Mental Health & Infectious Disease: Management of Co-occurring HIV/AIDS

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15 August 2016
High Rates of Morbidity & Mortality Among People with Mental Illness

**Mortality** – On average, people with SMI die **25 years** earlier than the general population and this excess mortality has increased in recent years

- While suicide and injury account for 30-40% of these deaths, **60% are due to preventable and treatable** medical conditions such as cardiovascular disease, diabetes, and high blood pressure.

**Morbidity** – more progressed illnesses among those with mental health disorders than GP
Obstacles attributed to four major factors:

1. **Person factors** e.g., low motivation for treatment, fearfulness, poor education and knowledge about physical health, unemployment, and incarceration.

2. **Clinical factors** e.g., association of psychotropic medication use with poor medical outcomes due to side-effects.

3. **Provider factors** e.g., health care professionals’ discomfort with patients with SMI, poor coordination with MH providers, and stigma.

4. **System factors** e.g., continued bifurcation of health and mental health systems, cumbersome funding policies, and system fragmentation.

Cook, Razzano et al. (2010).
Some conclusions . . .

- Series of health conditions that differentially affect physical health of people in recovery – HIV among them
- Some are basic health risks related to all, including general population
- Others are related to aspects of mental health treatment itself (e.g., diabetes), as well as lifestyle factors (e.g., substance use)
- Increased awareness of unique impact of certain diagnoses, e.g., depression, schizophrenia, on physical health, emergence of other subgroup issues
What are some of the factors in relationship between mental health and HIV/AIDS?

• Specific mental health symptoms affect participation in high risk behaviors;
• Among those with living with co-occurring mental illnesses and HIV, symptoms of HIV-illness progression often are “masked” as reoccurrence of mental health concerns;
• Overlap of symptoms that occur in both health conditions; &
• Untreated mental health symptoms directly relate to morbidity and mortality among people with HIV/AIDS, particularly depression, anxiety.
Impact of HIV among Clients with Mental Health Issues & Disorders

- **Poverty & Unstable Housing**
  - higher rates of homelessness
  - lack of control over where/when have sex; trade sex for money, other resources

- **Previous Trauma & Abuse**
  - as high as 50% in some mental health service settings; strongly correlated with HIV risk, HIV infection

- **Substance Use**
  - nearly twice rate of general population (14% vs. 28%)
  - Can vary by Dx, as well as “drugs of choice”
…”the many functions of substance use…”

....continue....

• social acceptance of alcohol or drug use
• increase self-esteem
• increase pleasure
• reduce boredom
• relax in social situations
• simply to get high

= Opportunities for direct exposure
= Increased contact with high risk partners
What needs to be done?

It’s not rocket science . . . .
What needs to be done?

- Address **stigma** surrounding HIV prevention in mental health centers
  - consumers’ sexuality, regardless of orientation, types of sexual practices, integrated substance abuse treatment including harm reduction
- Develop Behavioral/Social Skills for Risk Reduction
- Implement HIV Education/Prevention Programs, including peers
- Conduct Regular, **Ongoing** HIV Risk Assessments
- Integrate HIV testing into mental health clinics, IHCs
- Coordinate services for those already living with HIV with other provider systems
Sexuality Education is lacking among people in receiving mental health services.

1. Recognition and reduction of high risk behaviors;
2. Education regarding their health and necessity of taking responsibility for its management; and
3. Provision of opportunities for positive community activities (educational, vocational, and recreational) and relationships to foster stability and recovery.

It is essential to educate people about the BEHAVIORS that play a role in HIV risk using consistent, repeated, fact-based materials.
Barriers to personalized risk awareness

• Difficulty understanding or processing technical information
• Symptoms may make it difficult to concentrate, retain/organize information
• Potential for loose associations
• delusions of invulnerability
• material can be technical and complex
• difficult to understand relevance of long-term consequences

Why do we encounter these obstacles in this vulnerable population?
Promote Engagement

• Assist people to understand their own personal risk behaviors based on what actual activities, not checklists of potential risks

• Essential to promote education during times of wellness
  • go slowly
  • repetition and persistence
  • simplify information and present in small chunks
  • raise or lower expectations depending on degree of impairment
Challenges for MH Staff & Other Providers

• Attitudes/Stigma
  • Consumers don’t have sex
  • Consumers can’t/don’t get better

• Symptoms
  • Empathy may be difficult to maintain
    • blunted affect, inappropriate laughing
  • Some non-verbal cues lacking or inaccurate
  • Sexual behaviors reflect symptomatology
Challenges for MH Staff & Providers

• Comfort level in discussing sexual issues
  • Generally, MH staff not trained to discuss sex in graphic terms
  • Feelings of discomfort, embarrassment
  • May have personal judgements about different sexual behaviors/orientations
• Concern that discussions may overstimulate consumers
• Transference, Countertransference
• Limited time and staff to address HIV/AIDS education
Service Consideration for Mental Health Symptoms

- Conduct regular screening and assessment for mental health symptomatology, especially depression and anxiety
  - CES-D, Beck, DASS-21
- Include behavioral interventions (e.g., individual/group therapy) along with all pharmacological treatments
- Incorporate peer-led components
Overlapping Physical Symptoms: Depression & HIV/AIDS

- Persistent sad, anxious, guilt, or "empty" mood
- Hopelessness, pessimism, worthlessness, helplessness
- Loss of interest/pleasure in hobbies & activities once enjoyed, including sex
- Persistent physical symptoms unresponsive to treatment (e.g., chronic pain, headaches, digestive disorders)
- Decreased energy, fatigue, being "slowed down"
- Difficulty concentrating, remembering, making decisions
- Insomnia, early-morning awakening, oversleeping
- Weight loss; weight gain; overeating
- Restlessness, irritability
- Thoughts of death or suicide; suicide attempts
Critical to assess and address other neuropsychiatric

- **Dementias** (constellation of executive function symptoms & effects)
- **Motor/Neurocognitive Disorders (MNCDs)** (Parkinsonian-like symptoms, tremors)
- **Mylopathies** (attacks covering of nerve cells - initial)
- **Neuropathies** (attacks actual nerve cells – advancing)
Collateral Neuropsychiatric Effects

- **Toxoplasmosis** – single-celled parasitic brain infection
- **Cryptococcal meningitis** - a brain infection caused by a fungus - *cryptococcus neoformans*
- **Progressive Multifocal Leukoencephalopathy (PML)** - a common human polyomavirus in the brain
- **Lymphomas** - high grade B cell lymphomas, though low grade and T cell lymphomas do occur; bone marrow, **CNS**
PML “Masking” Symptoms

• 10% of patients with acquired immune deficiency syndrome (AIDS) may have PML.

• Demyelination (destruction) of the myelin sheath covering nerve cells. Myelin is the fatty covering - acts as an insulator on nerve fibers in the body (oligodendroglia in brain).

• Symptoms include mental deterioration, vision loss, speech disturbances, ataxia (inability to coordinate movements), paralysis, and, ultimately, coma reflecting the multifocal distribution of brain lesions.

• In some cases, seizures may occur
EBM: Polypharmacology

• Find and partner with HIV-informed psychiatrists
• Significant interactions – e.g., non-SSRI agents & regimens containing Norvir (ritonavir); used with caution in patients on Norvir-boosted PIs or Kaletra.
• St. John's wort while shown to be effective for mild depression, negatively interacts with indinavir (Crixivan), making regimens containing indinavir less effective.
# Common Medication Contraindications

<table>
<thead>
<tr>
<th>HIV Class</th>
<th>Psychotropic Class</th>
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<td><strong>NRTIs</strong> - Retrovir, Combivir, Truvda, Others</td>
<td>Depakote, Dilantin</td>
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<td><strong>NNRTIs</strong> - Sustiva, Viramune, Others</td>
<td>Xanax, St. John’s Wort, carbamazepine (Tegretol), Trazodone, Dilatin, Midazolam</td>
</tr>
<tr>
<td><strong>PIs</strong> - Crixivan, Invirase, Kaletra, Norvir, Viracept, Others</td>
<td>Migraine tx, carbamazepine, Dilantin, Midazolam, <strong>Paxil</strong>, St. John’s Wort, Trazodone, <strong>Zoloft</strong></td>
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Model Programs @ UIC

Medication Adherence Program Services 1 & 2

• Coordinating activities in concert with existing treatment, focus on known risks for those with mental health issues
• Selected strategies & activities with greatest relevance to people in recovery
• Tailoring existing information to extend to unique risks for consumers
• Multiple perspectives to promote diversity, gender-related concerns
Health Beliefs Model

Five Major Areas:

1. perceived susceptibility: Can I get HIV?
2. perceived severity: How bad is it if I get HIV?
3. perceived benefits of taking action: I want to live!...
4. perceived barriers to taking action: I want to get high! ....!
5. identification of cues to action: Identify concrete situations & behaviors

Impact of self-efficacy → confidence in the ability to successfully perform an action – address challenges of habitual unhealthy behaviors, such as being sedentary, smoking, or overeating
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<td>Identify and reduce barriers through reassurance, incentives, assistance</td>
<td>Reducing medication interactions; identifying early symptoms, side effects</td>
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<td>Cues to Action</td>
<td>Provide how-to information, promote awareness, reminders</td>
<td>CD4, vRNA monitoring; conversations with multiple treating docs</td>
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<td>Self-Efficacy</td>
<td>Provide training, guidance in performing action</td>
<td>Development of regimen dosing plans; health testing routines</td>
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MAPS Intervention

• **CORE STRUCTURE: One-to-one meetings:** Weekly individual meetings with medication specialists (M-Ss) over three months, for a total of 12 meetings. Curricular structure with flexibility to address individual needs. Incorporating portable devices – podcasts on special topics like depression

• **Individual Medication Adherence Plans (I-MAPs):** Participants’ medication regimens are reviewed and Individual Medication Adherence Plans (I-MAPs) are completed
  - I-MAP outlines all medications prescribed, their purposes, dosage schedule, potential side-effects, strategies to address side-effects, and reminders the participant utilizes (or could) to promote adherence. Written with person to promote relevance.
  - Participants receive their I-MAPs; serves as a guide/reference for participant and the M-Ss, ensuring that changes to the regimen or other relevant issues can be fully documented or discussed.

• **Personalized Medication Education:** All participants receive personalized medication education tailored to address the unique features of their individual medication regimens.

  Razzano et al. UIC MAPS Program.
MAPS Session #1: Overview & Introduction

Discuss meeting format, determine scheduling preferences; confirm contact information; begin discussing strengths & barriers to adherence

Materials Needed

• Understanding My Medications” module handout “A Look at Common HIV Treatment Terms”

Razzano et al. UIC MAPS Program.
MAPS Session #2: Introduction to MAPS: Completion of Individual Medication Adherence Plan (I-MAP); ask 3 anchor questions and discuss;

Materials Needed

- I-MAP
- Handout “A Look at the Solutions of Medication Management” – discuss which strategies might be useful to this individual, brainstorm others
- I-MAP Daily Schedule tools – begin working on these
3 MAPS Anchor Questions

Questions used as starting structure for every session.

1. How many doses did you miss?
2. Have you had any doctor’s appointments since I last saw you? How did it go? What happened?
3. When is your next doctor’s appointment? What things do you want to prioritize for that visit?
MAPS Session #3: Start with 3 anchor questions; Return personalized I-MAP; watch medication adherence DVD and discuss with participant

Materials Needed

- Personalized and completed I-MAP
- DVD of HIV Treatment Issues
- . . . . . through Session #12
**UIC MAPS Tool:**
**Individual Medication Adherence Plan (I-MAP)**

<table>
<thead>
<tr>
<th>Medication</th>
<th>Start/End</th>
<th>Dosage</th>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand X</td>
<td><strong>/</strong>/__</td>
<td>___ per day</td>
<td>___ mouth ___ other</td>
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<td></td>
<td><strong>/</strong>/__</td>
<td>___ mg</td>
<td>___ food ___ no food</td>
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**Example: Completed I-MAP Fields**

<table>
<thead>
<tr>
<th>Medication</th>
<th>Start/End</th>
<th>Dosage</th>
<th>Administration</th>
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<tbody>
<tr>
<td>Truvada</td>
<td>4/11/2009 present</td>
<td><em>1</em> per day</td>
<td>X mouth ___ other</td>
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<td></td>
<td></td>
<td>200 mg</td>
<td>X food ___ no food</td>
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<tr>
<td>Norvir</td>
<td>4/11/2009 present</td>
<td><em>1</em> per day</td>
<td>X mouth ___ other</td>
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<td></td>
<td></td>
<td>100 mg</td>
<td>X food ___ no food</td>
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<tr>
<td>Reyataz</td>
<td>4/11/2009 present</td>
<td><em>1</em> per day</td>
<td>X mouth ___ other</td>
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<td></td>
<td></td>
<td>300 mg</td>
<td>X food ___ no food</td>
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<tr>
<td>Seroquel</td>
<td>4/11/2009 present</td>
<td><em>1</em> per day</td>
<td>X mouth ___ other</td>
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<td></td>
<td></td>
<td>25 mg</td>
<td>X food ___ no food</td>
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<tr>
<td>My Medication(s)</td>
<td>Common Side Effects</td>
<td>Risks to discuss with my provider</td>
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<td>Helps to:</td>
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<td>Dosage</td>
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<tr>
<td>morning afternoon evening</td>
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**Example: 2 Completed Fields from My I-MAP**

**Truvada**
- Helps to: **reduce HIV virus**
- Dosage: **1 time/day**
- morning afternoon x evening

- Diarrhea, Nausea, Fatigue, **Headaches**, Dizziness, Insomnia, Rashes, Depression, Abnormal dreams
- Weakness in arms/legs
- Yellowing of skin/eyes
- Upper stomach pain, Shortness of breath
- Frequent vomiting

**Seroquel**
- Helps to: **elevate mood**
- Dosage: **1 time/day**
- morning afternoon x evening

- Constipation, dizziness, drowsiness, dry mouth, increased appetite, weight gain, nausea
- Slowed breathing
- Feeling faint, dizziness, confusion
<table>
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<tr>
<th>CD4 Result</th>
<th>Test Dates</th>
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Value
## UIC MAPS Tool: Keeping Track of My Blood Tests: CD4 Count

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| Value | 300 | 300 | 375 | 445 | 410 |

*Graph shows the trend of CD4 counts over time.*
UIC MAPS Tool: Keeping Track of My Blood Tests: CD4 Count

Same tracking procedures for:

• Viral Load

• **Other relevant blood work:**
  • Creatin (Renal/Kidney Function)
  • Liver Function
  • Glucose A1c
  • Others?
MAPS-1 Findings

Sample published in literature; no unexpected findings based on intervention assignment.

- Results examine baseline (T1) and 6-mo follow up (T2) data
- Intervention group (MAPS) demonstrated stronger improvement in adherence in contrast to comparison group (CG), $p < .02$.  
- **Impact: FEWER MISSED DOSAGES** Missed dosages decreased by 59% among MAPS vs. 26% among CG ($+33\% \text{ MAPS vs. CG}$).
MAPS-1 Findings

• The MAPS participants reported significant improvements in physical HIV/AIDS symptoms compared to the CG, p< .01

• Impact: FEWER HIV SYMPTOMS
  Impairment related to HIV/AIDS symptoms* decreased by as much as 50% for MAPS compared to 28% in CG. (+22% MAPS vs. CG)

Health Symptoms =
positive correlate with adherence
MAPS-1 Findings

• Analysis of indicators for alcohol and recreational drug use revealed significant reductions in use of all substances by condition, p< .03

• Impact: LESS SUBSTANCE USE
On average, MAPS participants demonstrated a 70% decrease in use of alcohol and other drugs compared to a 36% decrease in the CG (+34% MAPS vs. GC).
MAPS-1 Findings

- Perceptions of health and well-being (MOS-HIV) also revealed significant differences in average change for 3 subscales:
  - physical functioning, p < .04
  - social functioning, p < .03; and
  - health distress, p < .03.

- **Impact: IMPROVED HEALTH BELIEFS**
  MAPS participants demonstrated significantly more positive health perceptions than CG.
Results from UIC RCT Study of MAPS-2: Peer-led MAPS Intervention

- Percent of pills taken as prescribed over 7 days was an HIV medication adherence indicator
  - There was a significant (p=0.01) INCREASE in percent of pills properly dosed over time
- The mean difference in percent of pills dosed as directed was:
  - +9% increase baseline to post (82% pre/91% post)

Results from Chicago House PASHN Program*: Peer-Operated MAPS-2 Intervention

- Percent of pills missed in the last 7 days was an HIV medication adherence indicator
  - There was a significant (p=0.002) *improvement* in percent of *pills missed* over time
- The mean difference in percent of pills missed after controlling for confounders was:
  - -6.79% from baseline to post (p=0.032) &
  - -10.48% from baseline to follow-up (p=0.002).

Clinical Services & Ongoing Treatment

Must promote hybrid models of treatment for co-occurring disorders. These are established evidence-based practices as recommended in *Report of the New Freedom Mental Health Commission:*

**Integrated Treatment**

*Integrated Treatment* involves a blending of philosophies, with flexibility regarding treatment approach and goals of treatment; emphasizes importance of harm reduction among those with co-occurring disorders.
Other Critical Services Components

• On-site collaboration with other institutional and community services providers, such as the addition of HIV medical case managers to mental health services staff/teams, integration of HIV/AIDS case management within psychosocial rehabilitation/recovery models

• Identify and support adherence education and maintenance programs for different clientele based on unique needs & progression of mental & neurological illnesses

• Development of HIV/AIDS-related prevention and treatment services specifically designed for clients who are identified within the MISA category to extend/adapt integrated treatment models.
Improving Comprehensive & Recovery-Focused Care

• Increase public awareness of effective treatments
• Overall quality of life improves tremendously when a co-occurring physical illnesses are diagnosed early, treated appropriately
• Impact of mental health parity alone may not result in better physical health care
• Ground services & interventions in theory
• Promote harm reduction
• Community-based approaches
• Culturally competent physicians
• Reduce financial barriers to treatment
• Tailor treatments to age, gender, race & culture
Create Staff Support, Networks

- Engage in on-going training about HIV/AIDS, factors related to mental health, strategies for service provision
- Encourage & support for staff from each other and within organization
- On-going support of colleagues, supervision
  - deal with feelings of grief, loss, frustration, anger, helplessness
  - place to talk about difficulties, concerns
THE CASE OF HARRY

• Harry is a 39 year old individual in recovery. When he was 23, he received a diagnosis of schizophrenia. Harry has had 18 psychiatric hospitalizations since the age of 23; most of these hospitalizations occurred when Harry stopped taking medications he was using for his symptoms.

• Currently, Harry lives in an apartment in a community integrated Group Home, with seven other individuals in recovery. He shares an apartment with one other male resident, and he reports that he has frequent sexual encounters with two women he knows, one is a fellow resident living in the same agency building. Harry’s brother calls about once a month, but rarely makes in-person visits, typically around the holidays; otherwise Harry has no other family contact. He attends community-based mental health services on a regular basis. Harry’s medications include Risperdal, Klonopin, Haldol and Cogentin.
THE CASE OF HARRY

- In the past 3 months, Harry has been arrested twice for disorderly conduct after drinking at a neighborhood bar. On one of these occasions, he was found unconscious in the street outside the bar. When staff at the community mental health program and Group Home talked with Harry on the risks of drinking alcohol while taking medications, Harry became agitated and told them to “mind their own business.”

- Recently, staff at the residence also have noticed the odor of marijuana on Harry’s clothing when he returns home. Harry confided to one staff that his medications are poison and that marijuana is the only thing that really makes him feel better. He says smoking pot helps him sleep better and “the voices don’t bother me as much when I’m high. Things are better with girls too, I feel more comfortable with them after we’ve smoked a joint together.”
THE CASE OF HARRY

• The group home staff discussed with Harry the fact that his use of alcohol and drugs will exacerbate the symptoms of his mental illness as well as affect his risk for HIV and other sexually transmitted infections if he is having unprotected sex.

Harry reports that his main goal is to find a job that will provide him with more resources so that one day, he might live on his own.

What might you and your team do to help Harry achieve this goal?
Questions for Harry

1. What are issues from Harry’s point of view?
2. How do you see the issues in this case?
3. What resources and/or interventions would be appropriate at this time?
4. What obstacles or needs can be expected in the future?
5. Consider if there are any legal or ethical issues in this case?
6. How would the client’s cultural background, if you knew it, affect this case?
7. What are the needs of other family members?
8. What reactions might providers experience about this particular client?
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<td>Provide how-to information, promote awareness, reminders</td>
<td>CD4, vRNA monitoring; conversations with multiple treating docs</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>Provide training, guidance in performing action</td>
<td>Development of regimen dosing plans; health testing routines</td>
</tr>
</tbody>
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