

# Topics in the Nursing Care of People Living with HIV/AIDS

## Module II



## Adherence, Resistance, and Antiretroviral Therapy

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**MISSION:** These modules will equip nurses with the basic knowledge needed to provide safe, comprehensive care to clients with HIV/AIDS.

**INTENDED AUDIENCE:** These five modules are intended for all nurses who work with clients with HIV/AIDS in doctor's offices, hospitals, ambulatory care and correctional settings.

**LEARNING OBJECTIVES:**

After completing this Module II of V the nurse should be able to:

**Module II**

1. explain how adherence and resistance influence the effectiveness of antiretroviral therapy.

**OUTLINE:**

**Module II**

**Adherence, Resistance, And Antiretroviral Therapy**

- a. Adherence and Resistance
- b. Resistance / Regimen Failure (ARV Resistance)
- c. Resistance Testing
- d. Assessing Adherence
- e. Case-Based Discussion

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# Module II

## Adherence, Resistance, and Antiretroviral Therapy

### Adherence and Resistance

The advent of combination antiretroviral therapy (ART) in 1996 changed the course of HIV disease to that resembling a chronic illness. When taken as directed, ART typically results in viral suppression, increased CD4+ T cell counts, and slowed progression to AIDS. However, in order for therapy to be effective, patients on ART must maintain near perfect adherence. This means that at least 95% of all prescribed doses will be taken on time in order to maximize viral suppression, prevent opportunistic infections, and improve quality of life (Mannheimer et al., 2005; Patterson et al., 2000). Sub-optimal adherence can result in the development of drug-resistant HIV strains and drug failure. These, in turn, limit treatment options (de Olalla et al., 2002; Ickovics and Meade, 2002).

HIV replicates rapidly ( $10^9$ - $10^{10}$  virions/day) and has an error-prone polymerase. Both factors contribute to drug resistant mutations (U.S. Department of Health and Human Services, 2004). Unfortunately, mutant viral strains can cause resistance to medications. Drug resistance refers to the ability of HIV to enter a cell and replicate despite the presence of ARV drugs. Resistance may lead to treatment failure with increasingly higher viral loads, continued immune system damage, and progression of HIV disease. One single mutation can result in resistance to some drugs, such as lamivudine (3TC) and the non-nucleoside reverse transcriptase inhibitors (NNRTIs).

### ARV Resistance

In drug resistance, the mutant and resistant viral strain continues to multiply in the presence of ARVs. This occurs because ARVs exert selective pressure. That is, they suppress replication of the wild type (original) virus. However, they cannot suppress replication of resistant mutant viruses. Once resistance to an ART regimen occurs, it is also possible for cross-resistance to occur. In cross-resistance, resistance to a drug in a particular class transfers to other drugs in the same class. For example, HIV strains that are resistant to nevirapine (NVP) are often also resistant to efavirenz (EFV). Cross-resistance can severely limit options for ART.

The relationship between adherence and resistance is a complex one. This was evidenced in the retrospective, longitudinal HAART Observational Medical Evaluation and Research (HOMER) study conducted in Canada (Harrigan, et al., 2005). In this study, prescription refill percentages were used to assess adherence. Participants (N=1191) were all ARV naïve adults receiving two NRTIs plus either a PI or an NNRTI. Researchers reported a skewed “bell-shaped” relationship between level of adherence and drug-resistance mutations. When compared with subjects with low (0%–20%) prescription-refill percentages, those with an elevated risk of drug-resistance mutations had high but imperfect (80%-90%) prescription refill percentages. Very low adherence is associated with fewer resistance mutations because the virus is rarely exposed to the drug. When ARVs are used, selective drug pressure prevents drug-susceptible wild type virus from replicating and viral mutations become the predominant strain.

The adherence-resistance relationship also appears to vary by drug class. Bangsberg, Moss, and Deeks (2004) reported that the strongest direct relationship between adherence and resistance occurs for non-ritonavir-boosted protease inhibitors (PIs) and most nucleoside analogues (NRTIs).

## Primary ARV Resistance

Acquired or primary resistance occurs when a patient is infected with an already ARV-resistant virus. These are patients who have never been treated with ARVs, but still have reduced drug susceptibility (detected by phenotypic testing) or resistant mutations (detected by genotypic testing). The incidence of new HIV infections that involve single or multi-class drug resistant virus has increased internationally. The World Health Organization (WHO) is sponsoring HIVResNet, an international surveillance network of drug resistance in drug-naïve and recently-infected individuals to help determine the extent of this problem.

Little and colleagues (2002) conducted a retrospective analysis of drug resistance in newly HIV-infected patients in ten North American cities. They reported an increase in drug resistance from 3.4% (from 1995 to 1998) to 12.4% (from 1999 to 2000). Wolf (2006) noted that the prevalence of primary drug resistant HIV mutations varies geographically. In San Francisco, for instance, there was a 26% prevalence of resistant HIV, while the prevalence observed in a European multicenter study (1996 - 2002) was 10%, and it was 19% in a study in Spain.

In view of the prevalence of primary resistance to ARVs, national and international HIV treatment guidelines recommend the use of resistance testing prior to initiation of ART in treatment-naïve patients (EuroGuidelines Group for HIV Resistance, 2001; Panel on Antiretroviral Guidelines, 2006).

The effect of pre-treatment resistance testing is supported by the findings from a study of primary drug resistance in treatment-naïve HIV-infected patients (Oette et al., 2006). Conducted in Germany between 2001 and 2003, this was the first prospective study of the effects of tailored first-line combination ART treatment decisions based on genotype testing. Participants (N=269) were followed for 48 weeks after the initiation of genotype-guided ART. Results showed comparable efficacy of first-line combination ART in the group with pre-treatment drug resistance and the group with wild-type HIV. This differs from previous studies that reported reduced efficacy of ART in patients with primary resistance compared with patients infected with wild-type HIV when ART decisions were not based on genotype testing.

## Resistance Testing

Phenotypic and genotypic resistance assays measure the sensitivity of an individual's HIV to specific ARVs. There are, however, drawbacks to these tests. In order to perform either test, a minimum amount of virus must be present. Resistance may not be detected at a viral load below 500-1000 copies/ $\mu$ L. In addition, the tests have trouble detecting "minority" mutations, or those comprising less than 20% of the viral population.

## Phenotyping

Phenotypic testing involves the direct quantification of drug sensitivity. Increasing concentrations of individual drugs are added to patient cell cultures. Viral replication is then measured and compared to viral replication of wild-type virus. Drug concentrations are expressed as  $IC_{50}$  values. The  $IC_{50}$  is the concentration of drug required to inhibit viral replication by 50%. The drug sensitivity of the virus is expressed as the  $IC_{50}$  compared to a cut-off value. This cut-off value is the basis for interpreting the test result. The cut-off indicates by which factor the  $IC_{50}$  of an HIV isolate can be increased in comparison to that of the wild-type, while still being classified as drug sensitive. The fold-increase needed to confer drug resistance is drug-specific. The clinical cut-off indicates the levels of  $IC_{50}$  at which adequate virological suppression can still be expected. Disadvantages of phenotypic testing include the lengthy procedure and high expense of the assay.

## Genotyping

Genotypic testing is an indirect measure of drug resistance. The genetic code of the sample virus is compared to the wild type. Genotypic assays define resistance based on the number of known resistance-conferring mutations present in the sample at the time of testing. These tests are only able to detect viral mutants that occur in at least 20% of the total viral population. Mutations associated with reduced drug sensitivity have been identified for most ARVs. However, multiple resistance patterns can complicate the determination of drug resistance.

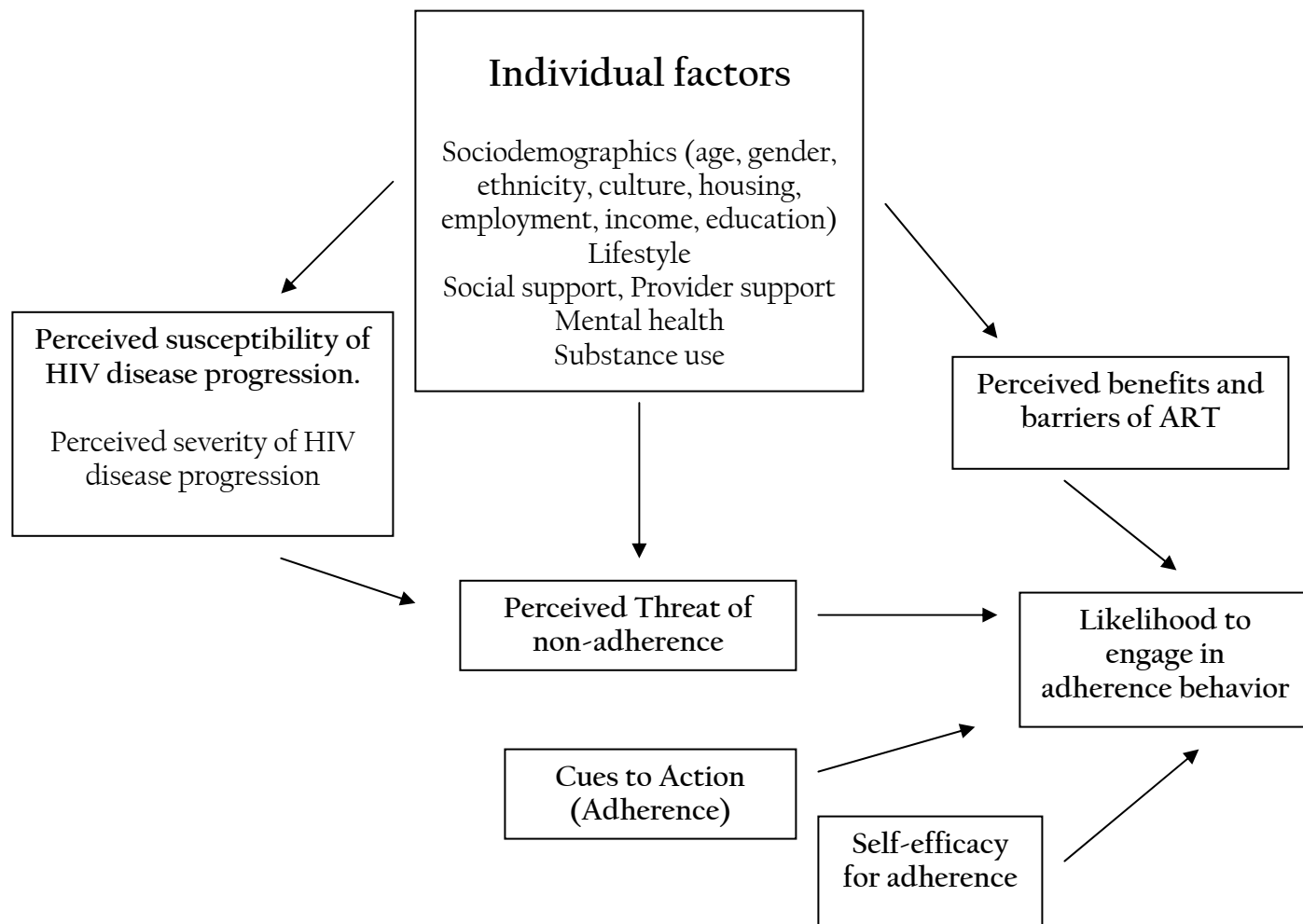
The “virtual” phenotype refers to a method of predicting the phenotype from the genotype. In this test, the patient’s genotypic mutation pattern is compared with a database of samples of paired genotypic and phenotypic data.  $IC_{50}$  levels of matching viruses are averaged, and the likely phenotype of the patient’s virus is identified. The virtual phenotype requires less time and is less expensive than a phenotypic test.

## Assessing Readiness for ART

At this point in time, the patient who starts ART should understand that this will, most likely, be a lifelong commitment to medication and that the most positive outcome requires adherence to medication schedules even in the presence of side effects. Several factors should be considered when assessing a patient’s readiness to begin ART. The patient’s beliefs, perceived needs, and expectations regarding ART should be assessed. The patient should participate in decision-making and in the development of a treatment plan. The Health Belief Model (see Figure II.1) predicts the likelihood that an individual will adhere to treatment based on a number of variables (Rosenstock, 1974). Definitions of the concepts of this model as they relate to adherence to ART are as follows:

- **Perceived susceptibility**, or the individual’s belief that HIV disease progression is a real personal risk.
- **Perceived severity**, or the individual’s belief that HIV disease progression has serious consequences.
- **Perceived benefits**, or the individual’s belief that adherence to ART will reduce susceptibility to HIV disease progression or disease severity.
- **Perceived barriers**, or the individual’s belief that the material, physical, and psychological costs of adhering to ART outweigh the benefits.
- **Cues to action**, or the individual’s exposure to factors that prompt adherence to ART.
- **Self-efficacy**, or the individual’s confidence in a personal ability to successfully adhere to ART.
- **Modifying factors** are those individual factors, and environmental and biological cues to action that impact the individual.

Figure II.1. The Health Belief Model Applied to Adherence to Antiretroviral Therapy



## Promoting Adherence

Reviews of the literature suggest that adherence is a dynamic function of multiple factors (Ickovics and Meade, 2002; Reynolds, 2004). Identified categories of the critical determinants of adherence include patient characteristics (sociodemographics, cognitive and psychological factors, literacy, and substance use), the ART regimen/treatment experience (side effects, early toxicity, complexity, food restrictions), disease characteristics (symptoms, immune status, illness severity), social support (support from friends, family, partner), the patient-provider relationship (provider competence, trust, communication, adequacy of referrals, inclusion of patient in decision-making), informational resources (education and information about ARVs), the health care environment and available materials (access, convenience, confidentiality, adherence services at the site of medical care), and health beliefs (purpose and effectiveness of treatment, treatment experiences, self-efficacy). Patterns of adherence were also observed to vary by demographic, cognitive, and behavioral variables. Study participants (N=222) who were more likely to be the poorest adherers were younger than 50 years of age, cognitively impaired, or suffering from a substance use disorder (Levine, et al., 2005). Weekend non-adherence was particularly problematic in the cognitively impaired.

Kleeberger and colleagues (2001) identified three categories of reasons for non-adherence reported by 539 participants in the Multicenter AIDS Cohort Study (MACS). The majority of participants (77%) were taking three or more medications. The factors influencing non-adherence, grouped in order of frequency, were:

- forgot, changed daily routine, was busy, was away from home
- wanted to avoid side effects, slept, ran out of medications, felt depressed or ill, felt the drug was toxic/harmful, didn't want to take pills
- had too many pills to take, instructions conflicted, didn't want others to notice, had problems taking pills

Assessment of potential risk factors for non-adherence prior to the initiation of ART can be used to tailor interventions to promote adherence. It is clear that strategies to maximize adherence must be multifaceted (Table II.1). The Health Belief Model can be used to assess the impact of factors shown to promote or prevent adherence and to guide ART adherence interventions.

<b>Table II.1. Strategies to Promote Adherence to ART taking Individual Factors into Consideration</b>	
<b>Sociodemographics</b>	<ul style="list-style-type: none"> <li>• Assess housing, employment status, health insurance, language barriers, and education level.</li> <li>• Assess income and health insurance for ability to afford medical visits and medications.</li> </ul>
<b>Lifestyle</b>	<ul style="list-style-type: none"> <li>• Assess instances in which medication side effects might interfere with the patient's lifestyle, including job, family responsibilities, and recreational activities.</li> <li>• Fit regimen to patient lifestyle, preferences, and priorities; consider daily, weekly, and monthly changes in schedule.</li> <li>• Balance dosing ease with strength of regimen. The ideal is the highest potential for viral suppression that is acceptable to the patient..</li> </ul>
<b>Social support/Provider support</b>	<ul style="list-style-type: none"> <li>• Assess disclosure status with friends and family.</li> <li>• Identify and reinforce sources of emotional and social support.</li> <li>• Involve support network in education.</li> <li>• Refer patient to a support group.</li> <li>• Establish a trusting and consistent patient-provider relationship prior to initiating therapy.</li> <li>• Provide ongoing support from health care team (office visits, home visits, and telephone calls).</li> <li>• Provide patient with telephone hot line number to access a member of the health care team whenever needed.</li> <li>• Assess side effects of therapy and understanding of treatment regimen within first few days after initiation of therapy.</li> <li>• Use team approach with nurses, physicians, pharmacists, case managers, and peer counselors.</li> <li>• Initiate case management services when available.</li> </ul>
<b>Mental health/Substance use</b>	<ul style="list-style-type: none"> <li>• Assess cognitive and psychological function (e.g., cognitive impairment, literacy, forgetfulness, depression).</li> <li>• Assess drug and alcohol use.</li> <li>• Provide treatment and referral as needed for mental health problems and substance use before initiating therapy.</li> </ul>
<b>Perceived susceptibility</b>	<ul style="list-style-type: none"> <li>• Assist patient to develop an accurate perception of individual risks related to non-adherence.</li> <li>• Tailor risk information to individual's beliefs, values, and level of health literacy.</li> </ul>
<b>Perceived severity</b>	<ul style="list-style-type: none"> <li>• Educate patient regarding specific consequences of non-adherence.</li> </ul>
<b>Perceived benefits</b>	<ul style="list-style-type: none"> <li>• Provide specific information about potential benefits of adherence.</li> </ul>

<ul style="list-style-type: none"> <li>• Present statistics on benefits of adherence.</li> <li>• Graph patient's viral load and CD4+ T cell count before and throughout treatment to reinforce benefits of adherence.</li> </ul>
<p><b>Perceived barriers</b></p> <ul style="list-style-type: none"> <li>• Address patient questions and concerns with specific information and strategies to address barriers (e.g., regimen complexity, dietary restrictions, and short and long term side effects).</li> <li>• Provide incentives for adherence.</li> <li>• Provide ongoing support and reassurance.</li> <li>• Provide and instruct patient on how to maintain a daily pill diary to identify barriers to adherence.</li> <li>• Anticipate and discuss potential side effects, their duration, and management.</li> <li>• Simplify regimens, dosing and food requirements.</li> <li>• Include patient in development of treatment plan.</li> <li>• Establish readiness to start therapy.</li> </ul>
<p><b>Cues to action</b></p> <ul style="list-style-type: none"> <li>• Provide detailed, specific, easily understood information about when and how to take medication.</li> <li>• Provide and instruct patient in the use of reminder systems (beepers, watches, pill organizers, stickers, telephone reminders, medication planner, written instructions, placing medications in a consistent location where they will be seen).</li> <li>• Use education aids including charts, cartoons, written information, and pictures.</li> <li>• Provide adherence assessment and counseling at all routine medical visits.</li> <li>• Enlist friends/family/partners to provide motivation and remind patient to take medications.</li> <li>• Work with patient to find a regular daily activity to use as a cue to take medication (brushing teeth, making breakfast or dinner, etc.).</li> </ul>
<p><b>Self-efficacy</b></p> <ul style="list-style-type: none"> <li>• Provide adherence skill building <ul style="list-style-type: none"> <li>✓ role-playing (e.g. patient-provider communication skills; use of jelly beans to practice taking medications on schedule)</li> <li>✓ problem solving (what to do for late or missed dose)</li> <li>✓ planning ahead for refills</li> <li>✓ managing medications during changes in daily schedule</li> <li>✓ dealing with potential side effects, self-management strategies, when to call the health care provider, and what to report</li> </ul> </li> <li>• Collaborate with patient to problem solve patient-identified barriers to adherence.</li> <li>• Provide positive reinforcement for adherence.</li> <li>• Contract with patient for adherence.</li> <li>• Use role models with adherent behavior.</li> <li>• Use problem-solving process (e.g. ask the patient "Think of a time when you might miss a dose of your medication. What would you do then?").</li> </ul>

Patient preference studies revealed that the majority of patients would tolerate severe side effects, large pill burdens, and inconvenience for higher potency of ART (Miller, Huffman, Weidmer, and Hays, 2002; Sherer, Fath, Da Silva, Nicolau, and Miller, 2005). Patient preference and priorities regarding attributes of ART were examined in telephone interviews with 387 diverse respondents in a national U.S. survey. Significantly more respondents rated efficacy attributes (lowering viral load, raising CD4+ T cell count, durability of viral suppression) as more important than resistance profile; gastrointestinal, cholesterol, or appearance side effects; dosing frequency; or pill burden. In addition, 92% preferred a more effective and 89% preferred a more durable twice-daily regimen to a more convenient once daily regimen.

It may be that targeting interventions to individuals with anticipated or known adherence problems would be most effective at improving adherence to ART. Amico, Harman, and Johnson (2006) reviewed 24 ART adherence intervention studies conducted between 1996 and 2004. The majority of the interventions included a reminder system (electronic reminders, pillboxes, stickers, and telephone reminders) and counseling by providers or specialized support staff. They found that the greatest effects

of interventions on adherence were in those studies that targeted subjects with known or anticipated adherence problems and these improvements held over time. One example of a study targeted to those with adherence problems provided monthly medication counseling and a weekly medication pill organizer over five months to 21 non-adherent men on ART. Participants were primarily African-American and had a history of injection drug use (IDU). Pre- to post-intervention adherence rates increased significantly in the intervention group. Compared to matched controls, men in the intervention arm also had more drop-in visits to a primary care clinic, and fewer hospitalizations and opportunistic infections (McPherson-Baker, et al., 2000).

## Assessing Adherence

Studies show that adherence to ART declines over time (Howard, et al., 2002; Mannheimer, Friedland, Matts, Child, and Chesney, 2002), making ongoing adherence assessment and intervention critical components of care. Milam and colleagues (2005) tested the effects of a brief intervention delivered by primary care providers on the maintenance of adequate adherence. All participants (N=437) were 95% or greater adherent at baseline. The intervention included written materials and counseling. The vast majority (91%) of those who received the intervention maintained 95% or greater adherence at 10 months, but only 75% of participants who did not receive the intervention remained 95% adherent.

Patient self-report is the primary method of assessing ART adherence. Adherence should be routinely assessed at each clinic visit by a member of the health care team who has established a trusting relationship with the patient. When assessing adherence and providing information, communication style and content are critical. They can determine whether or not accurate information will be elicited from the patient, promote understanding, and increase acceptance.

- Non-judgmental language and tone of voice should be used. The patient who senses disapproval and is shamed for non-adherence is less likely to provide accurate information.
- Be aware of non-verbal communication, including facial expressions, body posture, tone of voice, seating arrangement, and use of personal space.
- Ask questions in a way that gives permission for missed doses. For example, “Which doses are the hardest to remember to take?”
- Use open-ended questions like, “How do you take your medicines on a typical weekday?” and “How do you take your medicines on a weekend day?”
- Communicate the understanding that problems with adherence are to be expected. Normalization of difficulties with adherence will open the door for honest communication. Questions may include, “Many people have difficulty sticking to their medication schedules. What problems have you had with taking your medications?”
- Engage the patient in problem-solving and alternative scenarios to address specific problems with adherence.
- Ask permission to provide information and feedback. This will lower patient resistance to the information. For example, ask, “Can I give you some suggestions that may help with that problem?” “Can I tell you how taking your medications on time can keep you healthy?”
- When providing information, keep it simple. Stress and anxiety lower the individual’s ability to assimilate new information.
- Assess understanding by asking the patient to repeat the new information. Say, “OK, I’d like to make sure I explained this right. Please tell me what I just said.”

Treatment of HIV disease with highly active ART can suppress viral replication, reduce viral loads to undetectable levels, and result in improved clinical outcomes. However, this requires near-perfect patient adherence to complex dosing schedules and dietary restrictions. Sub-optimal adherence can result in rapid viral replication, the development of drug resistant mutant strains, and disease progression. The

multiple and interrelated variables associated with adherence include patient, provider, and health care system factors. An understanding of these factors can guide the health care team in the use of strategies to maximize patient adherence.

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# SELF ASSESSMENT TEST

## MODULE II: ADHERENCE, RESISTANCE AND ANTIRETROVIRAL THERAPY

**DIRECTIONS:** Please select the one best answer and circle your response directly on the self assessment test. To obtain Continuing Nursing Education credit, a minimum of 70% of the questions must be answered correctly. To assure your receipt of Continuing Nursing Education credit, please complete the self assessment test, program evaluation (reader information form) and HRSA participant information form (3 pages total).

This activity is eligible for nursing credit thorough June 30, 2007. Individuals who mail the required documentation noted above after this date will be ineligible for credit. The estimated time for completion of this activity is 1 hour. There is no fee for the nursing continuing education credit for this module.

*Rutgers University mailing information is on the reverse side of this document.*

- The optimal level of adherence to antiretroviral therapy is:**
  - 75% to 100%
  - 80% to 100%
  - 90% to 100%
  - 55% to 100%
- Which of the following is a result of sub optimal ARV adherence?**
  - Drug-sensitive mutations
  - Durable viral suppression
  - Drug failure
  - Required higher doses of drugs
- Primary drug resistance is caused by:**
  - a patient's sub optimal antiretroviral therapy (ART) adherence.
  - drug failure.
  - infection with a drug-resistant virus.
  - multi-class drug resistant virus.
- The prevalence rate of primary resistance to antiretroviral therapy (ART) is:**
  - decreasing worldwide.
  - consistent across geographic regions.
  - the basis of recommendations for pre-treatment counseling.
  - an indicator of drug resistance in newly HIV-infected patients.
- The purpose of virtual phenotyping is to:**
  - directly quantify drug sensitivity.
  - predict the phenotype from the genotype.
  - predict a patient's viral replication from wild-type viral replication.
  - directly measure drug resistance.
- An assumption of the Health Belief Model is:**
  - self-efficacy refers to the individual's cues to action.
  - perceived benefits outweigh perceived barriers.
  - cues to action may be barriers to adherence.
  - perceived susceptibility and perceived severity are directly related to perceived threat.
- Which of the following statements is TRUE regarding adherence?**
  - Younger age is associated with better adherence.
  - Interventions targeted to patients with poor adherence are not effective.
  - Adherence to ART declines over time.
  - Adherence is not associated with the patient-provider relationship.

A client is a 32 y.o. female, self-referred, who screened HIV positive 2 months ago. This is her first clinic visit since her diagnosis. She appears healthy and has no somatic complaints. You are interviewing her to assess potential problems with adherence prior to the initiation of ART.

- Which of the following are lifestyle factors that should be assessed?**
  - Current knowledge of HIV and antiretroviral therapy
  - Friend/family/partner support systems
  - Family roles and responsibilities
  - Mode of transmission
- Based on the Health Belief Model, what strategy can be used to reduce perceived barriers to adherence?**
  - Role play communication skills to promote adherence
  - Educate the patient regarding specific consequences of non-adherence
  - Provide a reminder system such as a pill organizer
  - Discuss potential side effects, their duration and management
- Which of the following statements could be a barrier to open patient-provider communication with this client?**
  - "Are you using illegal drugs?"
  - "Is there someone in your life that you could ask to help you to remember to take your medications?"
  - "Can I explain to you how taking medications on time can keep you healthy?"
  - "What do you think might be the hardest thing about taking these medications?"

# PROGRAM EVALUATION & READER INFORMATION FORM

## MODULE II: ADHERENCE, RESISTANCE AND ANTIRETROVIRAL THERAPY

To assure your receipt of Continuing Nursing Education credit, please mail your completed self assessment test, program evaluation/reader information form and HRSA participant information form (3 pages total) to: Dr Gayle A Pearson, Assistant Dean, Rutgers, The State University, College of Nursing, Center for Professional Development, 175 University Avenue, Conklin Hall 244, Newark, New Jersey 07102 or scan and email to: cpdn@rutgers.edu. Please allow 6 to 8 weeks for education credit processing. An attendance certificate will be emailed to you at that time. If you have any questions, contact 973-353-5895 or [cpdn@rutgers.edu](mailto:cpdn@rutgers.edu).

PLEASE COMPLETE THIS FORM BY COMPLETELY FILLING IN THE CIRCLES WITH BLACK PEN OR PENCIL.	STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE	NOT APPLICABLE
1. As a result of completing the program, I am able to meet the following program goal: to equip the correctional nurse to arrange the necessary care and services to optimize the health of the HIV-infected patient.	①	②	③	④	⑤
2. As a result of reading this module, I am able to achieve the following objective: a. Explain how adherence and resistance influence the effectiveness of antiretroviral therapy.	①	②	③	④	⑤
3. The objective of this program was relevant to the overall goals of the program.	①	②	③	④	⑤
4. The module was an effective learning tool for me.	①	②	③	④	⑤
5. The author of this module was an effective teacher.	①	②	③	④	⑤
6. The slides that accompanied the module are helpful.	①	②	③	④	⑤

Time required to complete this learning activity: \_\_\_\_\_ minutes

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

### READER INFORMATION FORM

(Please print legibly as all information is needed for education credit processing.)

Name: (first and last): \_\_\_\_\_

Degree: \_\_\_\_\_ (NP, RN, LPN) Other: \_\_\_\_\_

Facility Name: \_\_\_\_\_

Facility Address: \_\_\_\_\_ Street

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Email Address: \_\_\_\_\_

Please proceed to the next page and complete the HRSA participant information form.

Please completely fill in the circles (●) when answering the questions.

1. To create your unique ID number, use the month of your birth, the day of your birth, and the last four digits of your social security number. For example, May 29, 123-45-6789 has the ID number 05296789. Unique ID Number

Today's Date

2. Your Profession/Discipline (Select one)

- Advanced Practice Nurse, Pharmacist, Dentist, Physician, Mental Health Professional, Physician Assistant, Nurse, Social Worker, Nurse Practitioner, Substance Abuse Professional, Other Dental Professional, Other (specify)

3. Your Primary Functional Role (Select one)

- Administrator/Supervisor, Student/Graduate Student, Care Provider/Clinician, Teacher/Faculty, Case Manager, Other (specify), Intern/Resident, Not Working, Researcher

4. Your Principal Employment Setting (Select one)

- Community/Migrant Health Center, Substance Abuse Treatment Prog., Community Mental Health Center, STD/Family Planning Clinic, Correctional Facility, Tribal/Indian Health Service, HMO/Managed Care Organization, Other Community-Based Service Organization (CBO), Hospital or Hospital-Based Clinic, Other Public Health Agency, Rural Health Center, Other Health Care, Solo/Group Private Practice, Non-health, State/Local Health Department, Not Working

Questions 5-7 are about your principal employment setting

5. Is it a faith-based organization? Yes No Don't Know

6. Zip Code/Setting Rural Urban

7. Does the agency receive Ryan White CARE Act funding? Yes No Don't Know

7a. If you don't know, write the full name of your employer:

8. Are you of Hispanic, Latino, or Spanish origin? Yes No

8a. Your Racial Background (Select all that apply)

- White, Native Hawaiian/Other Pacific Islander, Black or African American, American Indian/Alaska Native, Asian

9. Your Gender Female Male Transgender

10. Which of the following statements describes the way in which you most often provide services for HIV/AIDS patients (Select one)

- Not applicable/Do not see patients, Refer/transfer HIV+ patients for all medical care, Provide primary care and refer/transfer HIV+ patients for HIV treatment only, Provide all HIV treatment and refer/transfer for primary care, Provide all medical care and refer/transfer when antiretroviral treatment fails, Provide all medical care throughout the course of the disease

11. Estimate the NUMBER of HIV+ clients/patients you have personally treated/managed in practice in the past month.

Number of clients/patients: Don't Know

For questions 12-18, estimate the PERCENTAGE of your HIV+ clients/patients in the past YEAR who were:

12. Racial or Ethnic Minorities

None 1-24% 25-49% 50-74% ≥75% Don't Know

13. On Antiretroviral Therapy

None 1-24% 25-49% 50-74% ≥75% Don't Know

14. Severely/Persistently Mentally Ill

None 1-24% 25-49% 50-74% ≥75% Don't Know

15. Substance Users

None 1-24% 25-49% 50-74% ≥75% Don't Know

16. Uninsured

None 1-24% 25-49% 50-74% ≥75% Don't Know

17. Women

None 1-24% 25-49% 50-74% ≥75% Don't Know

18. Incarcerated/Parolees

None 1-24% 25-49% 50-74% ≥75% Don't Know

PUBLIC BURDEN STATEMENT: An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB number. The OMB control number for this project is 0915-0281. Public reporting burden for this collection of information is estimated to be 10 minutes per form. These estimates include the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

For Office Use Only May 2004 AETC Subsite Program Number Agency RWCA Yes No Don't Know