HIV and Psychiatry: The 2016 Update

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Objectives

• Describe the basics of current HIV management
• Discuss the interaction between HIV/AIDS and psychiatric illness.
• Identify the role psychiatric providers have in the treatment and prevention of HIV
HIV: A Quick Review of the Basics

• The current HIV paradigm: “just another chronic disease”
• Essentially no impact on life expectancy in a significant subset of patients
• HIV transmission is behavior-based
• Tremendous progress has been made in HIV treatment, but neither a cure or a vaccine is practical (yet)
• Patients with HIV are just like you and me
HIV in the U.S.A.

- 1,200,000 HIV-infected
- ~50,000 new cases per year
- 12.8% remain undiagnosed (~156,300 individuals)
Percentages of Stage 3 (AIDS) Classifications among Adults and Adolescents with HIV Infection, by Transmission Category and Year of Diagnosis, 1985–2013—United States and 6 Dependent Areas

Note. All displayed data have been statistically adjusted to account for reporting delays and missing transmission category, but not for incomplete reporting.

- Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.
- Includes hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or not identified.
Diagnoses of HIV Infection among Adult and Adolescent Males, by Transmission Category, 2008–2011
United States and 6 Dependent Areas

![Graph showing diagnoses of HIV infection by transmission category from 2008 to 2011. The categories include male-to-male sexual contact, injection drug use, male-to-male sexual contact and injection drug use, heterosexual contact, other, and injection drug use.]

Note. Data include persons with a diagnosis of HIV infection regardless of stage of disease at diagnosis. All displayed data have been statistically adjusted to account for reporting delays and missing transmission category, but not for incomplete reporting.

*a Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.

*b Includes hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or identified.
Stage 3 (AIDS) Classifications among Adults and Adolescents with Diagnosed HIV Infection, by Race/Ethnicity, 1985–2013 United States and 6 Dependent Areas

Note. All displayed data have been statistically adjusted to account for reporting delays, but not for incomplete reporting.

- Hispanic/Latino\(^a\)
- Multiple races \(b\)
- Asian
- American Indian/Alaska Native
- Native Hawaiian/other Pacific Islander
Rates of Diagnoses of HIV Infection among Adults and Adolescents, by Sex and Race/Ethnicity, 2011—United States

Note: Data include persons with a diagnosis of HIV infection regardless of stage of disease at diagnosis. All displayed data have been statistically adjusted to account for reporting delays, but not for incomplete reporting. Rates are per 100,000 population.

* Hispanics/Latinos can be of any race.
Trends in the Percentage Distribution of Deaths due to HIV Infection by Sex, United States, 1987–2010

Note: For comparison with data for 1999 and later years, data for 1987–1998 were modified to account for ICD-10 rules instead of ICD-9 rules.
Rates of Diagnoses of HIV Infection among Adult and Adolescent Blacks/African Americans, 2014—United States

N = 19,433  Total Rate = 60.1

Note. Data include persons with a diagnosis of HIV infection regardless of stage of disease at diagnosis. All displayed data have been statistically adjusted to account for reporting delays, but not for incomplete reporting.
Survival after Classification of Stage 3 (AIDS) during 1998–2009, by Months Survived and Race/Ethnicity United States and 6 Dependent Areas

Note. Data exclude persons whose month of diagnosis or month of death is unknown.

a Includes Asian/Pacific Islander legacy cases.

b Hispanics/Latinos can be of any race.
South Dakota HIV Statistics Through 2014

- 761 cumulative HIV/AIDS cases since 1985
- 550 people living with HIV in SD
- 31 new cases in 2014; 19 males, 12 females
- African Americans comprise 23% of living cases, <1% of general population
- Native Americans: 16% of living cases, 9% of general population
South Dakota Residents Reported Infected with HIV/AIDS:
Cumulative Cases by County, 1985 - 2014
South Dakota Residents Infected by HIV, by Gender, 1985-2014

The diagram shows the number of cases reported of South Dakota residents infected by HIV, divided by gender from 1985 to 2014. The x-axis represents the years from 1985 to 2014, and the y-axis represents the number of cases reported. The data is color-coded by gender: HIV (female) in purple and HIV (male) in gray. The total number of cases, including AIDS, is also shown at the bottom of the chart.
South Dakota HIV as of 12-31-14

Exposure Category

- Heterosexual - 30%
- MSM - 35%
- Injection Drug Use - 15%
- MSM and IDU - 4%
- Perinatal/Peds - 2%
- Transfusion - 2%
- Unspecified - 8%
HIV Risk Behaviors

- Engaging in anal, oral or vaginal sex with MSM, multiple or anonymous partners
- Injecting drugs with a shared needle
- Having or being exposed to an STI
- Exchanging sex for drugs or money
- Having rec’d blood products ‘78 to ’85 in US
What Works for HIV Prevention?

- Treatment as prevention
- PrEP
- Male circumcision
- A functioning cerebrum
Treatment as Prevention

- HPTN 052 Trial
- 1,763 sero-disconcordant couples in 9 countries
- Compared early vs. late ART
- Early ART resulted in a 93% reduction in HIV transmission
Pre-Exposure Prophylaxis (PrEP)

- Tenofovir/emtracitabine (Truvada) approved by FDA in 2012 for PrEP
- Taken daily, not prn
- Intended for those with ongoing “substantial risk of HIV acquisition”
- Patient must be shown to be HIV negative and come for HIV testing every 3 months
Pre-Exposure Prophylaxis: The Evidence

• 44% reduction in HIV infections in MSM
• 67% reduction in heterosexual couples
• 90%-plus reduction in those who took their medication consistently
PrEP Candidates

• MSM in high risk settings
• Heterosexual patient with multiple partners who frequently comes in with a new STD
• Anyone whose sexual partner is HIV +
• IV drug users who share needles
Objectives

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Axis I Conditions Associated with HIV

- Delirium
- Minor Cognitive Motor Disorder
- HIV - Associated Dementia
- Major Depression
- Bipolar Disorder (including AIDS mania)
- Schizophrenia
- Substance Abuse/Dependence
- PTSD
Factors Associated with the High Prevalence of Neuropsychiatric Disorders in HIV

• Direct effects of the virus
• Preexisting psychiatric conditions
• Personality vulnerabilities
• Affective disorders
• Addictions
• Personal responses to the social isolation and disenfranchisement associated with the diagnosis of HIV
Hierarchy of HAND: (HIV-associated Neurocognitive Disorder)

- Asymptomatic Neurocognitive Impairment
  - 1 or more SD below the mean in 2 cognitive domains without symptoms

- Mild Neurocognitive Disorder
  - 1 or more SD below the mean with mild sx or functional impairment

- HIV-associated Dementia
  - 2 or more SD below mean with impairment
Risk Factors for HAND

• Increasing age
• Alcohol and substance abuse
• Viral co-infection: HIV2, HCV
• Nutritional Deficiencies
• Psychiatric comorbidities: stress, major depression
Risk Factors for HAND, Con’t.

- Nadir CD4 count
- Older age at sero-conversion
- Duration of immunosuppression
- ART only partially protective
CNS Penetration By ARV’s

- Zidovudine
- Stavudine
- Lamivudine
- Abacavir
- Nevirapine
- Indinavir
- Lopinavir/ritonavir

HIV update
Comorbid Depression

- Prevalence of major depression in HIV population: 15-40%
- Major depression increases risk of HIV
  - Intensification of substance abuse
  - Exacerbation of self-destructive behaviors
- Patients with major depression are at increased risk of HIV progression and death
Symptoms of Depression

- Sadness
- Low energy
- Anxiety
- Irritability
- Anhedonia
- Neurovegetative symptoms: disturbed sleep, appetite, concentration or memory
Medications that can Worsen Depression

- NNRTI’s
- Sulfonamides
- Muscle relaxants
- Anabolic steroids
- Corticosteroids
Post-traumatic Stress Disorder

- PTSD has a complex interaction with HIV
- PTSD from early trauma predisposes to HIV risk behaviors.
- PTSD often co-exists with depression and cocaine/opiate abuse
- Substance abuse may be:
  - A relief strategy for traumatic experiences
  - A lifestyle that increases exposure to trauma
Personality Disorder Prevalence

- General population: 10%
- At-risk population: 15-20%
- HIV-infected: 19-36%

(Most common is Antisocial Personality Disorder)
Introversion/Extroversion

• **Extroverts**
  – Present-oriented
  – Feelings-directed
  – Reward-seeking

• **Introverts**
  – Future and past-oriented
  – Cognition-directed
  – Consequence avoidant
How to Align with Unstable Extroverted Patients

• Describe behaviors in terms of rewards
• Appeal to the patient’s cognitive side when possible
• Describe the treatment plan clearly and with firm limits
Addiction and HIV

- Crack cocaine users are more likely to engage in prostitution
- Men on crack are more likely to engage in unprotected anal sex with casual partners
- Alcohol precipitates risky behaviors through cognitive impairment and disinhibition
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What do I really need to know?

• Be vigilant – HIV is here
• Some of your patients are involved in high-risk behaviors
• If you don’t ask, they won’t tell
• Who to test and how often
Revised Recommendations for HIV Testing of Adults, Adolescents, and Pregnant Women in Health-Care Settings

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One-time, Opt-out HIV Testing

- Recommended by CDC in 2006
- Endorsed by USPSTF in 2013 ("A" recommendation)
- AAFP came on board in 2013
Addressing Alzheimer's: A pragmatic approach
PAGE 10

Tuberculosis: Which drug regimen and when
PAGE 27

CASE REPORT
Hyperthyroidism • myalgia • progressive paralysis • Dx?
PAGE 40

PURLS®
Debunking a common Tx for a childhood deformity
PAGE 44

CLINICAL INQUIRIES
Do annual pelvic exams help these asymptomatic women?
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VERDICTS
Failure to biopsy mole: $750K
PAGE 57

PHOTO ROUNDS
PAGE 47

Hidden in plain sight
Cases that test our skills
PAGE 20
Hidden in Plain Sight

“The 3 patients described here illustrate a similar framing bias in that none of the physicians who cared for them in an outpatient setting perceived that their patient was at risk for HIV infection.”

- Jeffrey Kirchner, DO
FIGURE 1. Sex network of seven persons with HIV infection — Mississippi, 1999

HIV Positive
HIV Negative
Unknown
Sex Contact

Female
Male

Opt-Out Testing Caveat:

“One-time” applies only to patients with no identified ongoing risk.
The Aging of the HIV Epidemic

• People are living longer on treatment

• Middle-aged and older individuals are becoming infected with HIV.
  
  – Increased prevalence
    • In 2009 one-third of the adults living with HIV in the U.S. were over age 50.

  – Increased incidence
    • 21% of new domestic AIDS cases in 2007 were among those age 50 and over.
What do I need to know about HAART?

(Highly Active Anti-Retroviral Therapy)

• DRUG INTERACTIONS
• DRUG INTERACTIONS
• DRUG INTERACTIONS
• Be aware of side effects
What ARV medications are currently available?

- Nucleoside Reverse-Transcriptase Inhibitors
- Non-Nucleoside Reverse-Transcriptase Inhibitors
- Protease Inhibitors
- Fusion Inhibitors
- CCR5 Receptor Blockers
- Integrase Inhibitors
Drug Interaction Examples

- PPIs are okay with efavirenz, etravirine, and nevirapine, but NOT with rilpivirine.
- Protease inhibitors are okay with atorvastatin and rosuvastatin but NOT with simvastatin or lovastatin.
OCP’s and Atazanavir

• **Atazanavir/ritonavir:** Decreases ethinyl estradiol, increases norgestimate.
  – Need to use an OCP containing no less than 35 mcg ethinyl estradiol

• **Atazanavir alone:** Increases ethinyl estradiol 48% and increases norethindrone 110%.
  – Need to use an OCP containing no more than 30 mcg ethinyl estradiol.
Anti-Depressant/ARV Interactions

• Ritonavir and cobicistat increase TCA levels
• Ritonavir and cobicistat generally increase SSRI levels
• Ritonavir and cobicistat increase venlefaxine levels
• Fluoxetine may increase ARV levels
• Fluvoxamine increases ARV levels
• Nefazodone may mutually increase ARV levels
Drug Interactions: CYP3A4 Inhibitors

- Protease inhibitors (including ritonavir)
  - Darunavir (Prezista)
  - Atazanavir (Reyataz)
- Cobicistat (Tybost)
  - Stribild
  - Prezcobix
  - Evotaz
  - Genvoya
Other CYP3A4 Inhibitor Issues

- Pimozide (Orap): Contraindicated in patients taking ritonavir or cobicistat due to increased risk of arrhythmias
- Clozapine: Concurrent use of PI’s may increase clozapine levels
Quetiapine and ARV's

- Quetiapine is metabolized by CYP3A4
- Protease Inhibitors (especially ritonavir) are potent CYP3A4 inhibitors
- Cobicistat is also a potent CYP3A4 inhibitor (Stribild, Prezcoibrix, Evotaz, Tybost, Genvoya)
- Co-admin. with potent CYP3A4 inhibitors may increase quetiapine levels 6-fold
Drug Interactions Resources

1. Go to http://hivinsite.org
   Click on “ARV Drug Interaction Database”
2. Epocrates
3. www.hiv-druginteractions.org
4. University of Liverpool HIV iChart App
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Liverpool HIV iChart

Providing summary data of HIV drug interactions. Full details available at

www.hiv-druginteractions.org

Search for Drug Interactions

Sponsors   Privacy   Disclaimer
Adherence Issues

- The need for 95% adherence
- “The pills make me sick”
- Choice between ART and drug of choice
Non-Adherence Issues

• Some medications have street value
• Some people share their medications
• Nearly everyone struggles with med adherence in some fashion
• Taking meds raises questions
Denial

- To the point of avoiding care
- “I would rather die than take pills”
- “The pills remind me that I’m sick”
- “I don’t think I really have it”
- “I saw a doctor in California who cured me”
Denial Variants

• “I’m cured”
• “I would be cured if you would just give me the right medicine”
• “I have a curse that only makes it LOOK like I have HIV”
• “God told me I don’t have HIV any more”
Side Effects of ARV’s

- Efavirenz (Sustiva, component of Atripla): vivid and abnormal dreams, hallucinations, severe depression, psychiatric disorders
- Etravirine (Edurant): depression, insomnia
- Rilpivirine (Component of Complera and Odefsey): depression, insomnia
Antipsychotic Medications

• Increased incidence of extra-pyramidal side effects in this population

• May be due to underlying neuronal damage in the basal ganglia
HIV Medication: Transitions are Critical

- From home to hospital
- From hospital to hospital
- From hospital to home

COMMUNICATION IS KEY!
Key Roles of Psych Providers

• Helping patients maintain good mental health
• Keeping HIV patients consistently on their prescribed meds
• Understanding and either avoiding or utilizing key drug interactions
  – Do an interaction check **every** new med
• Communicating with Care Team members