Cure Research.
- My Brother's Keeper, Inc.—DeMarc Hickson, Ph.D.—HIV Cure Research Perception Among HIV-Infected African American MSM, and Affected Communities in the Deep American South: A Multi-Level Mixed Methods Perspective.

In the NEWS

Study Shows How HIV Breaches Macrophage Defenses; Authors Say Could Help Achieve Cure

A TEAM led by University College London (UCL) researchers has identified how HIV is able to infect macrophages, a type of white blood cell integral to the immune system, despite the presence of a protective protein. They discovered a treatment that can maintain macrophage defenses, which they believe could be a key part of the puzzle of reaching a complete cure for HIV/AIDS.

Macro antiviral protein called SAMHD1 prevents HIV from replicating in these cells—except for when the protein is switched off—as part of a natural process discovered by the UCL-led team.

“We knew that SAMHD1 is switched off when cells multiply, but macrophages do not multiply so it seemed unlikely that SAMHD1 would be switched off in these cells,” said Professor Ravindra Gupta (UCL Infection & Immunity), the senior author of the paper. “And yet we found there’s a window of opportunity when SAMHD1 is disabled as part of a regularly-occurring process in macrophages.”

Lead author of the EMBO Journal study, Dr Petra Mlcochova (UCL Infection & Immunity) said: “Other viruses can disable SAMHD1, but HIV cannot. Our work explains how HIV can still infect macrophages, which are disabling SAMHD1 by themselves.”

The reason why SAMHD1 gets switched off remains to be determined, but the authors suggest it might be done to repair damaged DNA, part of the normal functioning of the macrophage.

The researchers also discovered how to close this window of

opportunity by treating the cells with HDAC inhibitors, which are sometimes used in cancer treatments.

“Our findings could help explain why some people undergoing anti-retroviral therapy for HIV continue to have HIV replication in the brain, as the infected cells in the brain are typically macrophages. While this is a barrier to achieving control of HIV in just a minority of patients, it may more importantly be a barrier to a cure,” Gupta added.

The researchers say macrophages can be an important reservoir of HIV infection that lingers away from the reach of existing treatments. Once a macrophage is infected, it will continually produce the HIV virus, so cutting off that point of infection within the body could be an important step towards safeguarding the entire immune system. HDAC inhibitors may be particularly helpful as they’re already known to reactivate latent HIV cells, thus making the virus vulnerable to the body’s defenses, especially if supported by anti-retroviral therapy.

The series of tests involved cultures of macrophages derived from human cells in vitro, which responded well to HDAC inhibitor treatment, as well as macrophages residing in mouse brain tissues.

Study co-authors included researchers from the University of Oxford, King’s College London, and Emory University. The research was funded by Wellcome, the NIHR UCLH Biomedical Research Centre, the European Research Council, the Medical Research Council and the National Institutes of Health.

Study Shows No Evidence of Accelerated Brain Aging In HIV+ People on ART

A EUROPEAN STUDY reported no evidence of accelerating brain aging in HIV-positive people in ART. The conclusion was based on brain imaging scans and cognitive testing over two years. While there were some differences at baseline for the HIV+ group in the study, the impact of ART in preventing further differences was significant.

Presented at CROI 2017 by James Cole, of Imperial College London on behalf of the COBRA collaboration, the study was run in Amsterdam and London. One hundred thirty-four HIV-positive people on ART with undetectable viral load for at least 12 months and a control group of 79 HIV-negative people were enrolled at the Amsterdam Medical Centre and Imperial College London. Retainment in the study was good with follow-up results available for 120/134 HIV-positive and 76/79 HIV-negative participants (at a median of just under two years (1.9 years).

Mean age at baseline was 57 years (SD +/-7). In the HIV-positive group, the mean CD4 count was strong 646 cells/mm³ (+/-213) and nadir CD4 showed historical HIV damage 185 (+/-144) cells/mm³, reflecting a common history shared by many older HIV-positive people. The study was largely male, with only nine HIV-positive women and six HIV-negative women included.

Results showed some differences between the two groups at baseline, with the HIV-positive group having slightly smaller grey matter volume (0.65 vs 0.68 L, $p=0.02$), abnormal white matter microstructure ($p<0.01$) and poorer cognitive function (in 4/7 functions: attention, processing speed, motor function and global cognitive performance, all $p<0.01$), compared to the HIV-negative group.

Mean changes between baseline and follow-up found no significant differences in any of the 14 scanning regions, including rate of grey matter loss, or in the seven neuropsychological functions, and no consistent pattern of change in the positive vs negative groups. Cognitive performance also did not reduce over time and global cognition score increased in both groups (+0.79 vs +0.45 in HIV positive vs HIV negative, respectively)—suggesting that there may have been a learning effective from the repeated tests.

The researchers concluded that their analysis found no evidence of accelerated brain aging in HIV-positive people on ART compared to matched HIV-negative controls.

Study Suggests CDC HIV PrEP Guidelines Need Strengthened

A NEW STUDY from the UCLA Fielding School of Public Health suggests that federal health guidelines related to the use of pre-exposure prophylaxis (PrEP) to prevent HIV transmission need to be strengthened, contending that current standards are insufficient.

Studies have shown taking daily doses of tenofovir disoproxil-emtricitabine, or Truvada, is 92% effective in preventing HIV infection when taken correctly and consistently.

Since 2012, the U.S. Centers for Disease Control and Prevention has recommended PrEP for gay or bisexual men who have had condomless anal sex or been diagnosed with a sexually transmitted infection in the past six months. The CDC also recommended PrEP for HIV-negative men who have sex with men (MSM) and who are in a relationship with an HIV-positive partner.

The UCLA study, published in the January issue of *Sexually Transmitted Diseases*, suggests those guidelines omit important characteristics that could put someone at high risk for becoming infected with HIV. Working with the Los Angeles LGBT Center, the researchers developed an online risk assessment calculator, available today, which could fill that gap.

“To the best of our knowledge, this PrEP calculator is the first of its kind to be based on real-world

data,” said Robert Weiss, co-author of the study and a professor of biostatistics at the Fielding School. “We hope that our PrEP calculator will allow more MSM to make a more-informed decision before deciding whether or not PrEP is right for them.”

The Los Angeles LGBT Center has approximately 13,000 individual clients served annually, said lead author Matthew Beymer, a post-doctoral scholar in the department of medicine, division of infectious diseases, at the David Geffen School of Medicine at UCLA.

Between January 2009 and June 2014 the center collected data on various behavioral risk factors for HIV among clients at each visit. Center personnel used behavioral data and HIV test results to determine what characteristics distinguished MSM who were HIV-negative when the study began and subsequently tested positive for HIV during a follow-up visit from those who remained HIV-negative through the follow-up visits.

Using these data, the researchers built an HIV-risk algorithm, which they use as a standardized mechanism for recommending PrEP to clients of the Los Angeles LGBT Center. Unlike the CDC guidelines, they asked questions about a number of risk factors, including substance use, number of sex partners, age and race or ethnicity, and other partner-level factors.

The researchers found that if all individuals who had a risk score greater than or equal to five on the test’s scale—51% of those who used the calculator—had been given PrEP, 75% of HIV infections would be averted during follow-up, assuming adequate regimen adherence and near complete effectiveness.

Based on these findings, they developed the risk calculator. The researchers will then assess whether men who have sex with men find it useful in determining if they should start taking PrEP. Even as late as September 2016, 20% of the Los Angeles LGBT Center’s clients were unsure if PrEP was right for them, Beymer said.

Beymer said that a limitation of this calculator is that it may not be appropriate for heterosexual and trans individuals, injection drug users, or people living outside of Los Angeles. In addition, it does not consider situations in which HIV-negative men are in long-term relationships with HIV-positive men.

This work was supported by the Center for HIV Identification, Prevention, and Treatment; the National Institute of Mental Health (grant P30MH058107), the UCLA Center for AIDS Research (grant 5P30AI028697) and a UCLA Postdoctoral Fellowship Training Program in Global HIV Prevention Research (T32MH080634).

CDC’s New CME Program Demonstrates “Small Talks” About Safer Sexual Behaviors

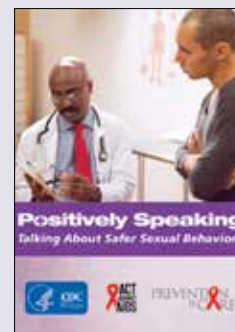
TALKING WITH PATIENTS ABOUT SEX AND SEXUALITY can be a unique challenge for many HIV care providers, many of whom have expressed concerns about “saying the wrong thing,” and unintentionally making their patients uncomfortable when discussing sexual behaviors and risks. Accordingly, one study found that less than half of people living with HIV reported receiving counseling about HIV and sexually transmitted disease (STD) prevention strategies.

To address these challenges, the Centers for Disease Control and Prevention (CDC) produced *Positively Speaking: Talking About Safer Sexual Behaviors*, a new continuing medical education (CME) program. *Positively Speaking* focuses on approaches that HIV care providers can use to integrate brief discussions into every clinical visit

to promote safer sexual behaviors among people living with HIV and reduce the risk of HIV transmission. Research suggests that quick, ongoing discussions about HIV prevention can help persons living with HIV adopt positive behavior change, including a decline in sex without a condom, fewer sexual partners, and a decline in STD acquisition. These

“small talks” benefit both the patient and provider by fostering trust and empathy and helping to build a therapeutic relationship.

Upon completing CDC’s free, one-hour, web-based CME program, HIV care providers will be better able to utilize teachable moments that engage patients in small talks about safer



sexual behaviors, use these moments to help persons living with HIV modify their sexual behaviors, understand why some HIV providers may hesitate to discuss sex and sexual behavior with their patients, and describe how brief prevention messages can be effective.

To register for the *Positively Speaking* CME program, go to:

hivprevent.thelancet.com/content/cme.

To access additional tools to support your practice, including patient and provider materials, HIV prevention guidelines, and full-text journal articles, visit the Prevention IS Care website at: www.cdc.gov/actagainstaids/campaigns/pic.

A Call to Action

HIV providers must improve opioid prescribing practices.

WOULD LIKE TO TELL YOU ABOUT AN AMERICAN EPIDEMIC. This epidemic takes 50,000 American lives a year. It is caused by an incurable disease, which spreads from person to person quickly, but can remain undiagnosed for years as it spreads. It affects people from every socioeconomic group.

This disease has treatments, but access to those treatments is limited. Basic science and clinical research to develop new, better treatments is desperately needed. This epidemic disproportionately affects a marginalized group in our society, and its acquisition is frequently blamed on stigmatized behaviors.

The affected group has higher rates of mental health problems. Shame and social instability keep patients out of medical care. The health care providers who treat this disease often experience feelings of futility and burnout as their patients die despite their efforts.

Yet the public, the government, and the broader medical community have been slow to address this epidemic. Perhaps you think I am talking about the AIDS epidemic of the 1980s and 1990s. However, I am actually talking about the opioid epidemic today.¹

As an addiction medicine physician, I imagine I feel a bit like HIV providers did 30 years ago. I am heartened by the progress we have made treating HIV and gradually destigmatizing patients with the disease. I am optimistic that over time and with much work, the opioid epidemic will similarly improve. But for now, things are worse than ever.

The Centers for Disease Control (CDC) recently reported that in 2015 America had the highest death toll ever from pharmaceutical opioids, and a spiking death toll from heroin and street fentanyl.^{2,3,4,5} In Hennepin County, MN, where I work, we saw a 31% increase in opioid related deaths in 2016.⁶ The death toll is only the leading indicator of an addiction epidemic that affects more than two million Americans, their families, and their communities.

HIV Patients at Higher Risk

It is perhaps a cruel irony that patients with HIV are disproportionately affected by opioid-related harms.⁷ The presence of HIV diagnosis confers a 2.5 fold increased risk that acute opioid use will become chronic.⁸ Among HIV positive patients with chronic pain, the prevalence of opioid misuse is double that of the general population, an eye popping rate of 65%.⁹ In my work as a physician treating opioid use disorder at a

county hospital, I care for dozens of patients who are both HIV infected and opioid addicted.

Why are patients with HIV disease more affected by opioids? No one actually knows and research has not defined a physiologic connection between HIV and opioid use. Opioids themselves may affect the immune system, complicating the natural course of HIV.¹⁰ HIV-induced neuropathy, when it occurs, warrants effective treatment. This has at times included opioids despite limited evidence of effectiveness for neuropathic pain.¹¹



The CDC recently reported that in 2015 America had the highest death toll ever from pharmaceutical opioids, and a spiking death toll from heroin and street fentanyl.



These facts fail to explain the strength of the association between HIV and opioids. More likely, greater incidence of mental health and addiction comorbidities in these patients drive the high rates of opioid use and misuse.¹² A recent study that examined risk factors for opioid misuse in this patient population found that most factors are similar to those in the general population. Mental health, particularly PTSD and depression, past addiction (to anything) and non-adherence to antiretroviral therapy (ART) all are predictors of opioid misuse.⁹

Another critical risk factor for opioid abuse may be the patient's medical provider. According to a paper by Lum in 2011, HIV providers did not feel confident nor demonstrate competence prescribing opioids.¹³ However, existing guidelines for safe opioid prescribing should apply to patients with HIV disease.¹⁴ This is certainly not an indictment of HIV providers, but a call to action on their part. Thirty years ago, the opioid epidemic did not exist, and HIV portended a much worse prognosis. In that context, more aggressive opioid prescribing seemed reasonable.

Today, as the life expectancy with HIV improves and the death rate from opioids rises, HIV providers must reevaluate the risks and benefits of treating pain with opioids.¹⁵ In limiting opioid prescriptions, HIV providers may find themselves in contentious negotiations with their patients. These negotiations may even threaten the patient-provider relationship—and in some cases compromise HIV outcomes. Most HIV providers are loathe to jeopardize their patients' HIV care. Saying “no” to opioids is not without risk, saying “yes” may pose a greater risk to the patient and the community.

Treatment Options, Priorities

HIV providers identify a “primacy” of treating HIV when treating their patients.¹⁶ The treatment of HIV with ART usually takes precedence over other medical conditions, many of which HIV providers take on as the provider of last resort. HIV providers describe their role with their patients as that of an “ally,”¹⁶ but disagreeing with their patients about opioids may push HIV providers out of their traditional relationship style.

Physicians have described the roles they take in opioid negotiations as the “negotiator,” the “police officer,” and the “health care provider.”¹⁷ Roles other than that of a health care provider are not constructive in the patient-provider relationship. Whether a provider sees himself or herself as an ally, or professionally identifies with treating only one medical issue, or feels like a cop enforcing the rules, the provider should strive to put the overall medical care of the patient first. Most patients look to their physician for advice and guidance on their health, regardless of their current substance use or addiction. If this

is not the case, and the patient places primacy on opioids, the patient may have an opioid use disorder (OUD) which will take precedence of HIV care.¹⁸

Opioid use disorder (also referred to as opioid addiction), is the most consequential adverse effect of continued opioid use. There is no perfect screening tool for OUD.¹⁸ While there are known risks for developing OUD, it can happen to anyone who is directly exposed to this class of drugs. Approximately 11% of patients receiving opioids for chronic pain develop OUD,¹⁹ a life-long disease that is stigmatized and carries increased mortality risk.

Developing OUD has a substantial genetic component, but also relies on a timely exposure to opioids.²⁰ Three evidence-based and FDA approved treatments referred to as Medication Assisted Therapy (MAT) are available for OUD, which improve patient function and decrease mortality.^{21,22} Two of these treatments, intramuscular naltrexone (an opioid blocker) and sublingual buprenorphine, can be integrated into HIV clinical practice. Buprenorphine is a partial opioid agonist. It has been supported by studies showing that it is effective, easy to administer (sublingual), well-tolerated, and improves HIV and addiction outcomes when prescribed in the same setting with HIV care.^{23,24,25} HIV providers can obtain a waiver from the DEA to prescribe buprenorphine which takes only 8 hours of training. The Surgeon General recently urged all community providers to become certified to prescribe buprenorphine.²⁶

Methadone maintenance for OUD must be given from a federally registered addiction clinic. Thus while it is compatible with successful HIV treatment, it cannot be integrated into an HIV clinic. HIV positive patients with OUD on methadone maintenance are more likely to be on—and adherent to—antiretroviral therapy.²⁷ When patients are clearly struggling with opioid related harms, they should be screened for OUD using the Diagnostic and Statistical Manual 5 criteria, and if applicable, offered these evidence-based therapies.

In 2016, the CDC and the Institute for Clinical Systems Improvement (ICSI) published evidence-based clinical guidelines for prescribing opioids.^{28,29} Thoughtful and exhaustively referenced, these guidelines have garnered much excitement. However, treatment of OUD was only one topic addressed by these two publications.

These guidelines establish “safe” dose limits, number of pills, and suggest avoiding problematic formulations and combinations of drugs. For example, total opioid exposure greater than the equivalent of 50 mg of morphine per day is associated with an increased risk of death.^{30,31} Benzodiazepines increase the risk of death by almost three-fold when combined with opioids.^{31,32,33} Long acting opioids are not more

effective analgesics, and are associated with an increased risk of death.³⁴ For details on these recommendations and others like them, I encourage a review of the CDC guideline's 12 recommendations. The ICSI's guideline includes recommendations on dental, acute and subacute pain treatment and on non-opioid alternatives.²⁹ It should be noted that many of these recommendations are based on "expert opinion" due to lack of adequate evidence. The recommendations are likely to change as we advance the science of addiction medicine.

I have had the honor of traveling to many cities to lead workshops with the AAHIVM on the topic of opioid addiction. Providers of HIV care are very aware and concerned about OUD among their patients. However, they also juggle many competing demands, and believe they have a primary responsibility to the patient and the public to keep the patient's HIV well controlled. In many instances the HIV provider becomes the provider of last resort when other providers—including community pain clinics—dismiss the patient from care.

An HIV career can evolve from strictly dealing with an infectious disease into primary care, public health, mental health, pain treatment and now addiction medicine. Considering that, adding new regulations or guidelines for opioid prescribing may seem burdensome to many clinicians. That being said, I am convinced that opioids do play a role in the quality of life of some of our patients, who often place them high on their priority list. Also, the consequences of opioid misuse may affect the patients' health more immediately than HIV disease does. Those addicted to opioids suffer most of all, despite the fact that treatments exist and are quite effective for the majority of patients who receive them. Safe opioid prescribing and life-saving addiction treatment is compatible with HIV care, but will take additional education, commitment, time and effort on the part of HIV care providers, policy makers, and our communities at large.

HIV

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Behind the Walls

Meeting the Challenges of HIV

BY BRENT R. GIBSON, MD, MPH, CCHP-P, FACPM



ALTHOUGH CORRECTIONAL HEALTH CARE is an integral part of public health—and today is broadly recognized as such—much of the health care provided to incarcerated patients remains shrouded in mystery. Not to those on the front lines providing care, of course, but to their colleagues in community settings. What goes on behind those walls? What clinician would agree to work there? Can the quality of care be any good? With this special issue on HIV care in corrections, we aim to provide a glimpse into this unique practice setting, where the rate of diagnosed HIV infection in state and federal prisons is approximately three times greater than that in the community.

This is a fitting task for the National Commission on Correctional Health Care. NCCHC was born of an American Medical Association program established in the 1970s to develop national standards for health care in jails. Since 1983, NCCHC has been an independent, not-for-profit organization whose mission is to improve the quality of care in jails, prisons and juvenile confinement facilities. We do this

through our continually evolving standards, which are central to and support many of our activities, as well as our health services accreditation program, certification for correctional health professionals and educational programs.

The authors assembled to write for this issue have a wealth of experience and strong expertise in the nuances of HIV care in corrections. Dr. Anne Spaulding's introduction

shares her personal journey into this field. The remaining articles touch on weighty topics such as HIV/HCV coinfection, HIV and mental health, reentry and continuity of care, and the challenges and rewards of providing HIV care to inmates in low-income countries.


To answer the previous questions I posed: (1) What goes on behind those walls? Correctional health care is essentially a microcosm of the larger health care system, except that we tend to see higher prevalence rates of certain medical and mental health conditions and higher acuties. (2) What clinician would agree to work there? Thousands of highly talented and motivated health professionals dedicate themselves to correctional care because of the rich clinical experience it offers and the opportunity to make a significant impact on people's lives. (3) Can the quality of care be any good? The goal in correctional health care is to provide care on par with that provided in the community.

Needless to say, compliance with NCCHC standards provides the framework for quality health care in correctional facilities. Other collaborative efforts from experts, such as this special issue, contribute in no small way to improving quality. We are pleased to share these articles with you and hope that you will gain a better understanding of HIV care behind bars. **HIV**



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BY ANNE SPAULDING, MD, MPH, CCHP-P, FIDSA

HIV

Treating populations under the jurisdiction of the criminal justice system.

When I began my fellowship in infectious disease, I never thought I would end up in jail.

But after I finished training, my first job was medical director for the Rhode Island Department of Corrections. Since then, for the last 20 years, the health of persons under the supervision of the U.S. correctional system has held my interest.

A mentor from my residency days, Dr. Timothy Flanigan, first introduced me to prison medicine. As a new infectious disease attending, he was directed by his boss to start an HIV clinic at our local jail—because “that’s where the patients were.”

Every cloud has a silver lining, and the silver lining to the suffering brought on by the HIV epidemic is that it brought talented physicians like Dr. Flanigan into jails and prisons. Their presence shone light into hidden areas of the American health care system. He demonstrated how caring for persons in prison could make a tangible difference in their lives.

Behind Bars

In the 1980s, prison populations were growing exponentially because of the “war on drugs.” Not unexpectedly, those filling the prison cells were disproportionately from communities marked by poverty and lack of health care access. Those who could not afford a physician were the same persons who could not afford a lawyer. Dr. Flanigan addressed HIV where the needs were greatest, and I chose him as a role model and mentor. I had much to learn as I entered the world of the criminal justice system. The Eighth Amendment of the U.S. Constitution forbids cruel and unusual punishment and the Supreme Court has ruled that the deliberate indifference to health needs of incarcerated persons constitutes a violation of this amendment.¹

Notice that I have learned to refer to my patients as persons. In the same way that we do not refer to patients by their diseases (“the diabetics,” “the HIV positives”), we don’t need to refer to people by their dwelling place (“prisoners”) or their legal status (“the offenders”). I learned the difference between a jail (a short-term facility for persons awaiting trial or serving short sentences for a misdemeanor) and a prison (a long-term facility for persons convicted of a felony).

I have found in my “prison career” that far from being the backwaters of American medicine, correctional health care is often the place where change in the health of the public is first detected. Jails and prisons began recognizing cases of HIV very early in the epidemic. In 1982, the first cases of HIV were reported in New York prisons.² By 1993, prevalence of HIV was as high as 11% in New York City jails and 37% at Essex County jail in New Jersey.³

Due to shared risks, HIV patients and correctional populations overlap. From a behavioral angle, persons who inject drugs are at high risk for both HIV and incarceration, as are persons who trade sex for money. From a demographic perspective, both HIV and incarceration disproportionately affect the poor and communities of color.

Persons from late adolescence to their mid-40s are the most likely to break laws and enter the criminal justice system. By age 50, most are out of their crime-prone years. As the HIV epidemic ages and the average patient is beyond 50 years old, HIV becomes less concentrated in jails and prisons. While the prevalence of HIV prison has dropped

to 1.4%, this is still three times greater than in the outside community.⁴ One in six persons with HIV in the United States spend part of their year locked up in a jail, prison, or both,⁵ so the need for thoughtful and compassionate providers to address diseases in jails and prisons continues.

Covering key concerns

This issue of *HIV Specialist* concentrates on some of the most pressing issues in correctional HIV care.

An article on HIV and hepatitis C illustrates how the overlap of these two epidemics has been immense in prisons. Again, persons in prison with HIV over-represent those who acquired HIV from injection drug use compared to persons in community HIV clinics. Approximately 30% of the hepatitis C virus (HCV) epidemic is represented by correctional populations.⁶

I have found in my “prison career” that, far from being the backwaters of American medicine, correctional health care is often the place where change in the health of the public is first detected. Jails and prisons began recognizing cases of HIV very early in the epidemic.

Managing HCV in prisons is particularly challenging as most public safety budgets have not allocated enough funding to pay for the new direct-acting agents. A 2016 survey demonstrated that state prison systems were treating only 0.1% to 10% of known HCV cases.⁷ Most state correctional systems are not aggressively seeking out cases.⁸ The Federal Bureau of Prisons began recommending routine opt-out screening for HCV for all sentenced persons in its prisons last year, but most states have not followed suit.

Our modeling studies suggest that universal opt-out HCV screening and treatment is cost-effective from a society standpoint because it would prevent HCV incidence and disease sequelae in the community.⁹ Although persons who continue to inject drugs are at risk for HCV relapse after cure, mathematical modeling has shown that treating current users brings a higher return on investment on dollars spent on therapy than treating those whose addiction is in remission.¹⁰⁻¹²

Another article speaks to the intersection of mental health and HIV. The overlap of HIV medicine and behavioral health is profound in jails and prisons. For poor Americans, mental health funding is meager. With the closing of state mental hospitals decades ago, many former patients became homeless and caught in the criminal justice system. As prison systems outgrew their former buildings, shuttered mental hospitals in many states were repurposed into prisons.

More than 95% of persons who enter correctional facilities eventually return to the communities from which they come. The time of transition back to the community is extremely fraught for lapses in HIV care,^{13,14} even if HIV was well-controlled during incarceration.¹³ Care for other chronic medical conditions and mental health are equally difficult for many to access post-release. An article on reentry issues is fitting to include in this issue of *HIV Specialist*.

More than 95% of persons who enter correctional facilities eventually return to the communities from which they come. The time of transition back to the community is extremely fraught for lapses in HIV care, even if HIV was well-controlled during incarceration.

Lastly, this issue addresses HIV disease in under-resourced countries. In any nation under the rule of law, there will be prisons; Haiti is no exception. You will be introduced to Health through Walls, a nonprofit organization assisting resource-poor countries in implementing sustainable improvements in health services within their penitentiaries. Health through Walls in Haiti is primarily Haitian-run. Eighty Haitian professionals from a variety of health disciplines work at Prison Civile in Port-au-Prince and in other prisons throughout the country. This article also shows how the correctional environment is conducive for the training of the next generation of HIV specialists. Follow-up of patients in a prison clinic is usually more controlled and regular, which permits health care workers in training to experience continuity of care. Prison Civile has been a training ground for both Haitian and international students.

The authors of this issue of *HIV Specialist* urge all physicians, midlevel providers, nurses, pharmacist and students to consider their local jail or prison as a feasible practice venue, either full or part-time. To learn more about correctional health in general, readers are referred to the website of the National Commission on Correctional Health Care at www.NCCHC.org. For physicians, another useful website is the American College of Correctional Physicians at www.corrdocs.org. The Centers for Disease Control and Prevention has issued guidelines for HIV testing in correctional settings¹⁵ and has many other references on its website.

In few other venues across the United States are patients guaranteed access to health care. Quality HIV care is mandated by U.S. Supreme Court case law. As a health care professional, I urge you to consider “stepping up to the plate” and being the one who provides it! **HIV**

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HIV/HCV Co-infection

BY NEIL FISHER, MD, CCHP

New guidelines, opportunities & challenges with the incarcerated population in the U.S.

AT YEAR-END 2015, THE INCARCERATED POPULATION IN THE UNITED STATES WAS 2,173,800, according to the Bureau of Justice Statistics, approximately 0.68% of the U.S. population. According to the Institute for Criminal Policy Research, the United States has the largest prison population in the world and its per-capita incarceration rate is second only to the small island nation of the Seychelles. No other Western country comes close to the U.S. incarceration numbers.

The infectious disease burden in corrections is higher than in the general population, with increased rates of HIV, hepatitis C (HCV), sexually transmitted diseases and tuberculosis. The prevalence of HIV infection is approximately five times greater than in the population at large.

The prevalence of HCV in corrections is staggering. An article by Varan and colleagues in the *Public Health Report* (2014) reviewed data from 12 state prison systems performing routine HCV antibody testing from 2001 to 2012, and sero-prevalences of HCV ranged from 9.6% to 41.1%. This same group estimated the national state prisoner seroprevalence to be 17.4%.

HIV/HCV co-infection

HCV and HIV share common routes of transmission, and in the correctional population, this is most commonly injection drug use. The interaction between HIV and HCV in a co-infected patient affects the transmission, as well as the natural history of HCV infection. People with HIV not on antiretroviral treatment (ART) are less likely to spontaneously clear HCV infection and have higher HCV viral loads as the transmission efficiency of HCV increases in the presence of HIV infection and the perinatal transmission risk is doubled in HIV-infected mothers. It is well established that liver fibrosis associated with HCV progresses more rapidly in individuals with HIV even if they receive effective ART.

New generation antivirals

Understanding the known complications of HCV and HIV/HCV, few working in the medical field would argue that we have seen remarkable progress in HCV treatment over the past four years with the FDA approval of multiple new drugs to treat this virus.

It was only in 1989 HCV was identified (it was previously known as non-A/non-B hepatitis) and the first tests for HCV antibodies became available in 1992. In 2013, the first of the new generation, direct-acting antivirals (DAAs) for HCV were approved and studies supported their safety and efficacy in co-infected patients. We are now seeing rates of sustained viral response (SVR) utilizing these new anti-HCV medications exceeding 90%. The expectation is these

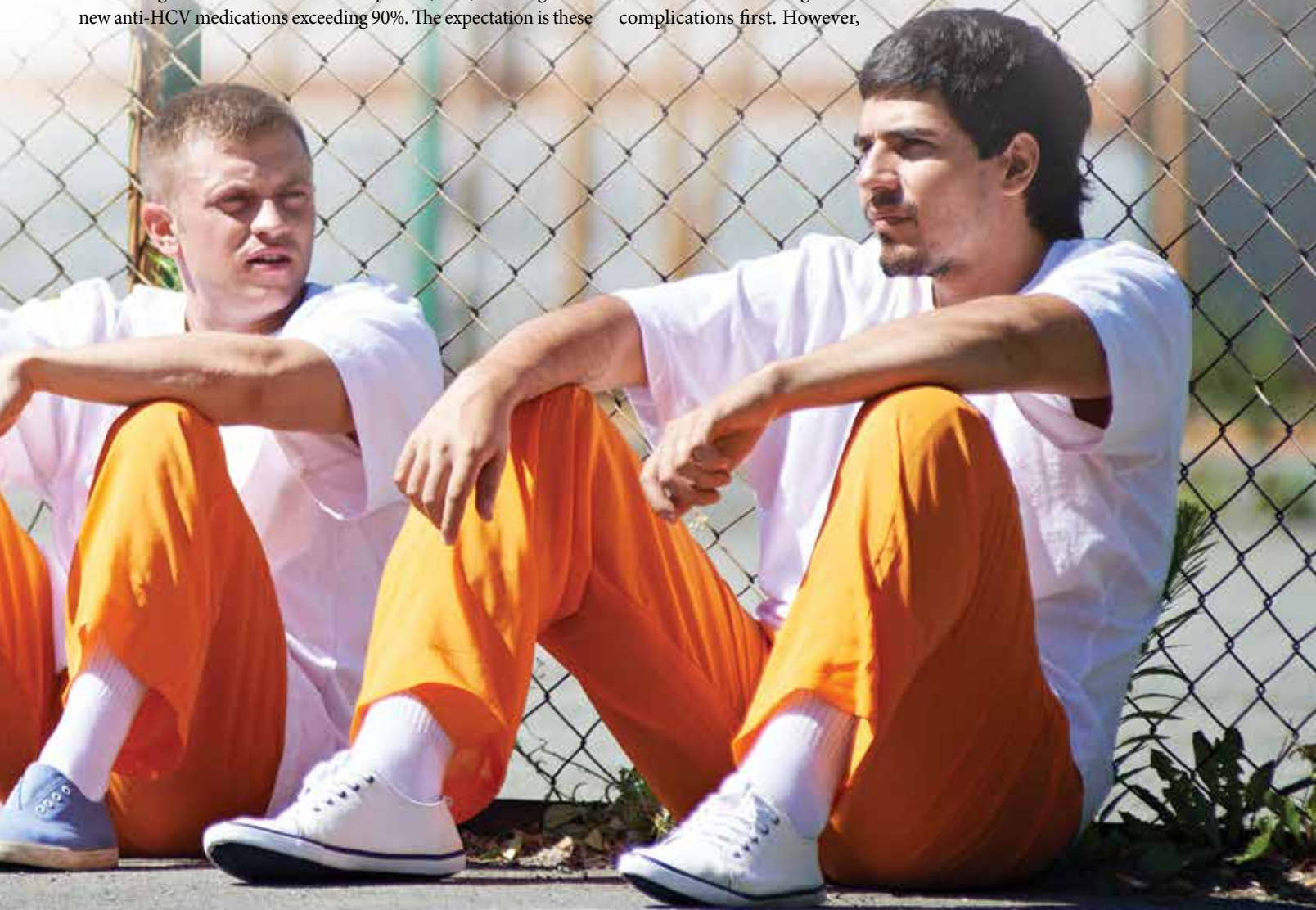
patients are cured of HCV—usually after just 12 weeks of therapy.

It has been shown that curing HCV leads to improved clinical outcomes and improved liver histology. Hill and colleagues (2014) showed in a meta-analysis of 129 studies that patients with an SVR have dramatic reductions in liver decompensation, hepatocellular carcinoma, and all-cause mortality. These reductions in HCV complications included patients who were cirrhotic and patients co-infected with HIV.

These new generation medications are usually given once a day and are very well tolerated. In most cases they have limited side effects with few drug-drug interactions for patients on ART. They do, however, have a very high acquisition cost. The 12 to 24 weeks of therapy for an individual patient ranges from \$50,000 to \$150,000. The price of these new medications has been problematic in the correctional setting, as the health care budgets are unable to match the high burden of HCV disease in this population.

Treatment Guidance

The American Association for the Study of Liver Diseases (AASLD) and the Infectious Diseases Society of America (IDSA) have issued guidance on the treatment of HCV (available at HCVguidelines.org). Earlier versions of the AASLD/IDSA guidance called for prioritization of HCV treatment, treating those with the most advanced disease or highest risk of complications first. However,



the latest guidance stresses the importance of treating *all* patients with HCV and eliminates the call for prioritization based on liver disease staging.

Due to the burden of disease within corrections and the high cost of a cure, most correctional professionals view this clinical ideal of treating all HCV patients to be financially unrealistic. Many systems have developed prioritization protocols which recognize that patients with the greatest risks of complications related to HCV-associated liver disease should be treated first.

Many of these systems have referenced the Federal Bureau of Prisons' clinical guidance *Evaluation and Management of Chronic Hepatitis C Virus (HCV) Infection* from April 2016. This guidance lists liver transplant recipients or candidates, cirrhotic patients and those with HIV/HCV co-infection within the top levels of prioritization.

As people live longer with HIV, HCV-related liver disease in co-infected patients has become a major cause of morbidity and mortality. Although ART improves outcomes in co-infected patients with decreased HCV-related mortality, treatment of only HIV disease alone cannot be viewed as treatment for HCV.

The AASLD/IDSA guidance from July 2016 has a separate section related to HCV/HIV. It highlights the unique challenges presented by co-infection and stresses the importance of treating co-infected patients due to the known interactions between these two viruses. The guidance also addresses HCV medication choices for co-infection. With the new DAAs, there are six treatment regimens for co-infected patients with HCV genotype 1 virus without cirrhosis. For co-infected patients with

genotype 1 and compensated cirrhosis, the guidelines include two recommended regimens and three alternative regimens.

Equivalent rates of sustained virologic response (typically > 90%) are expected in the co-infected patient. There are, however, some significant drug-drug interactions between ART and HCV treatment regimens that are addressed in the guidelines. They also state that treatment regimens of less than 12 weeks are not recommended for the co-infected patient. They also do NOT recommend HIV treatment interruption to complete HCV therapy as a means to avoid drug-drug interactions. In some cases, the ART regimen may need to be adjusted if drug-drug interactions are a concern. (Resources for HIV and HCV medication interactions are found at HCVguidelines.org, aidsinfo.nih.gov, and hep-druginteractions.org.)

Correctional considerations: Cost and more

We now have HCV medication combinations with SVR rates > 90%, low toxicity, high tolerability, and low pill burdens, and they work well in the co-infected patient. The question remains—how does a correctional system pay for them?

Although some states are treating large numbers of HCV patients, in many systems the budgets cannot accommodate the need for widespread treatment. The good news is that costs are coming down through competition as more HCV medications and manufacturers enter into the marketplace. The pharmaceutical companies also are willing to negotiate prices, especially for correctional customers wanting to treat a larger number of patients. Nevertheless, these prices remain quite high.

Correctional Setting Abstracts CROI 2017—Seattle, WA

Improved Care Outcomes for Inmates Referred to Community Programs in Philadelphia (#911)

Prison inmates with HIV constitute a vulnerable population for which information regarding long-term health outcomes after they are released is lacking. This study aimed to characterize predictors of care for inmates diagnosed with HIV post-release from the Philadelphia Prison System (PPS). The study used data from the PPS, Community Referral Programs (CRP), and HIV surveillance to identify persons diagnosed with HIV within the prison system from 2009-2013. The CRPs provide advocacy, support, education, and linkages to medical care for HIV-infected inmates upon release. Outcomes of the study included: linkage to care 90 days post-release; retention in care one year post-release and viral suppression at one year (VL <200 copies/ml at last measure). All models were adjusted for gender, age at release, race/ethnicity, mode of transmission, length of diagnosis, length of incarceration pre-release and CRP status.

■ **Results:** There were 410 HIV-positive inmates within the Philadelphia system. Forty one percent

were linked to care within 90 days after release, 35% were retained in care and only 10% were virally suppressed at one year after release. Forty percent of those diagnosed while in the PPS were linked to a CRP. Those diagnosed with HIV for > 5 years were 3.2 times as likely as those diagnosed ≤ 6 months to be linked to and retained in care. Race significantly predicted retention with blacks 49% less likely than whites to be retained one year after release. Individuals that were connected to a CRP for post-release follow up were 2.4 times as likely to be linked to care, and were 2.5 times as likely to be retained in care, as those not referred to a program. No significant predictors of viral suppression were identified.

■ **Conclusion:** HIV-infected inmates have very low rates of linkage to care, retention in care and viral suppression post-release. Those connected to CRPs that work with newly diagnosed HIV patients were more likely to link to care within 90 days of release, and to be retained in care at one year compared to inmates that did not access such programs. These data support the need to increase referral of soon-to-be discharged inmates to CRPs. These programs are a

valuable resource for improving health outcomes for this high-risk incarcerated HIV-positive population
Makeda C. et al. CROI 2017, Seattle WA. Abstract # 911

Opt-Out HIV and HCV Testing among Jail Inmates (# 957)

Incarceration provides an opportunity for HIV and HCV screening in high-risk and hard-to-reach persons. The CDC recommends routine opt-out HIV screening in jails and prisons, but only 19% of prisons and 35% of jails offer this service. HCV testing is recommended for those born between 1945-1965 or with risk factors including injection drug use and incarceration. The aim of this study was to describe the results of an opt-out combined HIV and HCV testing program in a criminal justice setting in Texas. Opt-out HIV/HCV testing was offered to all individuals entering the Dallas County Jail between October 2015 and July 2016. Demographics were collected on all participants. For those who tested HIV positive, risk factors, prior engagement in care (seen by an HIV provider within 6 months before incarceration), and re-engagement in care (receipt of HIV care during incarceration) were assessed.

The costs to a correctional health care system for treating HCV was calculated in Rhode Island. The study, published in the *Journal of Urban Health*, found that chronic HCV prevalence was estimated at 17% of the total prison population. Treating all sentenced inmates with at least 6 months remaining of their sentence would cost about \$34 million—13 times the annual pharmacy budget and almost twice the overall annual healthcare budget. Treating only inmates with advanced fibrosis would cost about \$15 million, which remains nearly 8 times the annual pharmacy budget.¹

One concern is, if corrections treats those with HCV, will released patients revert to injection drug use and become re-infected? While re-infection does occur, a study published in *Clinical Infectious Diseases* by Simmons and colleagues examined the five-year recurrence risk among a high-risk population of injection drug users. They found that 10.7% had recurrence of HCV after a cure.² The study revealed that an SVR is durable in most patients, including these high-risk patients, although re-infection remains a possibility.

Correctional systems without HCV treatment protocols are encouraged to have discussions about HCV treatment and to develop processes for assigning clinical priority. These processes are best made within a clinical practice guideline that the correctional system has committed to and can realistically support financially.

The complete cost of care related to HCV and HCV/HIV co-infection is not just medications. Corrections should factor in the high costs of treating the complications of non-treatment—specifically end-stage liver disease and hepatocellular carcinoma. These costs related to complications

of HCV are projected to continue to rise and will be amplified in corrections due to the high burden of HCV disease. Health care professionals are aware that these costs can be mitigated by earlier treatment of HCV. There is a pressing need to educate administrators and other non-clinicians who are making financial decisions for our correctional systems to not focus solely on the price of anti-HCV medications, but also look at the disease in its entirety when developing the system's budget priorities and plan of care.

HIV

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ABOUT THE AUTHOR

Dr. Neil Fisher has been involved in the health care of incarcerated offenders for over 18 years. He is a proud graduate of Albany Medical College in Albany, New York. In correctional health care Dr. Fisher is best known for educating/guiding correctional health care staff on the care of the incarcerated prisoner especially those that are HIV positive and/or hepatitis C positive. Dr. Fisher is also a vocal advocate of the uniqueness of correctional healthcare as a career option. He is presently Wexford Health Sources' Corporate Medical Director for Quality Management and Pharmacy and is based at Wexford's Regional Office in Phoenix, Arizona.

■ **Results:** Eighty percent of this population was male. The mean age was 49 years of whom 43% were white, 42% Black, and 15% Hispanic. Forty-one (1.3%) of 3,155 inmates had a positive HIV screening test. Of these, 24% were false positives (4th generation test). Of those remaining, 16% were newly diagnosed and 100% were linked to care. Among those previously known to be HIV-positive, one-third were not engaged in care before incarceration although 88% were linked back to HIV care in jail. Regarding HCV antibody testing, 16% (500/3042) had a positive test. One-third of inmates self-reported to be HCV positive before being tested. Only 52% of the HCV-positive were born between 1945 and 1965. Racial disparity was observed within this "baby boomer" group as 74% of blacks vs. 35% of whites belonging to this cohort.

■ **Conclusion:** Routine opt-out HIV/HCV testing in a jail setting identified many HIV and HCV infections. New HIV diagnoses were infrequent but linkage to care and re-engagement in HIV care was excellent. There was a high rate of HCV positive tests but one-third were aware of this diagnosis. Testing only those in the baby boomer cohort would have missed approximately half of HCV infections, primarily among whites. Opt-out HIV/HCV screening in the criminal justice system is a unique opportunity to reach

underserved individuals, who may otherwise not seek testing and treatment and are at risk of transmitting these infections both while incarcerated and after release.

De La Flor, C. CROI 2017 Seattle, WA Abstract # 957

Improving the Prison Care Continuum Reduces Racial Disparities: A Modeling Study (#1044)

Prisons provide an opportunity for HIV screening and delivery of antiretroviral therapy (ART). However, many individuals fail to re-engage with care after they are released, thus increasing HIV transmission risk in their respective community. This modeling study sought to determine how improved HIV diagnosis and ART initiation while incarcerated in prison—and continued ART and medical care post-release—could reduce HIV transmission and also address racial HIV disparities in the non-incarcerated community. The researchers used Atlanta, GA as the case city. They developed an agent-based model to simulate HIV transmission in a dynamic, population-based sexual and drug-injecting network. The model was parameterized using city- and race-specific inputs for population characteristics, incarceration rates, sentencing lengths, and ART coverage. The model was

calibrated to race-specific HIV incidence estimates for the Atlanta population in 2012. In an "idealized" prison HIV care continuum scenario, all incarcerated individuals are tested for HIV, initiated ART if testing positive and continued on ART post-release. The study then compared projected community incidence of HIV at 10 years after implementation of the "idealized" correctional care continuum to that of the base case model.

■ **Results:** Compared to the base case model, the idealized care continuum scenario would reduce 10-year community HIV incidence by 23.7% (from 48.8 to 37.3 per 100,000 by 2022). The percentage reduction would be greater among blacks (25.4%) than among whites (16.7%). The overall reduction in community HIV incidence was larger (30.7%) by a sensitivity analysis in which HIV risk was doubled for 6 months post-release.

■ **Conclusion:** Universal HIV testing and treatment with ART in prisons, coupled with programs to ensure retention in care post-release, can reduce HIV incidence in non-incarcerated populations. An optimized HIV care continuum in the prison setting and post-release could considerably reduce new infections and racial HIV disparities.

Marshall, BD. CROI 2017, Seattle, WA. Abstract # 1044

BY GLENN TREISMAN, MD, PhD

Providing

Hope

SINCE THE EARLY 1980'S, the U.S. has seen a massive HIV public education effort. These initiatives have helped change the behavior of many potential victims. However, those with severe addictions, as well as those who have a history of impulsive behaviors, depression, mania and schizophrenia, continue to be at high risk of HIV infection.

HIV patients suffering from psychiatric disorders often are encountered in correctional health settings. Approximately half of the HIV infected incarcerated individuals in a cohort receiving directly observed antiviral therapy while transitioning back to the community had psychiatric disorders (most commonly mood disorders) other than substance use and about two-thirds had a substance use disorder.¹

Correctional medicine provides an ideal care setting to optimize care, track clinical outcomes and demonstrate the advantages of integrated care. Unfortunately, psychiatric services, addiction treatment and medical care often are segmented and provided by different vendors without coordination. This is a systematic problem that should be addressed and improved. The complexity of medical and mental health disorders of these patients is best managed by a team of clinicians in the same setting, whereby they can use an integrated approach to diagnosis and treatment.

Addiction in HIV infected patients

We currently have a major epidemic of addiction in the United States. I define addiction as *the continuing preoccupation with and use of a substance despite mounting consequences that disrupt all areas of life function*. There are many potential reasons for the epidemic, including many years of opiate, benzodiazepine and stimulant over-prescribing by physicians. A decline in access to effective long-term addiction treatment also contributes. There is an abundance of addictive substances including alcohol, sedative-hypnotic drugs, stimulants, opiates, nicotine and cannabinoids. While numerous vulnerabilities associated with increased risk for addiction have been identified, it is very difficult to predict who will become addicted and who can be successfully entered into recovery programs. However, it is common to blame addicted patients instead of offering treatment. Sometimes the only "treatment" they receive is incarceration.

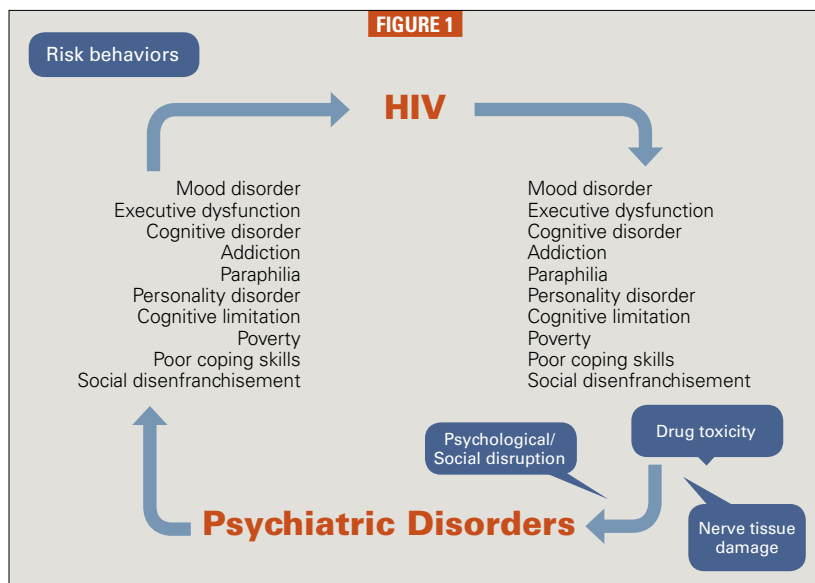
Integrated care needed for treating HIV patients with mental illness and addiction

The typical steps in treatment are conversion (get the patient to acknowledge the addiction); detoxification (get the patient away from the substance); rehabilitation (get other rewarding activities back into the patient's life); treatment of comorbid conditions (depression, bipolar disorder, and personality disorders); and relapse prevention (set up a plan to decrease the likelihood of relapses—although this is very common for people in recovery).

Psychiatric diseases in HIV+ patients

HIV causes chronic inflammation in the brain, which can worsen cognition and increase the development of affective disorders. The disease of HIV is also associated with stigma, disenfranchisement, poverty, social isolation—all of which increase stress and complicate psychological morbidity. Conversely, psychiatric disorders increase the risk for HIV infection, decrease health-seeking behaviors and access to medical care, and interfere with medication adherence to ART (Figure 1). This forms a vicious cycle in which psychiatric morbidity increases the risk for HIV infection and interferes with diagnosis and treatment, and HIV worsens psychiatric conditions and response to treatment.

Schizophrenia, bipolar disorder and major depression are common conditions that occur in patients with HIV clinic, and are highly prevalent in correctional settings. It is unclear if schizophrenia is worsened by HIV infection, although the cognitive impairments in schizophrenia may be exacerbated by HIV. There is evidence that people with schizophrenia are at increased risk for HIV infection.² This often is due to both substance abuse



and coercive sexual practices. Schizophrenia is much more prevalent in correctional settings, and while such patients are more difficult to manage, they generally do better when integrated psychiatric and medical care collaboratively are provided.

Bipolar disorder also is found at increased prevalence in prison settings. It tends to be associated with high-risk sexual behavior and drug use. Late-stage HIV infection can produce a manic syndrome de novo, and probably exacerbates bipolar disorder as ongoing HIV-replication causes neuro-inflammation—although the data is far clearer for depression than for bipolar disorder.³

Depression is the most commonly encountered psychiatric disorder diagnosed in patients with HIV disease.⁴ The prevalence is reported to be three to five times that of the general population.⁵ Several studies suggest that even in patients with complete viral suppression, low levels of HIV in the cerebrospinal fluid (CSF) are associated with depression.⁶ The interaction between depression and HIV is further complicated by the finding that depression is associated with poorer medication adherence. Thus, treatment of both HIV and depression are both crucial in the care of patients with HIV in the correctional system.

Personality disorders in HIV infected patients

The understanding of personality disorders begins with the presumption that all common traits have survival value in the correct environment. While personality disorders have been discussed as diseases, as results of developmental experiences, and as deficit states, the reality is that common personality disorders are maladaptive patterns of behavior that occur as the result of an extreme “endowment” of a particular trait.⁷ That is, the patient is suffering from too much of something that would be useful in other environments.

Two dimensions particularly helpful in understanding patients are introversion-extraversion and stability-instability (instability often called neuroticism). An illustration of these traits is seen in Figure 2, which shows the normal

distribution of extraversion-introversion. Shown is a curve of how much of the trait is seen in individuals in a population. Introverts at the left end of the curve are oriented to the future, to avoiding consequences, and to function. Those at the other end of the curve are oriented to the present time, to getting rewards, and to feelings.

In the prisons, the warm sociopathic inmates are usually unstable people with a high degree of extraversion, reading and manipulating the emotions of others, but also getting provoked by the emotional situations they encounter. Cold psychopathic (and sometimes frightening) patients are often very extroverted, but are very stable. They have trouble experiencing emotions and need to have intense coarse emotional experiences to react emotionally, but their feelings are salient for them. They engage in high emotion, high risk, and highly provocative behaviors. The patients that are most frightening for the health care provider to interact with are from this group.

Disorders of temperament respond to therapies designed to help patients develop behaviors that are adaptive. Cognitive-behavioral therapy, dialectical behavioral therapy, and other therapies that focus on firm limits, changing behavior, and improved function can be life-changing and profoundly helpful for these patients. However, they can take a long time and are labor intensive. These problems are not successfully treated by medications unless there is an underlying mood disorder.

Life story problems in HIV infected patients

Aside from the obvious stigma of infection with HIV, many patients have problems that emerge from their life experiences, which teach them what to expect from the world. The patient “assumes” he or she will encounter the same experience again, which leads to behaviors the person exhibits when they encounter similar life situations.

One example is the expectation of poor treatment because of prior negative experiences. The patient may arrive expecting to not be treated well, demonstrate hostility, and provoke a similar response from the healthcare providers. This serves to further their belief that the medical setting cannot be trusted for fair-minded treatment.

Mistreatment as a child by authority figures, sexual abuse, and unstable households can leave an indelible set of negative assumptions that clinicians must overcome to effectively care for these patients. However, disorders stemming from negative life experience often are unique and do not have a billing code to associate with them—but may be the most important element of treatment.

Other life experiences also may set the tone for psychiatric disorders. In a household where depression or bipolar is present, attitudes about treatment and insight about the nature of the illness can be fostered or defeated. The emergence of a mental illness in our patients can lead to rejection by their family or social group. Some churches may see mental illness as a sign

of sinfulness and divine retribution or even possession by evil forces. HIV may add to this isolation and disenfranchisement.

Understanding the complex nature of the individual patient and his or her life story requires time. This is another way in which integrated care in prison settings can initiate a change that will allow the term “correctional” to have some meaning beyond the punitive purpose of incarceration. Mental health providers are ideally situated to initiate treatment that can take a truly rehabilitative stance toward helping people overcome the problems that brought them to prison in the first place.

The good news is that patients in prisons can be followed and reengaged in treatment if they are to stop, and can be successfully followed through the rehabilitation process. The bad news is that the systems of incarceration seldom are linked to programs on the outside that can be used to support patients’ sobriety and recovery as they attempt to transition back to their regular lives.

Integrated care in correctional settings

Effective advocacy for better care in correctional setting will help decrease the epidemics of HIV, hepatitis and addiction. The provision of care as a team of medical and psychiatric clinicians will make the care more effective and efficient. It will also reduce frustration, burnout and cynicism that can derail clinicians when they feel a sense of futility in caring for their patients.

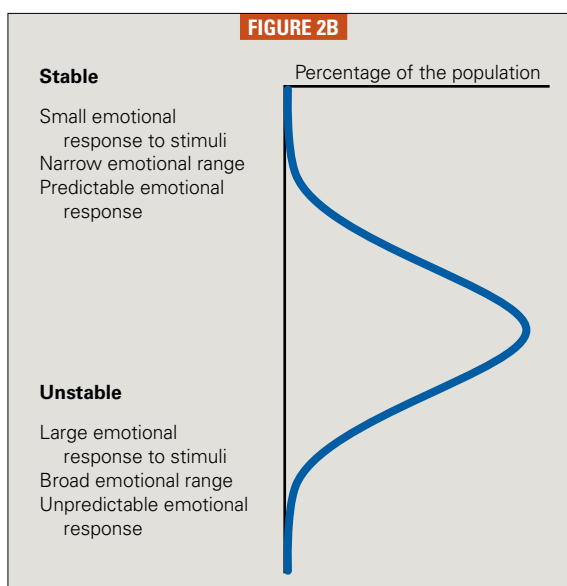
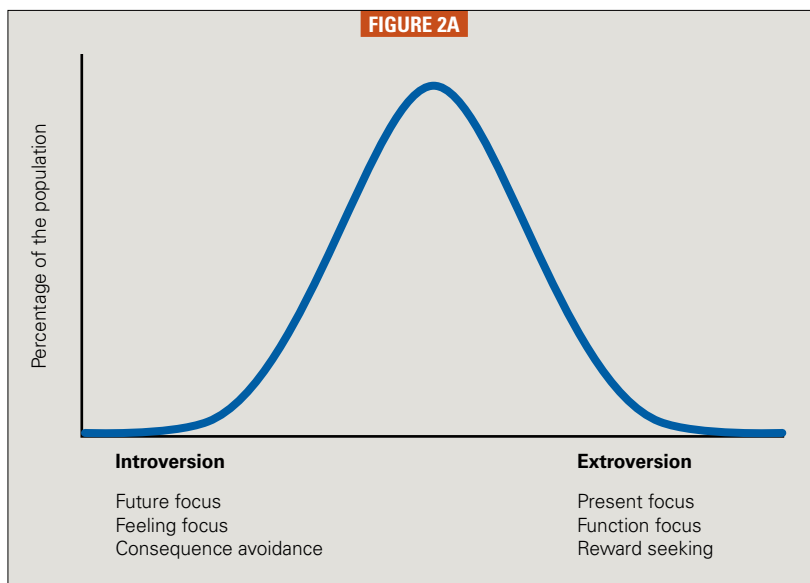
Educational programs on integration of care and successful models of carrying this out should be part of the agenda for prison medicine. The prison setting is an ideal test site to demonstrate what can be accomplished by effective clinic care. Because of the closed nature of this system, medical and financial benefits of our treatment models can be demonstrated.^{8,9}

For myself, success with difficult patients has made this work rewarding and enriching. The battle we face is to educate society and policy makers about why the work we do is cost effective and ultimately provided care and treatment is a good investment of financial resources. This must start with improving and refining models that can care for even the most difficult patients in the diverse system of corrections. **HIV**



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Dr. Treisman is Professor of Psychiatry and Behavioral Sciences and Internal Medicine at the Johns Hopkins University School of Medicine. He is the Director of the AIDS Psychiatry Program and Codirector of the Pain Treatment Center. He is best known for his groundbreaking work in the field of HIV, where he has been described as “the father of AIDS psychiatry.” He has cared for patients with HIV since early in the epidemic and described the role of mental illness in this disease. Treisman has worked throughout his career with underserved patient populations and has tackled difficult conditions at the interface between medicine and psychiatry. He is a noted clinical expert on depression, addiction, personality disorder, chronic pain, and the interaction between psychiatric disorders and medical illness.



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Community Reentry & HIV Continuity of Care

BY BARRY ZACK, MPH AND KATIE KRAMER, MPH, MSW

Effective advocacy for better care in correctional settings will help stop HIV, hepatitis and addiction epidemics in the U.S.

PRISONS AND JAILS PROVIDE ACCESS TO A POPULATION with an increased burden of infectious and chronic conditions.¹ Globally, Dolan and colleagues found higher prevalence of HIV, HCV, HBV and tuberculosis in prisons than in the general population, especially in imprisoned people with a history of injection drug use.²

An estimated one in seven people living with HIV (PLWH) in the United States are released from a correctional facility each year.³ In a recent analysis by Nasrullah and colleagues,⁴ PLWH who were recently incarcerated for >24 hours in the past year, compared to PLWH who were not recently incarcerated, were more likely to have

been uninsured or had a lapse in health insurance; used emergency department services in the past 12 months; been hospitalized in the past 12 months; and had any sex, and unprotected sex with a discordant or unknown status partner, in the past 12 months. In addition, recently incarcerated persons living with HIV were less likely to have achieved viral suppression.

Chronic medical conditions also are disproportionately faced by incarcerated people. In a Special Report⁵ from the U.S. Department of Justice (DOJ), Bureau of Justice Statistics, it was estimated that 66% of people in prison and 40% of people in jail with a current chronic condition reported taking prescription medication.



Assuming that over 95% of people in jail or prison will be released to the community, with a majority of those receiving some level of correctional medical care, continuity of care is critical to maintain personal health and reduce the chance of both treatment interruption and the development of medication resistance.

In a prior publication, we highlighted the vital importance of collaboration between the criminal justice system (prison, jail, parole and probation) and the community public health system (social services, medical/health clinics, treatment programs, etc.), and several effective models exist.⁶

Building partnerships can help address public health issues while confronting the challenges of public safety and custody priorities. If the goal truly is to decrease rates of HIV, STIs and hepatitis and treat chronic conditions in the general public's health, then correctional health and public health systems must work together to create a seamless continuum that will improve prevention, care and treatment both inside prisons and jails, as well as in disproportionately affected communities.

Justification for HIV continuity of care

Sprague and colleagues identified “the HIV prison paradox,” stating that prisons and jails have been depicted as unhealthy, yet they provide HIV services to incarcerated populations to engage and re-engage in HIV care.⁷

Furthermore, jails and prisons interrupt the cycles of substance use that individuals report as critical barriers to achieving stability in their lives, while at the same time supporting medication adherence. Iroh and colleagues conducted a literature review on HIV testing, engagement in care and treatment among incarcerated persons, and estimated the care cascade in this group. Their findings indicated that the HIV care cascade following diagnosis actually increased during incarceration and declined substantially after release, often to levels lower than before incarceration.⁸

Each year, some 12 million people are released from local jails and one million more from prisons. Though people incarcerated in the United States have a constitutional right to medical care, upon release this access to care rarely exists. Mellow and Greifinger address this “evolving

standards of decency” by arguing that the incarcerated patient has a right to continuity of care upon release, and that the physician has a moral obligation to support this continuity as “further treatment is medically indicated.”⁹

Furthermore, recent court cases have concluded that a state has “a duty to provide medical services for a person leaving prison who is receiving continuing treatment at the time of his or her release for the period of time reasonably necessary for him or her to obtain treatment on his or her own behalf.” This decision clearly defends the “evolving standards of decency.”¹⁰

The Affordable Care Act (ACA) holds much promise to support people leaving prison and jail. Coverage under the ACA, particularly Medicaid expansion, provides opportunities to increase health coverage for this population, which would improve access to care, promote stability in people’s lives and reduce reincarceration rates.¹¹ These ACA benefits are now in question if the law is repealed and forthcoming changes restrict access to medical care.

Key elements of effective continuity of care

There is evidence, concern and promise about creating continuity of care (CoC) programs that increase the likelihood of post-release linkage and retention to care and treatment. Ultimately, the goal is to achieve and maintain HIV viral suppression with ART prior to release from custody and to continue suppression post-release over the long term. Researchers have identified key elements of effective CoC programs.

Bracken and colleagues conducted focus groups with recently incarcerated PLWH to understand the factors that facilitated linkage to and retention in HIV care following their release. Four main themes emerged—interpersonal relationships, professional relationships, coping strategies/resources and individual attitudes.¹²

Hammett and colleagues conceptualize a single system of correctional health, community HIV care and the necessary links between them.¹³ They interviewed correctional staff, community HIV care providers and other community service providers, as well as staff from state agencies. From these interviews, they made recommendations on key elements of a single system of care that ensures continuity of care.

These recommendations include:

- Hire healthcare providers who are affiliated with academic institutions or other entities independent of the corrections department.
- Develop a correctional medical organizational philosophy emphasizing a patient-centered, personal and holistic approach.
- Identify strong leadership with effective “champions.”
- Establish a team approach that includes coordination, collaboration and integration throughout the system; mutual respect and learning between corrections and health providers; staff dedicated to reentry services; and effective

communication and information sharing among providers.

- Provide comprehensive reentry supporting activities and services including HIV, mental health and substance use services inside prisons and jails; timely and comprehensive discharge planning with specific linkages and appointments made prior to release; supplies of medications on release; access to benefits and entitlements; and case management and proactive follow-up on missed appointments.

- Establish the commitment of clients to their own reentry plans.

Springer and colleagues identified five key factors to improve both individual and community health:¹⁴

- Adaptation of case management services to facilitate linkage to care.
- Continuity of anti-retroviral therapy (ART).
- Treatment of substance use disorders.
- Continuity of mental illness treatment.
- Reduction of HIV-associated risk-taking behaviors, all in the context of Maslow’s hierarchy.

Other models stress these five core elements and prioritize the competing priorities of housing and income, along with the utmost need of a government issued photo identification, which is necessary to obtain vital services.

We also can learn from our academic partners in criminology who study evidence-based practices. The Department of Justice (DOJ) developed The Roadmap to Reentry that identifies five evidence-based principles guiding federal efforts to improve correctional practices and programs for those being released from custody. This DOJ report states that “reentry begins on Day One. And, just as important, our involvement does not end at the prison gates.”¹⁵

Continuity of care models

Numerous CoC models are being implemented throughout the United States, many without published literature on their efforts or effects. Some have been adapted from research studies and others include local health departments or community agencies that are creatively implementing a “meet you at the gate” program. The following is a brief description of three CoC models, all of which have published results documenting their success.

The Transitional Care Coordination Program

The Transitional Care Coordination Program at New York City’s Riker’s Island jail is a HRSA Enhance Link program that aims to facilitate the linkage of PLWH to community-based care and treatment services after incarceration.^{16,17}

Its intervention activities include identifying and engaging PLWH during the jail stay, identifying the “right fit” for community resources, developing a client plan for during and after incarceration, and coordinating activities needed to facilitate linkage to care after incarceration.

These activities occur quickly because jail stays often are brief and the uncertainty around discharge dates presents

a shorter window of opportunity to reach people leaving jail settings. Care is coordinated among partners, with correctional health staff assigning clients and tracking outcomes. Community providers assist with care linkage and coordination post-release. A universal client interview tool is designed to facilitate the sharing of complete health information with receiving community partners. A mutual consent form further advances continuity of care.

Community Care Coordinators (CC) meet clients in the jail to begin planning for release. Once released, the CC provides transportation and accompanies clients to primary care providers as needed, providing a warm hand-off to facilitate continuity of care.

In an effort to reengage clients who do not make it to their initial primary care appointments, CCs reach out to clients directly, including home visits. The CCs provide a safety net and, together with providers, act as “surrogate family” to provide support and facilitate linkage to care. This approach has proven to advance program goals with documented linkage to care rates at over 70%, as well as 80% maintenance in care rates at 90 days after the first appointment is kept.

Project START+

Project START Plus (PS+) is an HIV/STI/hepatitis linkage to care and risk reduction program for PLWH who are returning to the community after incarceration. It is based on research conducted with the original Project START intervention.¹⁸

The program provides six one-on-one sessions with each participant to serve as a “bridge” to their return to the community.

Participants begin the program in the last two months of their incarceration and continue it in the community for three months. Two PS+ pre-release sessions focus on assessment and goal planning in four areas: 1) post-release linkage to HIV care; 2) broader reentry needs; 3) individualized HIV/STI/hepatitis risk behaviors; and 4) risk of reincarceration.

The four post-release sessions focus on supporting and confirming linkage to community HIV medical care, ensuring that medications are obtained by the participant in the community, providing ongoing facilitated referrals for other treatment and social service needs, reviewing and updating participant goal sheets, providing risk reduction materials and information (e.g., condoms, syringe cleaning supplies, syringe exchange referrals) as needed, and engaging participants in longer-term systems of care, medical homes, and other support.

Data collected at two organizations piloting PS+ demonstrated that 100% of participants had received their supply of medications upon release from custody, 75% received a

prescription for medication, 93% filled their prescriptions in the community, and 96% were linked to HIV care. At one site, 100% were reenrolled (or reinstated) into the federally funded AIDS Drug Assistance Program, 58% enrolled in Medicaid and 53% enrolled in insurance.¹⁹

Bronx Transitions Clinic

The Bronx Transitions Clinic (BTC) in New York City is an innovative model for primary care linking formerly incarcerated people with chronic health conditions to medical care within two weeks after release.

The BTC is a collaboration between Montefiore Medical Center, a Federally Qualified Health Center (FQHC), and the Osborne Association, a community-based organization serving people with criminal justice system involvement. The BTC provides a medical home with open access scheduling at the FQHC. It uses community health workers (CHW) who

In an effort to reengage clients who do not make it to their initial primary care appointments, community care coordinators reach out to clients directly, including home visits.



were formerly incarcerated themselves to provide patient navigation. Staffing is with clinicians experienced in caring for people with criminal justice involvement.

The intervention begins within correctional facilities, with health education and recruitment provided by the Osborne Association. After release, the CHW meets with new patients to complete clinic registration forms, apply for Medicaid, and help them access other social services. The CHW also calls patients with reminders about their appointments and provides transportation assistance. The clinical services available at the BTC include primary and HIV care, as well as substance use and mental health treatment.

The BTC is integrated into the FQHC's normal work flow and provides care two half-days per week with a voluntary physician. All other services offered at the FQHC, including social work, Medicaid enrollment, and pharmacy services, also are available to BTC patients.

An evaluation of the BTC documented results of the main goals of the program. Median time to initial medical visit

was 10 days. Retention was high after six months for PLWH (86%), but lower for people with opioid dependence (33%), hypertension (45%) and diabetes (43%). At six months, 54% of PLWH had a suppressed viral load.²⁰

What Successful CoC Models Have in Common

- Starting the intervention or program before release from custody, thereby developing a trusting and ongoing relationship between program staff and the client that continues post-release.
- Providing support and/or referrals to support services that address the competing priorities of housing, income, family reunification, obtaining government identification.
- Addressing conditions of probation and parole, and other basic needs within the context of the CoC program model.
- Providing linkages to comprehensive health care that includes ART and other HIV treatments.
- Treatment for other chronic health conditions, substance use and mental health disorders.
- Incorporating behavioral interventions that address medication adherence, sexual and drug-related risk reduction, and prevention of reincarceration.

As concluded by Springer,²¹ “Innovative solutions [to complex correctional and community health care problems] are urgently needed that involve partnerships between all existing stakeholders, including people who are incarcerated, the criminal justice system (law enforcement, the courts and the correctional setting) and communities to overcome existing impediments.”

Thus, collaboration between the criminal justice system and the community public health system is critical if effective linkage to care and continuity of care for persons with HIV post-incarceration is to be accomplished.

HIV

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Founded in 2008, The Bridging Group has provided training, technical assistance, and evaluation and research for governmental, non-governmental organizations and research/academic institutions working in correctional facilities and/or in community reentry in over 33 States and 14 countries.



BEYOND OUR BORDERS

Students look into the challenges of addressing HIV in prisons internationally

BY JOHN P. MAY, MD, AAHIVS, CCHP, AND
ANNE SPAULDING, MD, MPH, CCHP-P, FIDSA

Volunteer HIV care in Haiti

Health through Walls (HtW) has focused on HIV treatment for prisoners since its founding in 2001. Putting together the pieces of identifying and treating HIV infection for persons in prison is complex, particularly in low-income countries, but the process creates a health care system onto which all other health care can be built.

A nongovernmental organization begun by American correctional health volunteers, HtW has grown into an organization that employs more than 80 Haitians in roles ranging from physicians, nurses and laboratorians to health educators, data managers and administrators, while still seeking and benefiting from the contributions and expertise of volunteers and students.

Health through Walls began delivering its services in Prison Civile of Port-au-Prince, an overcrowded prison in the capital city, with a prisoner population of more than 4,500 in a space intended for 800. Over time, the organization extended its efforts to additional Haitian prisons, such as those in the cities of Les Cayes and Cap-Haitien, conducting more than 10,000 annual health screenings, including HIV testing.

In most cases, the HIV test is the first time the entrants have received such screening. Historically, many persons developed advanced HIV infection without any attention or care amid extremely harsh



About Health Through Walls

Health through Walls is a nonprofit organization whose mission is "to assist low-income countries in implementing sustainable improvements in the health care services of their prisons."¹

Dr. John May, a correctional health care physician in the United States, co-founded HtW in 2001, the year he began visiting Haiti's National Penitentiary in Port-au-Prince. Since then, HtW has expanded to provide services in the prisons of Jamaica, Dominican Republic, Democratic Republic of Congo, Tanzania, Malawi, Ghana and others.

A primary focus is the identification, prevention, and management of infectious disease, especially HIV/AIDS and tuberculosis. HtW "advocates for community responses and resources to address the health issues for prisoners that ultimately impact public health."¹

and unsanitary conditions, such as no running water or toilets, overheated and poorly ventilated cells and no space for beds or recreation.

Haiti has a high prevalence of infectious diseases. As with prisons throughout the world, infectious diseases are heavily concentrated in its prison populations.² For example, the prevalence of tuberculosis (TB) in the Prison Civile of Port-au-Prince was 1,540 per 100,000 in 2013 (D. Mercer, unpublished thesis, 2013), compared to 307 cases per 100,000³ in the Haitian general population. The close confinement of prisoners in places of confinement throughout the world makes TB an ever-present danger to incarcerated persons.

The prevalence of HIV in Haiti is estimated to be 2.0% [1.8%–2.1%]. Currently, HIV prevalence in the Haitian prisons is 6%, which fuels the incidence of TB. Failure to properly manage these conditions has obvious negative consequence for other prisoners, prison staff, visitors, and the community's health.



Training the next generation of healthcare providers

Commonly, national resources to address HIV and TB in the prisons of low-income countries such as Haiti are few. Health care needs in the communities are often immense, while the needs in the prisons can be overwhelming. In Haiti, the under-resourced health care staff hired by the government has welcomed international assistance from HtW. In turn, HtW has welcomed health care students and volunteers.

Since 2012, Emory University in Atlanta GA has sent seven students in medicine, nursing and public health to work on projects with HtW. Students also have come from NOVA Southeastern School of Osteopathic Medicine, Herbert Wertheim College of Medicine at Florida



International University, University of Notre Dame, Yale University School of Medicine, Harvard Law School, and the University of Miami. They work alongside participating Haitian nursing and dental school students. Together they learn, assist and quickly come to recognize the importance of appropriate HIV care to persons deprived of liberty.

Students have had the opportunity to work on a variety of projects.

Aiden Varan, now a second-year medical student in Melbourne, Australia, helped organize a tracking system for digital chest x-rays over spring break during his first year as a Master of Public Health (MPH) student at Rollins School of Public Health, Emory University.

Dr. Elisa Ignatius, now an assistant professor of global health at Rollins School of Public Health, conducted an evaluation of the TB program while she was a fourth-year medical student at Emory. A study to determine factors predicting TB in incarcerated individuals led to the development of MPH theses on two separate occasions.

This past summer, two MPH students, Emeli Anderson BS and Kari Hatfield RN, were placed with the organization for six weeks. Their primary goal was to update HtW's data management system to facilitate its ability to capture data on HIV.

These efforts have contributed to a system that as recently as 2009 had virtually no services for prisoners with HIV infection. Now, a formal program provides health screening, peer education, specialty care and treatment, and discharge planning for more than 1,000 prisoners with HIV and/or TB infection.

The work is supported through grants from USAID, the Gilead Foundation, the Elton John

AIDS Foundation, Armor Correctional Health Services and individual donors, in addition to local and international partners such as the AIDS Healthcare Foundation. Building on the success of this infectious disease treatment model, other treatment programs such as mental health, dental, and cervical cancer screening, led by Dr. Carol Ritter of Johns Hopkins University, have been implemented in this challenging environment.

Overall, persons in prisons in low-income countries remain a vulnerable population often with high prevalence of infectious disease. Implementing HIV and TB testing and treatment in the prison setting can succeed, but requires multidisciplinary efforts. The energy, creativity and commitment of students has helped at least one prison system, Haiti, be a place where those with HIV and TB now can receive appropriate care and treatment.

HIV

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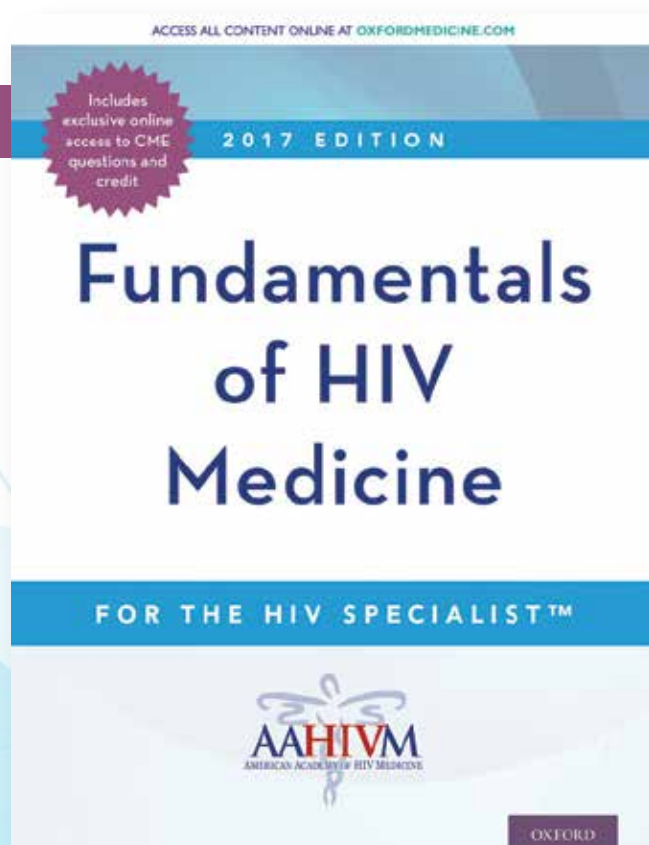


Anne Spaulding, MD, MPH, CCHP-P, FIDSA, obtained her MD from Medical College of Virginia and her MPH through Johns Hopkins.

She is board certified in internal medicine and infectious disease. She served as medical director for the RI Department of Corrections, a combined jail/prison, from 1996–2001. Currently, she is an associate professor of epidemiology in Emory's Rollins School of Public Health. Dr. Spaulding is experienced in conducting research and evaluations in criminal justice settings, especially in the areas of screening, treatment and prevention of HIV and hepatitis C. She has authored over 85 articles and letters.

Fundamentals of HIV Medicine

Editor in Chief **W. David Hardy, MD, AAHIVS**



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Changes in the 2017 Adult Immunization Schedule

CHANGES in the 2017 adult immunization schedule recommended by the Advisory Committee on Immunization Practices (ACIP) for the CDC were recently published.^{1,2} These updates were approved by the ACP, AAFP, ACOG, and ACNM. They include new or revised recommendations for influenza, human papillomavirus, hepatitis B, and meningococcal vaccines. Several of these changes that have relevance for HIV-positive persons are discussed below.

Influenza vaccination (1). Due to the low effectiveness of the live-attenuated influenza vaccine (LAIV) (Flu Mist®) against influenza A (H1N1) in the U.S during the 2013–2014 and 2015–2016 influenza seasons, the CDC recommends that LAIV NOT be used during the 2016–2017 influenza season. Of note, LAIV has not been routinely recommended for HIV-infected adults in the past due to a diminished immune response to this attenuated vaccine. Adults with a history of egg allergy who have only hives after exposure to eggs should receive age-appropriate inactivated influenza vaccine or recombinant vaccine.

Human papillomavirus vaccination—HPV (2). HPV vaccination is routinely recommended for girls and boys aged 9 through 12 years. All teenage boys and girls who did not get vaccinated should get HPV vaccine. Those who start the HPV vaccination series before age 15 years should receive only 2 doses of HPV vaccine. Young adults and adolescents who start the series at > age 15 should receive 3 doses of HPV vaccine. Changes in the immunization schedule for adults who did NOT complete the HPV vaccination series as adolescents are as follows:

- Women through age 26 years and men through age 21 years who have not received any HPV vaccine should receive 3-dose series at 0, 1–2, and 6 months.
- Men aged 22–26 years may be vaccinated with 3-doses of HPV vaccine at 0, 1–2, and 6 months
- Women through age 26 years and men through age 21 years (and men aged 22 through 26 years who may receive HPV) who initiated HPV vaccination series before age 15 years and received 2 doses at least 5 months apart

are considered adequately vaccinated. They do not need any additional doses of HPV vaccine.

- Women through age 26 years and men through age 21 who initiated the HPV vaccination series before age 15 years and received only 1 dose, or 2 doses less than 5 months apart, are NOT considered adequately vaccinated and should receive 1 additional dose of HPV vaccine.

Hepatitis B vaccination (3). The ACIP updated chronic liver disease conditions for which hepatitis B vaccine (Hep B) series is recommended. This change is described in the 2017 adult immunization schedule as follows:

- Adults with chronic liver disease, including, but not limited to, HCV infection, cirrhosis, fatty liver disease, alcoholic liver disease, autoimmune hepatitis, and an alanine aminotransferase (ALT) or aspartate aminotransferase (AST) level greater than twice the upper limit of normal should receive Hepatitis B vaccine series. This is typically given at 0, 1, and 6 months.

Meningococcal vaccination (4, 5). There are several changes in meningococcal vaccination recommendations for 2017.

- Adults with HIV infection should receive a 2-dose primary series of serogroups A, C, W, and Y meningococcal conjugate vaccine (MenACWY), with doses administered at least two month apart and be revaccinated every 5 years. Those who previously received 1 dose of MenACWY should receive a second dose at least 2 months after the first dose.
- Adults with HIV should not be given the MenB version of the vaccine because meningococcal disease in this population is caused primarily by serogroups C, W, and Y.

- Adults with anatomical or functional asplenia or persistent complement deficiencies should receive a 2-dose primary series of MenACWY, with doses administered at least 2 months apart, and be revaccinated every 5 years. They should also receive a series of MenB with either MenB-4C (2 doses administered at least 1 month apart) or MenB-FHbp (3 doses administered at 0, 1–2, and 6 months).
- The dosing guidance for one of the serogroup B meningococcal vaccines (MenB) (MenB-FHbp) has been changed. For adults at increased risk of meningococcal disease and during outbreaks, three doses of MenB-FHbp should be administered at 0, 1–2, and 6 months.

Readers are referred to the references below and chart on page 32 for additional recommendations regarding immunizations for adults with HIV infection.

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If you have this health condition,

talk to your healthcare professional about these vaccines

	Flu Influenza	Td/Tdap Tetanus, diphtheria, pertussis	Shingles Zoster	Pneumococcal		Meningococcal		MMR Measles, mumps, rubella	HPV <i>Human papillomavirus</i>		Chickenpox <i>Varicella</i>	Hepatitis A	Hepatitis B	Hib <i>Haemophilus influenzae</i> type b
				PCV13	PPSV23	MenACWY or MPSV4	MenB		for women	for men				
Pregnancy			SHOULD NOT GET VACCINE								SHOULD NOT GET VACCINE			
Weakened Immune System														
HIV: CD4 count less than 200								SHOULD NOT GET VACCINE						
HIV: CD4 count 200 or greater														
Kidney disease or poor kidney function														
Asplenia (if you do not have a spleen or if it does not work well)														
Heart disease														
Chronic lung disease														
Chronic alcoholism														
Diabetes (Type 1 or Type 2)														
Chronic Liver Disease														

More information:

You should get flu vaccine every year

You should get a Td booster every 10 years. You also need 1 dose of Tdap vaccine. Women should get Tdap vaccine during every pregnancy.

You should get shingles vaccine if you are age 60 years or older, even if you have had shingles before.

You should get 1 dose of PCV13 and at least 1 dose of PPSV23 depending on your age and health condition.

You should get HPV vaccine if you are a woman through age 26 years or a man through age 21 years and did not already complete the series.

You should get this vaccine if you did not get it when you were a child.

You should get Hib vaccine if you do not have a spleen, have sickle cell disease, or received a bone marrow transplant.

For more information, call
1-800-CDC-INFO (1-800-232-4636)
or visit www.cdc.gov/vaccines

Recommended For You: This vaccine is recommended for you unless your healthcare professional tells you that you do not need it or should not get it.

May Be Recommended For You: This vaccine is recommended for you if you have certain other risk factors due to your age, health conditions or other. Talk to your healthcare professional to see if you need this vaccine.

You Should Not Get This Vaccine



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New CME Program from CDC

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Positively Speaking: Talking About Safer Sexual Behaviors

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