1. Initial Face-to-Face Meeting With Counselor and Negotiation of Treatment Contract:
   a. Initial rapport will be developed by empathizing with the patient’s efforts to cope with HIV (Rosen, Ryan et al. 2002). In the course of conducting these randomized controlled trials, we developed a framework for conducting adherence counseling and published this “how-to” guide (Rosen, Ryan et al. 2002). The framework is shown in the figure below:

   ![Adherence Counseling Framework]

   The adherence counselor begins therapy by taking a history of the patients’ attempts to cope with HIV. In our experience, patients do not complain about being non-adherent (in fact, patients typically underestimate the extent of their non-adherence) and patients do not spontaneously request counseling around adherence. Therefore, to facilitate motivation for counseling, adherence is framed in the context of coping with illness.

   Sample inquiries include (When were you told you had HIV? When did you start medication treatment? What treatments were recommended initially? What other medication treatments have you had? ... Were there times it was hard to take the medicines? Have you gone through times when you stopped taking prescribed medications?).

   b. The counselor will review how to use the cellular phone and the schedule of reinforcement for making and receiving calls. Patients will receive a cell phone with 500 minutes for phone calls allowed for the month. The phones will not function after they have been used for 500 minutes (e.g. a pre-paid plan). Patients who already have a cellular phone will have $20 paid to their phone service provider (or receive a calling card) to defray the cost of the counseling calls. The investigators will render stolen phones useless by capping use amounts and then discontinuing service. Material reinforcement for making calls will provide a further incentive not to lose or sell the telephone. Counselors will schedule calls for 30 minutes after each scheduled dose for the next four weeks.

   c. Patients will receive explicit instruction in how the MEMS cap functions, and how it records date and time of bottle-opening. The recording function will be demonstrated to the patient. Instructions along with a sample printout will be reviewed. MEMS will be presented as tool to help the patient learn about their own medication-
taking habits. It will be re-emphasized that the counselor will not be passing judgment on patients’ adherence.

d. Assessment of Substance Abuse and Motivational Interview to Facilitate Treatment Compliance: The early part of the interview will include collecting information about the patient’s substance abuse using procedures developed by Karen Ingersoll. A paper and pencil substance abuse assessment will be completed and a urine toxicology test (Syva, Dade Behring, San Jose) will be processed on site. The substance abuse assessment includes amounts spent on illicit drugs, and the worksheet indicates the other purchases that could be made with the funds spent on illicit drugs. Patients are asked to endorse which withdrawal symptoms they have experienced recently from a list and which settings tempt them to use drugs. The counselor will ask about the patient’s current participation in substance abuse treatment—what the modality is, when the patient last attended, and what treatment recommendations were made at that facility.

The counselor will also encourage patients to look forward, in addition to look back. Patients will conduct a brief values exploration and be asked to identify goals. These goals and values will later be used to develop discrepancy between where the patient is at and where the patient wants to be. The patient will be asked to list “good things about my drug use” and “Not so good things about my drug use” with prompts provided by the counselor.

During the middle of the interview, the counselor will explore how adherence might be affected by substance use and encourage participants who use drugs and/or alcohol to seek treatment in the community. Patients’ concern about medication adherence will be used to therapeutic advantage by exploring how substance abuse might be undermining the patients’ goal of better health. Any small steps the patient may have taken toward abstinence will be supported.

At the end of the interview, the counselor will then present a personalized feedback page. The counselor will explain how the results of the toxicology test and self-report support a diagnosis of Substance Dependence (or multiple dependences). The counselor will review legal, family and health risks associated with drug use.

The patient will be asked to list “good things about going to substance abuse treatment” and “Not so good things about going to substance abuse treatment” The counselor will help the patient make a personalized treatment plan. The plan will involve setting goals for substance abuse treatment, the reason this goal is important to the patient, steps to take towards that goal, barriers to the plan and how the barriers will be dealt with. If the patient does not have an identified substance abuse provider, the REWARDS counselor will identify available treatment in the community, including AA and NA.

2. Telephone Contacts and Review of Individual Doses: REWARDS involves review of doses and calls made and missed, using methods that we have developed and described (Rosen, Ryan et al. 2002). Discussion of doses made and missed moves the discussion to what a patient felt, what a patient’s thoughts around medication were, and what a patient was doing around the time doses were missed. At each call, counselors will also offer support for any efforts the patient made to take medication. Patients will be encouraged to try various cues (reminders) to medication-taking until they find a cue that works well for them. Patients will be reinforced for participating in these calls and be told how much reinforcement they have earned for the call and the cumulative amount earned.

Which thoughts, feelings and emotions are addressed at which call and which visit will be decided by counselors on a case-by-case basis, depending on how patients
describe their medication-taking. The major topics and how they will be addressed are as follows:

i. Physical Circumstances around dose—
   --where the patient is; whether the patient is in a convenient place to take medication (at home, at a shelter, friend’s house, etc.)
   --who is with the patient, whether this person knows about the patient’s medication, whether this person’s presence makes medication-taking easier or more difficult, whether this person could support the patient’s medication-taking

ii. Thoughts about doses taken or missed
   --Whether patient believes that a missed dose is a problem
   --Factual information provided should make the following points:
      i) Periods of non-adherence allow resistance (tough bugs) to emerge
      ii) Resistance leads to treatment failure
      iii) Cross-resistance might render future medications ineffective
   --Whether patient is concerned about side effects

Medical reasons for non-adherence that are frequently cited include side effects and a belief that the regimen is too cumbersome. These issues will be used to discuss the patients’ relationship to his/her provider. The patients’ ambivalence around addressing these issues with his/her provider should be discussed.

   i) Explore prior attempts by the patient to address adherence issues with provider
      ii) Ask patients’ opinion about how provider is likely to respond
      iii) Support patient’s desire to take an active role in treatment

iii. Emotions Associated with Medication-Taking
   --patient’s optimism that medication will help
   --patient’s confidence in his/her ability to adhere to the regimen
   --resentment of need to take medication
   --depression and general lack of motivation

Ambivalence around seeking treatment for depression will be addressed with the goal of encouraging patients to accept appropriate referrals.

iv. Substance Use—
   --Did the substances direct effects contribute to forgetting (e.g. forgot because too high, hung over, etc)?
   -- Did the setting of the substance use contribute to missed doses?

v. Patterns of Adherence

These are derived from the information above, and involve identifying more general trends and issues associated with non-adherence. For example, is non-adherence more likely in AM? On weekends? In runs of several days during which all doses are missed? During certain activities? Did the patient miss doses because the patient was out of the house? With a friend? Using drugs? Depressed?

Examine whether non-adherence occurs in runs of missed doses. Does a string of consecutive missed doses mean a sustained period of forgetting? Did the patient give up after missing one or two doses? Did the patient feel OK after missing one or two doses and decide to continue to miss doses? For instance, a patient may report thinking after a missed dose, “I felt fine, no harm came, so I skipped a few more.” Another thought might be “I was high and I forgot.”

Use of Cues:
The most common self-reported cause of non-adherence is forgetting or a closely-related cause (not planning to have medications available, being distracted, etc.). Patients will be encouraged to try various cues (reminders) to medication-taking until they find a cue that works well for them. Patients will also be encouraged to review plans for special periods (e.g. trips, weekends, visitors) during the coming week or month. Possible cues include specific clock time, mealtimes (e.g. placing medication bottles in the kitchen) and bathroom rituals (e.g. toothbrushing time).

3. Face-to-face Meetings: After patients meet their counselor at an introductory visit, patients will be scheduled for face-to-face meetings for M.I.-based substance abuse counseling, review of adherence, and dispensing of reinforcement.

The Motivational Interview around substance abuse will build upon the previous session’s substance abuse assessment. The M.I. sandwich will involve beginning the session with a review of substance use decisional balance and ending the session with feedback and setting of a treatment goal. The counselor will also review patterns of medication-taking. The counselor will explore how the patient experienced telephone calls and/or MEMS-monitoring- e.g. as intrusive, supportive, etc. The counselor will then review the patients' patterns of adherence. The patient will be asked if the MEMS caps give an accurate picture of patients’ medication-taking and if not, why not. Then, the counselor will dispense reinforcement.