

HIV Resistance: The Intersection of HIV Treatment and Prevention

June 3, 2010

PEER Center
Peer Education & Evaluation Resource Center

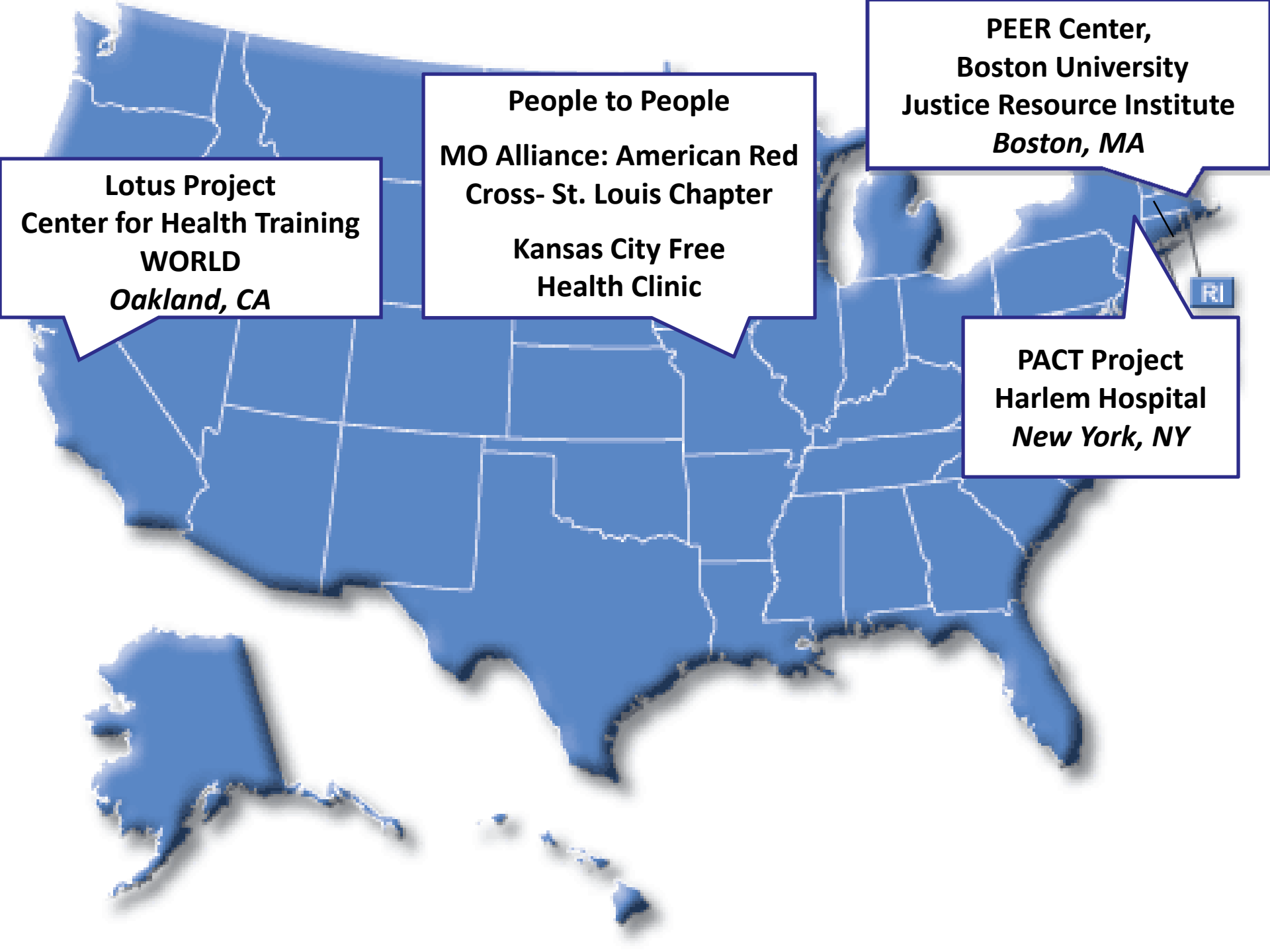


Boston University School of Public Health



Minority AIDS Initiative/HRSA

- To improve HIV-related health outcomes for communities of color and reduce health disparities through HIV peer education by:
 - Training HIV peer educators on HIV care, treatment and support
 - Replicating successful peer education programs through training of trainers
 - Building organizational capacity to start new peer programs or enhance existing ones



Lotus Project
Center for Health Training
WORLD
Oakland, CA

People to People
MO Alliance: American Red
Cross- St. Louis Chapter

Kansas City Free
Health Clinic

PEER Center,
Boston University
Justice Resource Institute
Boston, MA

PACT Project
Harlem Hospital
New York, NY

RI

Objectives

- Provide an overview of HIV resistance to antiretrovirals and its relationship to medication adherence.
- Examine the relationship between resistance and transmission
- Identify key factors affecting individuals' ability to adhere to medication regimens
- Discuss effective strategies for optimal treatment adherence

Presenters



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JRI Health, Center for Training and Professional Development



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Pharmacy Practice Residency Director & HIV Clinical Specialist
Kansas City Free Health Clinic &
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John Ruiz, PLWHA

JRI Health, Peer Support Program

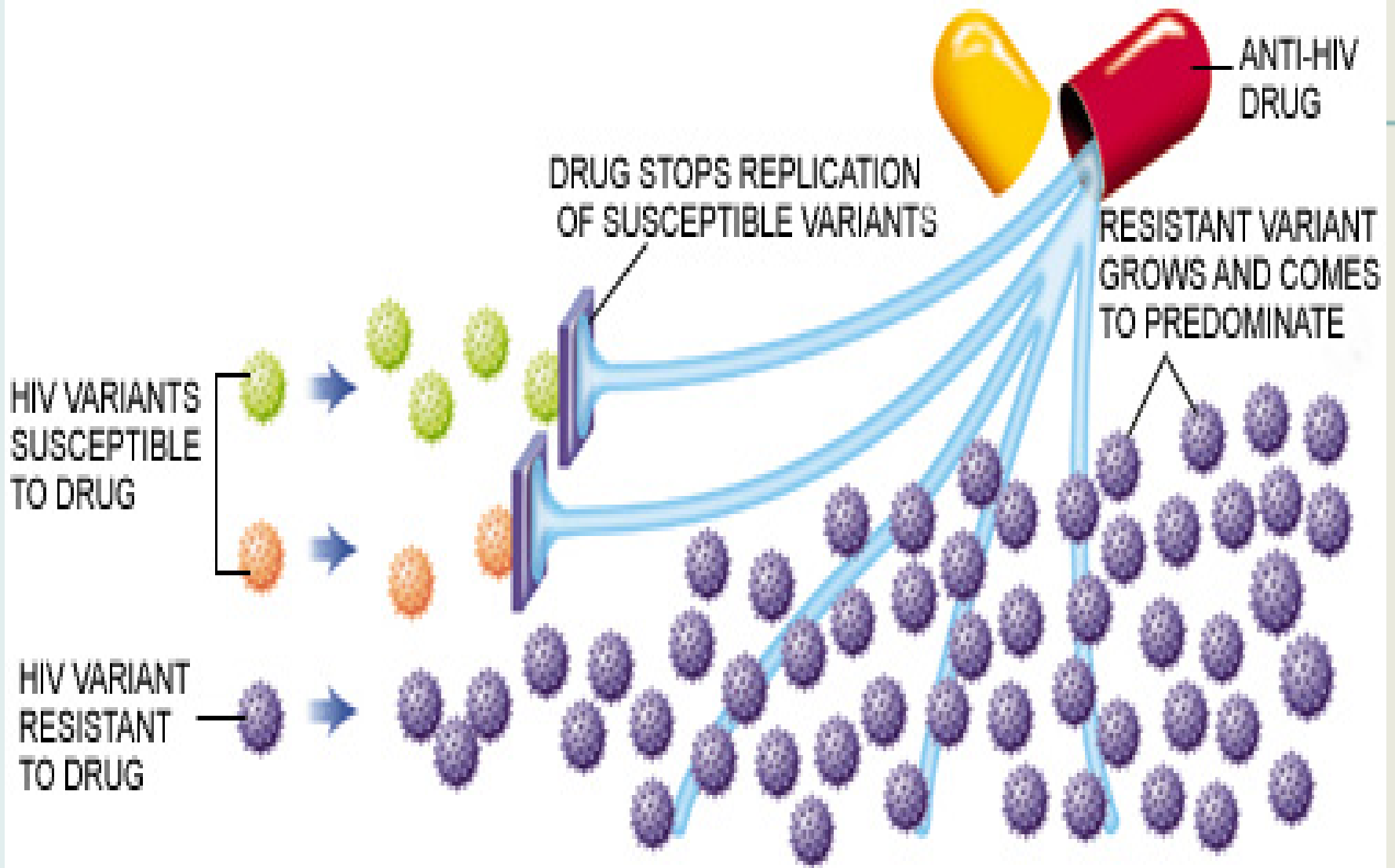
Why choose this topic?

Question: Resistance

How would you define resistance and its effects?

HIV Resistance 101

- **HIV infection is heterozygous**
 - “Wild type” virus is most efficient at replicating
- **HIV is ever-evolving**
 - Only a matter of time until it figures out how to “work around” medication



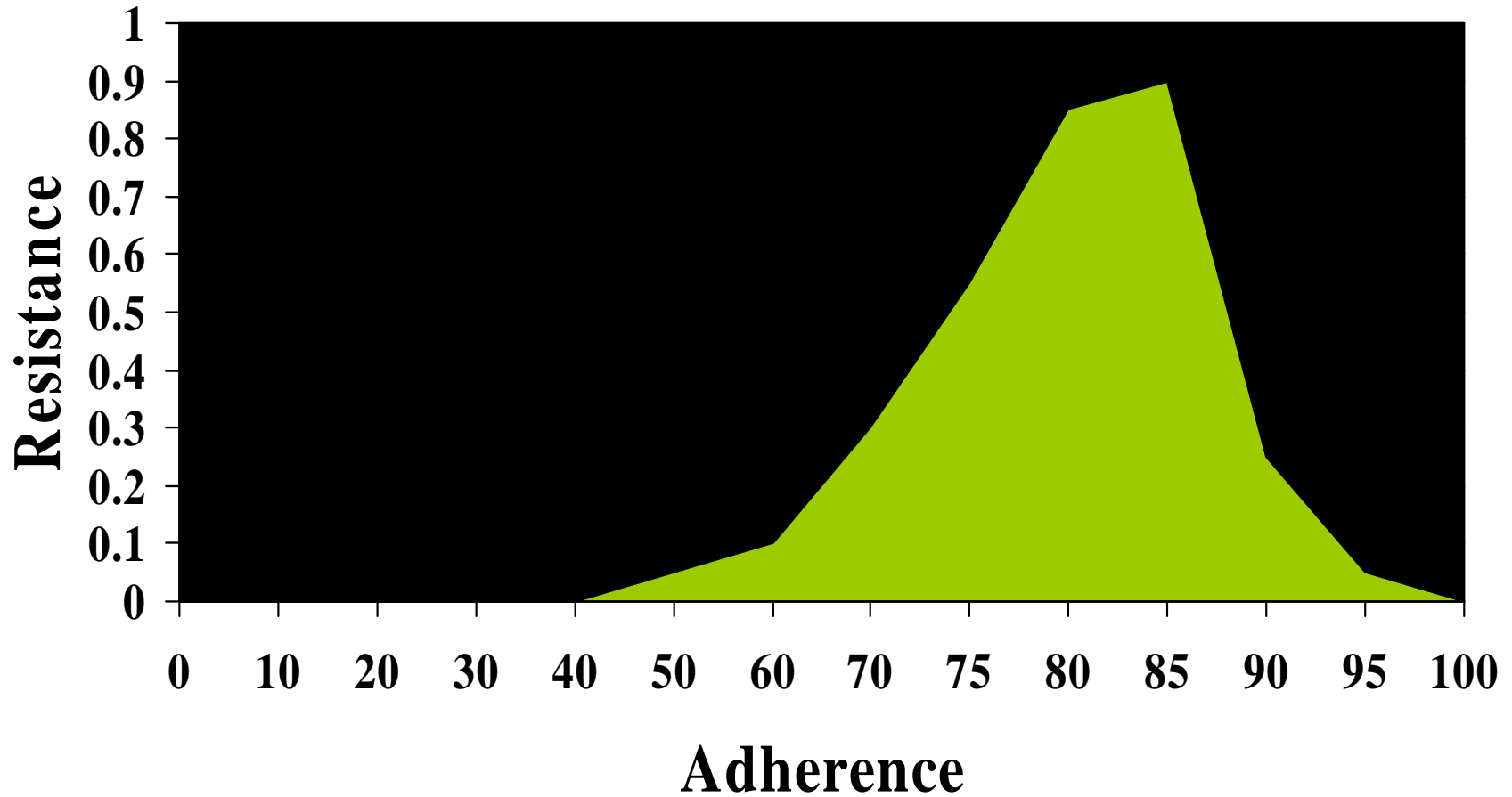
Resistance Issues

- Resistance tests are effective tools for spotting HIV mutations.
- Much still to learn about how HIV mutations occur and the effect they have on each different HIV medication.
- Resistance to one drug may result in resistance to other drugs of the same class, called cross-resistance. This is particularly true about NNRTIs.

Question: Adherence and Resistance

What is the relationship between adherence and resistance?

Relationship Between Adherence & Resistance



Question: Adherence as HIV Prevention

What is the role of adherence in preventing new HIV infections?

Resistance and HIV Transmission

- Poor adherence can lead to increased viral load and a higher level of infectiousness in the individual, thereby increasing the risk of HIV transmission with resistant virus.
- Greater risk of passing resistant virus could limit treatment options for newly infected individuals.
- Some evidence that re-infection with a resistant virus may occur, rendering current regimen ineffective.
- Higher viral load count may increase risk for the HIV-positive person of acquiring sexually transmitted diseases and hepatitis

Question: Adherence vs. Compliance

How do you define adherence and what is the difference between adherence and compliance?

Adherence vs. Compliance

- **Adherence:** The patient's ability to follow a therapeutic care plan that is based on an interactive, collaborative relationship between pharmacist/medical provider and patient.
- **Compliance:** The patient's obedience to a pharmacist-developed therapeutic care plan.

Question: Adherence and Treatment

Why is adherence to HIV medications so important?

Adherence & Disease Progression

- Non-adherent patients have higher mortality rates than adherent patients with similar CD4 counts¹
- Structured adherence support is associated with improved long-term medication adherence²

1 Wood E et al. *Annals of Internal Medicine* 18 Nov 2003;139(10): 810-817

2 Mannheimer S et al. *JAIDS* 1 Dec 2006;43(s1): 541-7

Principles of HAART

- HIV virus has 1 goal:

REPLICATION

- Triple-drug therapy (HAART)
 - “Attack” virus in several *different* ways
 - Slow down viral replication
 - Allow immune system to ‘recover’

Goals of Therapy

- Suppress HIV VL to <50 copies/mL ('undetectable') for as long as possible
- Preserve future therapeutic options
- Restore immune function

Question: Weighing your Options

What are the pros/cons of taking medications?

Advantages of HAART

- Decreases viral load to undetectable level and slows disease progression
- Undetectable viral load lowers infectiousness of the HIV-positive individual, reducing risk of HIV transmission

Disadvantages of HAART

- Drugs may be toxic
- Frequent side effects
- Complexity of some dosing regimens
- Impact of adherence on viral resistance/treatment failure
- Cost of medications/ability to pay

Question: Psychological Perspective

What is the emotional/psychological aspect of taking medications?

Question: What Non-Adherence Looks Like

What can you share about why clients/patients don't adhere to medication and what that might look like?

What May Get in the Way

- ▶ Break in daily routine; some people are able to adhere to their regimen during weekdays but may forget on weekends or when daily routine is disrupted.
- ▶ Constantly changing schedules.
- ▶ Moving in and out of different time zones related to a person's job.
- ▶ Caring for children, parents or other loved ones.
- ▶ Forgetting to set timers
- ▶ Homelessness
- ▶ Mental illness
- ▶ Hospital stays
- ▶ Drinking alcohol or using recreational drugs
- ▶ Over-sleeping

What May Get in the Way

- ▶ Misconceptions - not knowing how the medications work
- ▶ Vacations: getting insurance waivers for unscheduled refills
- ▶ Not refilling on time
- ▶ Side effects/toxicity

Question: Client Support

So how do you help clients adhere to their medication regimen?

Adherence is a Set of Skills to be Learned

- Help clients understand *the Why What, When, and How*, of the medication regimen.
- Teach clients how the medications work in the CD4 to halt HIV replication (HIV life cycle).
- Help clients assess their own readiness for starting meds before making a life-time commitment.
- Help build clients' belief and confidence in ability to maintain 95% adherence rate.
- Teach clients a combination of strategies for remembering to take each dose on time (reminder system).
- Educate clients on how to manage side effects.
- Help clients choose a regimen that fits into current lifestyle (tailoring regimen).

Strategies for Better Adherence

- ▶ **Keeping a log of missed doses and reflecting on what led to either resisting or forgetting a dose.**
- ▶ **Connecting clients with peer support.**
- ▶ **Preparing for medical appointments – make a list of things to be discussed with doctor.**
- ▶ **Developing a good doctor-patient relationship.**
- ▶ **Adopting a long-term view of treatment.**

Adherence Strategies

- ▶ **Keep a steady supply of meds**
- ▶ **Write down your medication instructions**
- ▶ **Use the team approach**
- ▶ **Learn about drug interactions**

Assessing Adherence

- Which meds are you currently taking?
- How often per day do you take each medication?
- How do you take each medication (food, no food)?
- Why are some meds taken with food and some without?
- Why are some meds taken once a day while others are taken twice a day?
- How often do you forget to take your medications?
- What strategies do you use to help you remember to take your meds?
- What side effects do you have and how do you manage them?
- What do you do when you miss a dose?
- What problems have you encountered while taking this medication?

Assessing Adherence

- **Assess client's substance use/abuse**

- ▶ Approach it in a way that is safe for the client to be honest.

- **Assess client's work status**

- ▶ Work schedules (especially changing shifts) may affect when client can take medications.

- ▶ Client may not want to disclose HIV status to co-workers.

- **Assess client's housing status**

- ▶ Roommates and/or family may not know client's HIV status or may not be involved in client's care.

- ▶ Basic necessities like a refrigerator (for meds that require refrigeration) may not be available.

- ▶ Stability of housing may also influence adherence.

Assessing Adherence

- **Assess client's psychosocial issues**

- ▶ History of depression or current, untreated depression may influence treatment plan.
- ▶ Client may be on meds prescribed by psychiatrist which may interfere with treatment plan.

- **Assess client's fears/concerns about medications**

- ▶ Ask the client directly what concerns he or she has.
- ▶ Dispel myths about meds and acknowledge truths.

- **Assess client's social network**

- ▶ Connect clients to peer support groups and create other opportunities for them to talk with others who are taking HIV medications.

Assessing Adherence

- **Determine client's current adherence with treatment plan:**
 - ▶ Requires proper probing of client.
 - ▶ May not reflect client's actual adherence.
 - ▶ Use of pill counts and refill records may be more accurate (and more time-consuming).
- **Direct methods of assessing adherence**
 - ▶ Blood-level monitoring
 - ▶ Urine assays

Audience Participation

What questions do you have?

THANK YOU

<http://www.hdwg.org/peercenter>

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