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PREDICTORS OF COMPLIANCE
OF
AIDS PATIENTS
ON
PROTEASE INHIBITORS
BY
TINA GURSAHANI

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF
MASTER OF SCIENCE
IN
PHARMACY ADMINISTRATION

UNIVERSITY OF RHODE ISLAND

1998

MASTER OF SCIENCE THESIS

OF

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UNIVERSITY OF RHODE ISLAND

1998

ABSTRACT

Compliance with Protease Inhibitors therapy is a very significant problem because non-compliant patients may develop resistance. The factors associated with compliance were examined in an HIV infected population (n=73) who were currently being prescribed a Protease Inhibitor. Data on demographics, clinical characteristics, mood status and coping were obtained. Compliance was measured by the “temptation to skip Protease Inhibitor scale” and “number of doses missed in the past three months”.

Multiple regression was used to examine three sets of predictors variables. Amongst the demographic predictors, number of people in household was significantly associated ($p<0.01$) with the dependent variable “Temptation to skip Protease Inhibitor” while gender was significantly associated with the dependent variable “number of doses missed in the past three months”. The other demographic variables showed little association with compliance.

Amongst the clinical predictors, pain interfering with work in the past four weeks significantly predicted the temptation to skip Protease Inhibitor therapy while none of the clinical predictors were associated with the number of doses missed in the past 3 months.

General mental health and behavioral escape avoidance were the mood and coping variables that showed significant associations with the temptation to skip Protease Inhibitors. None of these predicted the number of doses missed in the past three months.

Finally a multivariate model was developed which investigated factors which were most highly associated with medication compliance. General mental health and number

of people in household appeared to be the most highly associated factors. These results suggested that patients should be treated for psychological distress and their families should be informed about the importance of social support to reduce the impact of this problem.

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INTRODUCTION

A. Importance of Compliance with Protease Inhibitors

Advances in HIV pathogenesis and viral dynamics, and availability of viral load assays and potent antiretroviral drug regimens had provided new opportunities to treat patients with HIV disease. Combined aggressive antiretroviral therapy has enormous potential to delay disease progression and death (Friedland G, JAMA, 1997). But this new combination regimen is very demanding and requires a very strict dosing schedule. It was found that resistance developed rapidly when doses were missed or taken in inadequate amounts. Because cross resistance could occur among the Protease Inhibitors, patients whose HIV developed resistance to one Protease Inhibitors had limited antiretroviral therapy options in the future (Geletko S., Khurram Z., Medicine and health Rhode Island, 1998) The prospect of resistance not only made individual patients more vulnerable, it also raised the specter of a public health threat that could neutralize recent therapeutic advances. This resulted in the issue of compliance gaining considerable interest among health care providers. In theory, if compliance is complete (100%) with potent combination therapy, viral replication will most likely be halted and resistance mutant are unlikely. However, in patients who intermittently or irregularly take drugs, the likelihood of selection of mutants that are resistant to drugs increase, a consequence of both continuing viral replication and selective antimicrobial pressure (Friedland G., JAMA, 1998).

Enormous amount of studies with HIV disease and other chronic condition have shown that sociodemographic variables rarely predict compliance. The reason

for noncompliance seems to be multifaceted in nature including psychological and emotional factors.

This study will explore the factors associated with compliance and further investigate which of these factors are most highly associated with patient compliance.

B. Determinants of Compliance

Over roughly the past two decades, there have been more than 700 studies, about 35 each year, that have examined variables that could be demonstrated as predictive of adherence to various medical regimen (Morisky DE; Green LW; Levine DM; Med Care, 1986).

I . Patient Characteristics

Education, income, age and other basic sociodemographic markers have shown some correlation with compliance but not consistently and not at significant levels. Haynes (1976) noted that while some studies showed an association between noncompliance and lower socioeconomic status, poor education and older age, the majority showed no such association. There is also no association found between noncompliance and age or sex. In terms of patient characteristics, social support is probably the most important factor. (Friedland G.,1998)

Thus compliance is not related to income, social class, occupation or educational background and it cannot be accurately predicted by physicians (Greenberg R.,Clinical Therapeutics, 1984).

II . *Clinical Characteristics*

- a. Diagnoses: Haynes (1979) has reviewed the literature critically and has commented that there are few obvious associations between disease features and compliance.
- b. Severity of Illness: It seems reasonable to expect more severely ill patients to be more compliant with treatment than less severely ill patient (Evans L, Spelman M, Drugs, 1983). Davis (1966) found on the contrary. He found that those with severe ailments were more likely to fail than those with less severe disorders. However he noted that it is difficult to be sure whether the noncompliance affects the severity of the condition and vice versa. He also found that greater the effect of the illness on performing daily activities, the less likely the patient was to follow the doctors advice.

The one association between illness and noncompliance that is consistently reported is that when patients get better from an illness they are less likely to comply with treatment (Heinzelman,1962; Johnson,1973; Prien & Caffey,1977; Rickels et al,1968).

III. *Psychological and emotional characteristics:*

These play a greater role in determining compliance than demographic factors.

- a.) Coping: The experience of being diagnosed with HIV infection or AIDS is extremely stressful. Coping is viewed as a response to perceived stress and it has been defined as the “constantly changing cognitive and behavioral effort to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person

(Lazarus & Folkman, 1984, p 141).

In the literature there are a lot of coping strategies identified but there was little consensus regarding which coping strategies are effective in dealing with stress. Although researchers have found that coping strategies relate to psychological & physical illness, which coping mechanism is most effective may depend on the nature of the situation. (Baum, Fleming & Singer,1983; Billing & Moos,1981; Felton & Revenson,1984; Harburg, Blakclock, & Reoper,1979; Holahan & Moos, 1986; Kobasa 1982; Mitchell, cronkite & Moos, 1983; Pearlin & Schooler,1978).

The specific fears of persons with HIV infection and AIDS include abandonment, pain, death, and the exposure of their homosexuality, bisexuality, drug use, prostitution, or unsafe sexual activity. The uncertainty of the outcome of the infection can lead to anxiety. The reaction of others to the patients' diagnosis constitute a significant concern (Ross & Rosser, 1988). In addition, individuals may not be able to conceal their illness from significant others if their symptoms are sufficiently severe. They may need to take time off from work or stop working altogether. Such changes may lead to cessation of employer-paid health insurance benefits, social supports, contact with acquaintances, and income. The stresses of having to give up work are considerable, often leading to depression and lack of self-esteem (Ross & Rosser, 1988).

The role of moderating variables in the relationship between stressful events and adaptational outcomes has gained considerable attention (Johnson,J.H., Sarason, I.G., Stress and Anxiety, 1979). Extensive research in this area has demonstrated that coping is a major moderating variable in the stress-illness relationship (Billing &

Moos, 1984; Coyne, Aldwin & Lazarus, 1981; Lazarus, Folkman, Green & DeLongis, 1986). Five patterns of coping were identified by a study done on cancer patients (Denkel-Schetter C., Feinstein L., Taylor S., Falke R., 1992). “seeking or using social support” describes efforts to seek informational support, tangible support, and emotional support. “Focusing on the positive” describes efforts to create positive meaning by focusing on personal growth. “Distancing” describes cognitive efforts to detach oneself and to minimize the significance of the situation. “Cognitive escape-avoidance” and “Behavioral escape-avoidance” describes wishful thinking and behavioral efforts to escape or avoid the problem.

b.) Mood Status: A level of anxiety either too low or too great may well be related to noncompliance (Evans L., Spelman M., Drugs, 1983). Studies in HIV suggest that psychosocial stress associated with the illness adversely affects the quality of life in HIV patients (Fawzy et al., 1989; Holland et al, 1985; Solomon et al, 1989). Many of the cognitive, psychological, social, and environmental factors that determine the individual’s psychosocial well-being and quality of life also have an impact on compliance.

The SF-36 derived from the work of the Rand Corporation of Santa Monica during 1970 is a generic indicator of health status. It was designed to be applicable to a wide range of types and severities of condition. These were useful for monitoring patients with multiple conditions, for comparing the health status of patients with different conditions, and for comparing patients to the general population. Perceived well-being is subjective and cannot be completely inferred from behavior; hence the SF-36

included questions on feeling states. (Mc Dowell I., Newell C., Measuring health, 2nd edition, p 446).

C. Assessment of Compliance

There is no ideal method to assess drug compliance. Four methods are commonly used to measure compliance: self-reported (questionnaire/interview/diary), pill count, drug assay, and electronic monitoring.

Self Reported Questionnaire: Is commonly used as it is relatively simple and inexpensive method. Sometimes it may be the only method available. Studies have indicated that only 25-50% of non compliant patients can be identified by interview. It was found that there was a significant correlation between the proportion of missed doses according to interview and objective method (Roth HP, Caron HS, Clinical Pharmacol Ther, 1978). Though this method may not be accurate there may be reason to believe it is useful because patients reporting non compliance are usually at least as non compliant as indicated by interview (Norell SE, Soc Sci Med, 1981). There also is evidence that patients reporting non compliance are more likely to respond to compliance-improving strategies than other non compliant patients (Haynes RB, Sackett DL, Gibson ES, et al Lancet, 1976)

Pill Count: The method of counting tablets to determine patient medication behaviour was described in 1936 by Corrigan and Strauss in a study of iron treatment for anemia. Since then, several techniques based on the same principle have been described. This method involves a comparison of the medicine left in the patient's bottle and the quantity which should have been left if the medication had been taken. Though this method is being used extensively, it is not believed to be very accurate.

Patients may empty the pill box, or take all the remaining pills before their clinic visit.

Drug Assay: The accuracy of this method depends in part on the half-life of the drug. Longer-acting indicators have been used, but testing will show only past ingestion and not frequency or dosing interval. These studies are very inconvenient and can be expensive. Some patients may object to having blood specimen taken, regarding this as unnecessary and intrusive. Again the value of assessing compliance in this way depends greatly on the reliability of the method by which the drug is identified or quantified in body fluids (Biggs et al., 1976)

Medication Event Monitoring System (MEMS): provides a computer chip in the cap of the medicinal bottle, information is recorded each time the bottle is opened. Data from the MEMS allows calculation of 1) the compliance rate, 2) prescribed frequency, and 3) prescribed interval. A study of adherence in patients taking antiretroviral therapy revealed that while the overall compliance rate was 82% to 86%, more detailed measures of the fraction of doses taken at the prescribed daily interval (55-76%) and fraction of doses taken at the prescribed dosing interval (27%) were lower (Friedland G, JAMA, 1997).

METHODOLOGY

Study Sample

Patient population: Eligibility criteria for this study included age between 18 and 74, current use of approved antiretroviral medications or Protease Inhibitors or use of approved medication for HIV-related complications and prophylaxis of opportunistic infections (for example, trimethoprim-sulfamethoxazole used in the prophylaxis of *Pneumocystis carinii* pneumonia), ability to read English, and positive HIV status. Patients (n=145) were recruited from three sites described below :

1. The Miriam Hospital Immunology Center has the largest number of ambulatory visits of HIV seropositive individuals and serves the majority of HIV + women in Rhode Island.
2. Stanley Street Treatment and Resources, which provides primary care for the indigent and intravenous drug using population in the greater Fall River Massachusetts area.
3. Veterans Affairs Medical Center in Providence, RI, which currently provides care to approximately 60 HIV seropositive men.

Data Collection:

Patients meeting the above criteria who visited one of the three sites were asked to fill out a standardized questionnaire. The patients were told that the questionnaire was about how they think and feel about the HIV related medications that they were taking, and about different strategies that people use to take their medications. They had the choice to fill it at home and mail it in or return to the clinic, or fill it out right

at the clinic. They were also told they would receive a gift certificate of \$20 after they had filled out the questionnaire. The data was collected during the year 1996-97.

The survey questionnaire (identified by first 3 letters of mother's first name and date of birth) administered to patients included data on demographics, living arrangements, education, employment, income, insurance, social support, side effects, and psychological measurement scales. It was a self reported questionnaire. The questionnaires were checked for completeness.

Measures and Variables assessed:

Patients were asked to complete questionnaire items concerning :

Demographic: age, gender, years of education, income, insurance, number of people in household, current health status, employment.

Mood Status: The scale was taken from the SHORT-FORM-36 HEALTH SURVEY developed by Rand Corporation and John E. Ware,(1990). It was designed as a generic indicator of health status for use in population surveys and evaluative studies of health policy. This scale measured the following dimensions:

General Mental Health, covering psychological distress & well-being (five item: questions b, c, d, f and h)

Vitality, energy, or fatigue (four item: questions a, e, g, and i)

The questions were measured on a six point likert scale from none of the time (score of 1) to all of the time (score of 6). The questions include:

- a. Did you feel full of pep?
- b. Have you been a very nervous person?
- c. Have you felt so down in the dumps that nothing could cheer you up?

- d. Have you felt calm and calm and peaceful?
- e. Did you have a lot of energy?
- f. Have you felt downhearted and blue?
- g. Did you feel worn out?
- h. Have you been a happy person?
- i. Did you feel tired?

Scoring: Answers on questions a, d, e, h were recoded (i.e. score of 1 was changed to score of 6, score of 2 was changed to score of 5 and so on) such that low values represent more favorable states. Further scores on question b, c, d, f, and h were summed up to get the score for each individuals General Mental Health. Similarly question a, e, g, and i was added to get the score on vitality, fatigue or energy. Finally transformed score on each of the two were obtained by the following formula

$$\text{Transformed scale} = \frac{(\text{actual score} - \text{lowest possible score})}{\text{Possible raw score range}} * 100$$

Clinical Characteristics: The following questions assessed clinical variables:

- 1. Number of days in bed in the past two weeks
- 2. Number of hospitalizations in the past year
- 3. T-cell count last tested
- 4. Pain interfering with work in the past 4 weeks.

Item (4) measured the extent to which pain interfered with work in the past 4 weeks.

It was measured on a 5- point likert scale (not at all - extremely).

Coping: This scale is taken from the WOC (ways of coping questionnaire) developed by Lazarus and Folkman (1984). The scale was revised in 1986 by Lazarus, Folkman, Dunkel-Schetter to make a 51 item questionnaire with 8 factors. This scale was further adapted by Dunkel-Schetter, Feinstein, Taylor, Falke to suit their study on cancer patients (WOC- cancer version). The responses on the items were measured on a five point likert scale ranging from never, rarely, occasionally, often, to very often. Finally, the five factors developed as a result of the factor loadings were :

Seek and Use Social Support: sum of item numbers 4, 34, 22, 20, 16, 49, 13, 31, 6, 19, 1

Cognitive Escape- Avoidance: sum of item numbers 7, 44, 45, 42, 43, 46, 8, 51, 12

Distancing : sum of item numbers 40, 30, 33, 9, 10, 11, 50, 37, 15, 32, 48, 52

Focus on the Positive: sum of item numbers 26, 27, 17, 41, 21, 28, 14, 47

Behavioral Escape- Avoidance: sum of item numbers 29, 23, 24, 35, 39, 18, 5, 3, 25

The description of the items is in the (Section VI of the appendix

For this study, observations with more than 2 missing values on any of the 50 items was dropped. The final score on each factor was obtained by summing the scores on the items for that factor.

Eg. Distancing = sum (QVI40 QVI30 QVI33 QVI9 QVI10 QVI11 QVI50 QVI37 QVI15 QVI32 QVI48 QVI52).

Assessment of compliance:

1. Number of Doses missed in the past three months: This was a self reported answer to the question “ how many doses of medications have you missed in the past three months”. Higher numbers indicated worse compliance.

2. Temptation to skip medication: This scale was developed to measure self-reported likelihood of non-compliance (Willey, C et al, manuscript in progress). The items on the temptation scale were based upon predictors of compliance from the literature and included situations that might affect you taking your protease inhibitors as directed. Responses for each situation rated how tempted you would be to skip your protease inhibitor medication. The responses were measured on a five-point likert scale (continuous) with 1=not tempted to 5= extremely tempted.

A few of the items under this includes:

- When you feel good and you don't need it
- When you are anxious about side effects
- When you want to save on cost of medication
- When your doctor doesn't seem interested in whether you take your medication
- When you start feeling better

3 subscales were developed:

a. Temptation to skip medication due to side effects

- When you are anxious about side effects
- When you experience minor side effects
- When you feel you should give your body a rest

- When you worry that the chemicals in the medication might harm or hurt your body
- b. Temptation to skip medication due to lack of support
 - When your family and friends don't seem concerned enough about your condition
 - When your doctor doesn't seem concerned enough about your condition
 - When your insurance doesn't cover the cost of your medication
 - When you lose confidence in your doctor
- c. Temptation to skip medication when feeling good
 - When you feel good and think you don't need it
 - When your medical condition doesn't seem that bad
 - When it seems too complex to keep track of all your medications
 - When you aren't sure if the medicine is really helping you
- d. Total scale

Score on each subscale was obtained by adding items under each subscale.

For eg. Score on temptation to skip medication = sum (QV2 + QV6 + QV29 + QV30)

Score on total scale may be obtained by summing the all the items under all the subscales.

Data Analysis

The above categories constitute the independent and dependent variables. Bivariate and multivariate statistics techniques were used to examine the association between the dependent and independent variables. The data was analyzed using the Statistical Analysis System (SAS) Version 6.09 on the IBM mainframe computer at the

University of Rhode Island. Pre-analysis screening procedures were used to assess normality, linearity and homoscedasticity. Residual scatterplots (difference between obtained and predicted DV scores) were obtained. Plots of DV Vs IVs were plotted to check for outliers. PROC UNIVARIATE procedures were carried out to check for skewness and kurtosis. PROC COLLIN / VIF / TOL were the different collinearity diagnostic procedures carried out to check for possible cases of multicollinearity. Demographic variables “number of people in household” and “insurance” did not meet the above assumptions. “number of people in household” had problems with outliers. Very high values were dropped from the study. A plot of DV Vs number of people in household showed a drop in DV value at number of people in household=2. Therefore this variable was categorized into two groups (1 person Vs 2+ people). The variable “insurance” was basically 10 categories of insurance type (eg. Blue cross, medicare etc). Since we were only interested in whether our patients had some insurance coverage to no insurance coverage and not what type of insurance, we created two new categories under this variable (no insurance Vs some insurance). The following variables were determined to be of interest and were further categorized for their use in the model:

The **dependent variables** include the following:

- 1. *Number of doses missed in the past 3 months*** : continuous (self-reported)
- 2. *Temptation to skip medication***: continuous
 - a. Total scale
 - b. due to side effects
 - c. due to lack of support

d. feeling good .

Independent variables include:

A. Demographic

Age: categorical

< 25 years - 1

25-34 years - 2

35-44 years - 3

45-54 years - 4

55 + years - 5

Years of education: categorical

< 12 years - 1

12 years - 2

13-15 years - 3

16 + years - 4

Race : categorical

White - 1

Native Americans - 2

Hispanic - 3

Asian - 4

African American - 5

Others - 6

Current Health Status : categorical

Excellent - 1

Very Good - 2

Good - 3

Fair - 4

poor - 5

Gender: categorical

Female - 1

Male - 2

Employment: categorical

Full-time - 1

Part-time - 2

Unemployed - 3

Insurance : categorical

No insurance - 0

Some insurance - 1

Income: categorical

Less than \$15,000 - 1

\$15,000 to \$24,000 -2

\$25,000 to \$34,000 -3

\$35,000 to 44,000 - 4

45,000 or more - 5

Number of people in household : categorical

1 person - 1

2+ person - 2

B. Clinical

bodily pain in past 4 weeks: categorical

None - 1

Very mild - 2

Mild - 3

Moderate - 4

Severe - 5

Very Severe - 6

Pain interfering with normal work in past 4 weeks: categorical

Not at all - 1

A little bit - 2

Moderately - 3

Quite a bit - 4

Extremely - 5

Number of days in bed in the past 2 weeks: continuous

Number of hospitalization in the past year : continuous

Mood Status and Coping

General mental health: continuous (GMH)

Fatigue : continuous (FAT)

Seek and use social support : continuous (SSS)

Cognitive Escape-Avoidance: continuous (CEA)

Distancing : continuous (DIS)

Focus on Positive: continuous (FOP)

Behavioral Escape-Avoidance: continuous (BEA)

PROC GLM and PROC TTEST procedures were carried out to check if there were any significant differences between groups for the demographic variables. Here, the values of different demographic variables like age, education, race represents groups and the emphasis is on finding mean differences in Y between groups.

PROC REG procedures (Standard multiple regression) were carried out for the following models. 5 models were run for each group of predictor variable.

Models for Demographic characteristics:

1. Temptation to skip medication for the side effect scale = age + gender + current health status + income + race + number of people in household + insurance + education.
2. Temptation to skip medication for the lack of support scale = age + gender + current health status + income + race + number of people in household + insurance + education
3. Temptation to skip medication for the feeling good scale = age + gender + current health status + income + race + number of people in household + insurance + education
4. Temptation to skip medication for the total scale = age + gender + current health status + income + race + number of people in household + insurance + education
5. number of doses missed in the past three months = age + gender + current health status + income + race + number of people in household + insurance + education

Models for Clinical Characteristics:

1. Temptation to skip medication for the side effect scale = bodily pain/past 4 weeks + pain interference with work/past 4 weeks + number of days in bed + number of hospitalization.
2. Temptation to skip medication for the lack of support scale = bodily pain/past 4 weeks + pain interference with work/past 4 weeks + number of days in bed + number of hospitalization.
3. Temptation to skip medication for the feeling good scale = bodily pain/past 4 weeks + pain interference with work/past 4 weeks + number of days in bed + number of hospitalization.
4. Temptation to skip medication for the total scale = bodily pain/past 4 weeks + pain interference with work/past 4 weeks + number of days in bed + number of hospitalization.
5. number of doses missed in the past 3 months = bodily pain/past 4 weeks + pain interference with work/past 4 weeks + number of days in bed + number of hospitalization

Models for Mood Status and Coping:

1. Temptation to skip medication for the side effect scale = GMH + FAT + SSS + CEA + BEA + DIS + FOP
2. Temptation to skip medication for the lack of support scale = GMH + FAT + SSS + CEA + BEA + DIS + FOP
3. Temptation to skip medication for the feeling good scale = GMH + FAT + SSS + CEA + BEA + DIS + FOP

4. Temptation to skip medication for the total scale = GMH + FAT + SSS + CEA +
BEA + DIS + FOP

5. number of doses missed in the past 3 months = GMH + FAT + SSS + CEA + BEA
+ DIS + FOP

The R^2 values (variability in dependent variable that is accounted by the independent variable) were compared between the models. The standardized coefficient and p values were obtained. The sign on the beta values were checked to see if they were as expected.

The final step in the analysis of the research data was selection of the final model for predicting medication compliance.

RESULTS

A total of 145 patients were enrolled in the study. 73 patients were on Protease Inhibitors, which comprised the study population. Three quarters of the study sample were male (77%). The median age was 39 years and it ranged between 24-57 years. Seventy six percent (55/73) were white and only 6% were Hispanics. 8% were African Americans. The most common risk factors for HIV were homosexual life style 43% (29/73), heterosexual contact 32% (22/73) and intravenous drug use 25% (17/73). Most of the patients (87%) had some kind of insurance (Blue Cross, Ocean State, RIGHA, HCHP, other private insurers, HMO, Medicaid, Medicare, others). More than half lived with someone else (Husband or wife, intimate partner, other adults 18 or older, parents, grandparents, children under 18 or children over age 18). Half of the study population had an annual income of less than \$15,000. 80% (57/73) had completed at least high school education.

A. Relationship between Demographic Characteristics and Temptation to skip Protease Inhibitors:

Table 1 presents the demographic characteristics of the study sample (n=73). General linear model procedure was carried out to check if there was any significant difference in temptation to skip medications due to demographic characteristics. Temptation to skip medication did not differ with age, race, years of education, income, number of people in household, insurance and the current health status.

B. Relationship between Demographic characteristics and number of doses of Protease Inhibitors missed in the past three months:

Table 2 represents the demographic characteristics of patients with number of doses missed in the past three months. GLM procedures indicated that the number of doses missed did not differ with age, race, years of education, income, current health status or number of people in household. But it differed with insurance and gender. The number of doses missed was higher if a person had insurance coverage ($p < 0.006$). Also females showed higher number of missed doses ($p < 0.0011$).

C. Table 3 summarizes the results of Multiple Regression for the Clinical predictors of Temptation to skip medication for total scale:

In **Table 3** the negative sign on B indicates a negative association between the number of days in bed during the past two weeks, number of hospitalization in the last one year, T-cell count last tested and the temptation to skip Protease Inhibitors. However none of these associations were significant. Pain interfering with work in the past 4 weeks was significant at 0.05 level of significance. The model accounted for 18% of variation.

D. Table 4 summarizes the results of Multiple Regression for the Clinical predictors of Temptation to skip Protease Inhibitors for the side-effect scale: In **Table 4** the number of days in bed during the past two weeks and the number of hospitalizations in the past one year were negatively associated with the temptation to skip medication due to side-effects. Pain interfering with work in the past four weeks again showed significance at the 0.05 level of significance. The model accounted for 7% of variation.

E. Table 5 summarizes the results of Multiple Regression for the Clinical

predictors of Temptation to skip protease inhibitors for the lack of support scale:

In Table 5, the number of days in bed during the past two weeks and T cell count last tested were negatively associated to the temptation to skip medication due to lack of support. None of the Clinical predictors were significant at 0.05 level of significance. This model accounts for only 3% of variance.

F. Table 6 summarizes the results of multiple regression for the Clinical predictors of Temptation to skip protease inhibitors for the Feeling good scale:

Number of days in bed during the past two weeks, Number of hospitalization in the past year and the T cell count last tested were negatively associated to the temptation to skip medication when feeling good. Pain interfering with work in the past 4 weeks showed significance with a p- value of less than 0.0004. This model accounts for 18% of the variance.

G. Table 7 summarizes the results of multiple regression for the Clinical predictors of number of doses of Protease inhibitors missed in the past three months:

Negative sign on the B values indicate that the clinical predictors are negatively associated to the number of doses missed in the past three months. None of the predictors showed significance at the 0.05 level of significance. The overall model accounted for 3% of variation.

H. Table 8 summarizes the results of multiple regression for the mood status and coping predictors of Temptation to skip Protease Inhibitors for the total scale:

Focus on positive was negatively associated with the Temptation to skip Protease Inhibitors for the total scale. None of the variables were significant at the 0.05 level of significance. This model accounted for 25% of the variance.

A. Table 9 summarizes the results of multiple regression for the mood status and coping predictors of Temptation to skip Protease Inhibitors for the side-effect scale: Validity, energy and fatigue; social support and focus on positive were negatively associated to temptation to skip Protease Inhibitors due to side-effects. Variables did not show significance at 0.05 level of significance. Model accounted for 9% of the variation.

B. Table 10 summarizes the results of multiple regression for the mood status and coping predictors of temptation to skip Protease Inhibitors for the lack of support scale:

Validity, energy and fatigue; seek and use social support, cognitive escape-avoidance, distancing, Focus on positive were negatively associated to the temptation scale. General mental health & behavioral escape avoidance showed significance at 0.05 level of significance. The model accounted for 25% of variance.

C. Table 11 summarizes the results of multiple regression for the mood status and coping predictors of Temptation to skip Protease Inhibitors for the Feeling good scale:

Focus on positive and Behavioral escape- avoidance are negatively associated to the temptation scale. None of the variables showed any significance at the 0.05 level of significance. The model accounts for 20% variance.

D. Table 12 summarizes the results of multiple regression for the mood status

and coping predictors of number of doses of Protease Inhibitors missed in the past three months:

Seek and use social support, cognitive escape avoidance, distancing are negatively associated to the number of doses missed. None of the variables showed significance at the 0.05 level of significance. The model accounted for 11% of variance.

E. Table 13 summarizes the results of multiple regression for the Demographic predictors of Temptation to skip Medication for the total scale:

Age, years of education, number of people in household and annual income were negatively associated to the Temptation to skip medication for the total scale. number of people in the household showed significance at the 0.05 level of significance. The model accounted for 26% of variance.

F. Table 14 summarizes the results of multiple regression for the Demographic predictors of Temptation to skip Protease Inhibition for the side-effect scale:

Gender, race, number of people in household, years of education are negatively associated to the Temptation to skip Protease Inhibitors for the side-effect scale. None of the variables showed significance at the 0.05 level of significance. The model accounted for 26% of the variability.

O. Table 15 summarizes the results of multiple regression for the Demographic predictors of Temptation to skip Protease Inhibition for the lack of support scale:

Age, gender, race, number of people in household and years of education were negatively associated to the Temptation scale. None of the demographic variables

showed significance at the 0.05 level of significance. The model accounted for 13% of the variability.

P. Table 16 summarizes the results of multiple regression for the Demographic predictors of Temptation to skip Protease Inhibition for the feeling good scale: Race, number of people in household, annual income and years of education were negatively associated to the Temptation scale. None of the variables showed significance at the 0.05 level of significance. The model accounted for 15% of the variability.

Q. Table 17 summarizes the results of multiple regression for the Demographic predictors of the number of doses of Protease Inhibitors missed in the past three months:

Age, gender, current health status, race, years of education, annual income, insurance were negatively associated to the number of doses missed in the past three months. Gender showed significance at the 0.05 level of significance. The model accounted for 27% of the variability.

Table 1: Characteristics of the patient population by Demographics for the Temptation to skip Protease Inhibitors:

Demographic Variables	(%) n	mean	
Age			
>25yrs	1 (1%)	19	F=0.69 p<0.6032 R ² =0.0445
25-34yrs	20 (27%)	25.3	
35-44yrs	28(38%)	23.6	
45-54yrs	22 (30%)	23.68	
55+yrs	2 (3%)	19	
Gender			
Female	16 (25%)	24.2	F=1.08 p<0.7981
Male	48 (75%)	23.7	
Race			
White, non-Hispanic	55 (76%)	23.9	F=1.78 p<0.1710 R ² =0.0807
Hispanic	4 (6%)	30	
African American	6 (8%)	26.25	
Other	7 (10%)	20.14	
Years of Education			
<12yrs	15 (21%)	25.5	F=1.11 p<0.3542 R ² =0.0532
12yrs	22 (31%)	24.3	
13-15yrs	20 (28%)	21.8	
16+yrs	15 (21%)	24.9	
Income			
Less than \$15,000	40 (57%)	24.1	F=0.32 p<0.8603 R ² =0.0222
\$15,000 to \$24,000	12 (17%)	24.9	
\$25,000 to \$34,000	6 (9%)	23.8	
\$35,000 to \$44,000	9 (13%)	21.8	
\$45,000 or more	3 (4%)	22.7	
number in household			
1 person	16 (35%)	26.5	F=1.86 p<.626
2+ people	30 (65%)	21.4	
Insurance			
No	9 (13%)	22.0	F=1.56 p<0.6051
Some	63 (87%)	24.1	
Current Health Status			
Excellent	8 (11%)	24.1	F=0.62 p<0.6484 R ² =0.0404
Very Good	13 (18%)	23.5	
Good	39 (53%)	23.1	
Fair	12 (16%)	26.6	
Poor	1 (!%)	25.0	

Table 2: Characteristics of the patient population by Demographics for the Number of doses missed in the past 3 months:

Demographic Variables	(%) n	mean	
Age			
>25yrs	1 (1%)	8	F=0.49 p<0.7457 R ² =0.0309
25-34yrs	20 (27%)	5.7	
35-44yrs	28(38%)	4.2	
45-54yrs	22 (30%)	2.9	
55+yrs	2 (3%)	0.0	
Gender			
Female	16 (%)	8.0	F=3.43 p<0.0011
Male	50 (%)	2.9	
Race			
White, non-Hispanic	55 (76%)	4.8	F=0.40 p<0.7516 R ² =0.0192
Hispanic	4 (6%)	2.7	
African American	6 (8%)	2.8	
Other	7 (10%)	1.5	
Years of Education			
<12yrs	15 (21%)	7.2	F=1.47 p<0.2323 R ² =0.0673
12yrs	22 (31%)	4.3	
13-15yrs	20 (28%)	1.4	
16+yrs	15 (21%)	5.2	
Income			
Less than \$15,000	40 (57%)	5.3	F=0.60 p<0.6664 R ² =0.0382
\$15,000 to \$24,000	12 (17%)	2.6	
\$25,000 to \$34,000	6 (9%)	1.8	
\$35,000 to \$44,000	9 (13%)	5.1	
\$45,000 or more	3 (4%)	0.7	
number in household			
1 person	16 (35%)	2.4	F=3.40 p<.016
2+ people	30 (65%)	4.8	
Insurance			
No	9 (13%)	2.1	F=13.56 p<0.0006
Some	63 (87%)	4.9	
Current Health Status			
Excellent	8 (11%)	2.6	F=1.30 p<0.2811 R ² =0.0784
Very Good	13 (18%)	8.7	
Good	39 (53%)	3.3	
Fair	12 (16%)	3.5	
Poor	1 (!%)	0.0	

Table 3: Clinical Predictors Of Temptations To Skip Medication for The Total Scale

Independent Variables	Standard Coefficient	Standard Error	p
number of days in bed in the past two weeks	-0.252070	0.26608237	0.4000
number of hospitalization in the past year	-0.150587	0.41150700	0.7827
T-cell count last tested	-0.169805	0.76950260	0.6711
Pain interference with work in the past 4 weeks	2.259875	0.56567161	0.0008

MODEL $R^2 = 0.1844$

Table 4: Clinical Predictors of Temptations to Skip Medication for the Side Effect Scale

Independent Variables	Standard Coefficient	Standard Error	p (0.05)
number of days in bed in the past two weeks	-0.029014	0.10903916	0.7910
number of hospitalization in the past year	-0.226164	0.18011361	0.2134
T-cell count last tested	0.173197	0.31605649	0.5854
Pain interference with work in the past 4 weeks	0.490655	0.23056680	0.0369

MODEL $R^2 = 0.0765$

**Table 5: Clinical Predictors of Temptations
To Skip Medication for the Lack of Support Scale**

Independent Variables	Standard Coefficient	Standard Error	p
number of days in bed in the past two weeks	-0.066172	0.10691938	0.5383
number of hospitalization in the past year	0.066261	0.16535509	0.6900
T-cell count last tested	-0.184734	0.30920779	0.5524
Pain interference with work in the past 4 weeks	0.275566	0.22730277	0.2301

MODEL $R^2 = 0.0329$

**Table 6: Clinical Predictors of Temptations
To Skip Medication for the Feeling Good Scale**

Independent Variables	Standard Coefficient	Standard Error	p
number of days in bed in the past two weeks	-0.104082	0.21505136	0.6299
number of hospitalization in the past year	-0.050817	0.35522722	0.8867
T-cell count last tested	-0.420103	0.62333918	0.5026
Pain interference with work in the past 4 weeks	1.686873	0.45473300	0.0004

MODEL $R^2 = 0.1831$

Table 7: Clinical Predictors of Number of Doses Missed In the Past Three Months

Independent Variables	Standard Coefficient	Standard Error	p
number of days in bed in the past two weeks	-0.219782	0.49928973	0.6614
number of hospitalization in the past year	-0.521501	0.84307291	0.5386
T-cell count last tested	-0.471129	1.22601610	0.7022
Pain interference with work in the past 4 weeks	-0.574209	0.91188786	0.5314

MODEL $R^2 = 0.0351$

**Table 8: Mood Status & Coping Predictors Of
Temptations to Skip Medication for the Total Scale**

Independent Variables	Standard Coefficient	Standard Error	p
General mental Health	0.057523	0.06838932	0.2041
Validity, energy & fatigue	0.081699	0.07096276	0.7991
Seek and use social support	0.035140	0.126165	0.7065
Cognitive Escape-Avoidance	0.167219	0.145214	0.2363
Distancing	0.152464	0.119712	0.2973
Focus on the positive	-0.208724	0.141352	0.1589
Behavioral Escape-Avoidance	0.100838	0.152454	0.4670

MODEL $R^2 = 0.2460$

**Table 9: Mood Status & Coping Predictors Of
Temptations to Skip Medication for the Side Effect Scale**

Independent Variables	Standard Coefficient	Standard Error	p
General mental Health	0.003501	0.02930638	0.5122
Validity, energy & fatigue	-0.003084	0.03040916	0.1722
Seek and use social support	-0.003943	0.04307266	0.9745
Cognitive Escape-Avoidance	0.018441	0.05429477	0.6684
Distancing	0.040685	0.04585626	0.5441
Focus on the positive	-0.028221	0.05260424	0.6384
Behavioral Escape-Avoidance	0.068619	0.05555417	0.1920

MODEL $R^2 = 0.0933$

Table 10: Mood Status & Coping Predictors of Temptations To Skip Medication for the Lack of Support Scale

Independent Variables	Standard Coefficient	Standard Error	p
General mental Health	0.065227	0.02493562	0.0151
Validity, energy & fatigue	-0.011578	0.02587393	0.7744
Seek and use social support	-0.069824	0.03822089	0.0668
Cognitive Escape-Avoidance	-0.010692	0.04399168	0.8506
Distancing	-0.015112	0.03626603	0.5991
Focus on the positive	-0.023162	0.04282165	0.6071
Behavioral Escape-Avoidance	0.131255	0.04618492	0.0059

MODEL $R^2 = 0.2575$

Table 11: Mood Status & Coping Predictors of Temptations To Skip Medication for the Feeling Good Scale

Independent Variables	Standard Coefficient	Standard Error	p
General mental Health	0.027457	0.05662832	0.8371
Validity, energy & fatigue	0.084715	0.05875920	0.8862
Seek and use social support	0.129291	0.08058121	0.0838
Cognitive Escape-Avoidance	0.173044	0.10157577	0.0994
Distancing	0.143841	0.08578884	0.1037
Focus on the positive	-0.175670	0.09841308	0.0791
Behavioral Escape-Avoidance	-0.060387	0.10393187	0.5978

MODEL $R^2 = 0.2058$

**Table 12: Mood Status & Coping Predictors of Number
Of Doses Missed in the Past Three Months Medication**

Independent Variables	Standard Coefficient	Standard Error	p
General mental Health	0.079499	0.10050718	0.4324
Validity, energy & fatigue	0.108293	0.10143939	0.2905
Seek and use social support	-0.068747	0.15851851	0.6662
Cognitive Escape-Avoidance	-0.079289	0.19385247	0.6841
Distancing	-0.194862	0.17043714	0.2580
Focus on the positive	0.344344	0.20782860	0.1033
Behavioral Escape-Avoidance	0.075140	0.20920783	0.7209

MODEL $R^2 = 0.1161$

**Table13: Demographic Predictors of Temptation to Skip Medication
For Total Scale**

Independent variable	Standard Coefficient	Standard Error	p
Age (continuous)	0.0086	0.11860	0.9426
Gender	-0.8833	2.08232	0.6739
Current Health Status (categorical)	0.8056	1.12782	0.4795
Race (categorical)	-0.0235	0.55070	0.9661
Years of Education (continuous)	-0.4451	0.32053	0.1732
number in household (1vs 2+)	-4.9342	2.00558	0.0187
Annual Income (categorical)	0.0738	0.80883	0.9278
Insurance (none Vs some)	4.9699	3.31847	0.1427

MODEL R²=0.2685

**Table 14: Demographic Predictors of Temptation to Skip Medication
For Side Effect Scale**

Independent variable	Standard Coefficient	Standard Error	p
Age (continuous)	0.083068	0.041556	0.0523
Gender	-1.408103	0.708451	0.0536
Current Health Status (categorical)	0.155997	0.38977	0.6911
Race (categorical)	-0.095403	0.194311	0.6261
Years of Education (continuous)	-0.21097	0.112697	0.0683
number in household (1vs 2+)	-0.823432	0.679762	0.2327
Annual Income (categorical)	0.33747	0.289008	0.2497
Insurance (none Vs some)	1.60375	1.086704	0.1476

MODEL R²=0.2667

**Table 15: Demographic Predictors of Temptation to Skip Medication
For Lack of Support Scale**

Independent variable	Standard Coefficient	Standard Error	p
Age (continuous)	-0.00791	0.03790	0.8357
Gender	-0.55259	0.66255	0.4095
Current Health Status (categorical)	0.370345	0.36340	0.3146
Race (categorical)	-0.24958	0.17230	0.1557
Years of Education (continuous)	-0.08248	0.10326	0.4294
number in household (1vs 2+)	-0.59231	0.62711	0.3509
Annual Income (categorical)	0.111573	1.067611	0.9173
Insurance (none Vs some)	0.10123	0.260526	0.6998

MODEL R²=0.1321

**Table 16: Demographic Predictors of Temptation to Skip Medication
For Feeling Good Scale**

Independent variable	Standard Coefficient	Standard Error	p
Age (continuous)	0.03845	0.09277	0.6806
Gender	0.27638	1.57834	0.8618
Current Health Status (categorical)	0.82236	0.87711	0.3538
Race (categorical)	-0.23059	0.42361	0.5891
Years of Education (continuous)	-0.24517	0.25349	0.3390
number in household (1vs 2+)	-2.26079	1.49042	0.1368
Annual Income (categorical)	-0.48302	0.650116	0.4610
Insurance (none Vs some)	1.349710	2.43795	0.5828

MODEL R²=0.1532

Table 17: Demographic Predictors of Number of Doses Missed In The Past Three Months

Independent variable	Standard Coefficient	Standard Error	p
Age (continuous)	-0.087099	0.15805735	0.5851
Gender	-5.873565	2.75002781	0.0398
Current Health Status (categorical)	-0.633602	1.44894597	0.6646
Race (categorical)	-0.894087	1.44894597	0.2491
Years of Education (continuous)	-0.339226	0.40787591	0.4112
number in household (1vs 2+)	1.030172	2.58618504	0.6928
Annual Income (categorical)	-0.882132	1.03618448	0.4004
Insurance (none Vs some)	-1.272744	4.51846837	0.7799

MODEL R²=0.2773

Summary Table of Results

Significant Predictors of Temptation to Skip Protease Inhibitors & number of doses missed

	Dependent variables →				
	T₁ scale *	T₂ scale *	T₃ scale *	Total scale *	number of doses missed *
Clinical Characteristics	Pain interfering with work in the past 4 weeks	No predictors	Pain interfering with work in the past 4 weeks	Pain interfering with work in the past 4 weeks	No predictor
Demographic	No predictor	No predictor	No predictor	number of people in household	Gender
Mood Status and Coping	No predictor	General Mental health Behavioral Escape-Avoidance	No predictor	No predictor	No predictor

(*) = See Footnote

* T₁ = Temptation to skip medication for the side-effect scale

* T₂ = Temptation to skip medication for the lack of support scale

* T₃ = Temptation to skip medication for the feeling good scale

* Total scale = Temptation to skip medication for the total scale

* Number of doses missed = number of doses missed in the past 3 months

DISCUSSION

This study examined three predictors of compliance. The predictors examined were demographics, clinical and mood status and coping. Temptation to skip Protease Inhibitors and the number of doses missed in the past three months were two measurements employed to measure compliance. In this section, the independent variables will be analyzed individually to study their impact on medication compliance.

A. Demographics characteristics:

Demographic predictors; age, gender, current health status, race, number of people in household, insurance, and income could not predict the temptation to skip protease inhibitors for the **side-effect scale, lack of support scale and feeling good scale.**

This conclusion was in accordance with a number of studies done in the past.

Demographic variable “ number of people in household” was a significant predictor of temptation to skip medication for the **total scale** ($p < 0.01$). Plot of temptation scale Vs number of people in household shows that there was a drop in the mean temptation score if there were 2 or more people in household. This could be due to availability of good social support. Family and friends can play a crucial role in providing encouragement for achieving health goals. They can provide emotional/informational, tangible, affectionate, and positive social interaction support, which could make the patient want to feel better and take his medication regularly.

This study contradicts studies by Sherbourne on social support. She has emphasized that a single item measure of number of close friends and relatives cannot predict adherence, suggesting that it is the quality of relationship rather than quantity of supports that influence adherence.

Demographic variable “gender” was a significant predictor of number of doses missed in the past three months ($p < 0.03$). Mean number of doses missed for females was significantly higher than the males ($p < 0.001$). This could be because HIV + women are known to express great distress and concern about familial issues such as pregnancy, transmission to HIV to their children and caring for their children. The experience of the disease may bring on different types of stressors. Also HIV-infected women have been shown to be more depressed and anxious as compared to HIV + men. This state of mind could have caused higher number of doses to be missed by females than by males.

Studies in past has shown no consistent association between gender and compliance.

B. Mood Status and Coping:

Mood Status and Coping could not predict the temptation to skip protease inhibitors for the side-effect, feeling good, total scale and the number of doses missed in the past three months. General mental health ($p < 0.01$) and Behavioral escape-avoidance ($p < 0.006$) significantly predicted the temptation to skip Protease inhibitors for the lack of support scale. This shows that HIV + patients who were tempted to skip medication due to lack of support were using Behavioral Escape-Avoidance as their pattern of coping. This factor is known to involves behavioral signs of avoidance such

as social withdrawal, drug use, and impulsivity. HIV+ patients may suffer from specific fears such as abandonment, pain, death, and exposure to homosexuality, bisexuality, drug use, prostitution, or unsafe sexual activity. They therefore tend to live alone in an attempt to conceal their illness. Eventually since they lack social support, they try to withdraw themselves from society and engage in activities like drug use etc. This result supports the conclusion by Dunkel-Schetter. Dunkel-Schetter studied the coping patterns of cancer patients and found that people who coped by behavioral escape-avoidance were also more likely to live alone.

General mental health was another predictor of temptation to skip protease inhibitor for the lack of support scale. It's a measure of psychological distress and well being. Higher scores represent favorable states while lower scores indicate higher psychological distress and depression. Since general mental health was significantly associated to the temptation to skip protease inhibitor for the lack of support scale, patient could be suffering from psychological distress and eventually getting tempted to skip medication. This conclusion was in accordance with the results of work by Nina Singh. She found that non-compliant patients demonstrated significantly greater psychological distress as assessed by standard psychological tests.

C. Clinical:

Pain interfering with work in the past four weeks significantly predicted temptation to skip protease inhibitors for the side effect scale ($p < 0.03$), total scale ($p < 0.0002$), and feeling good scale ($p < 0.0004$). Pain can have a physical and emotional impact on a person. It can causes limiting activities of daily living or cause psychological

responses such as depression, agitation and decreased alertness. Thus, we can expect an HIV+ individual experiencing pain to be physically incapable of taking his medication or psychologically depressed due to pain to want to take his medication.

D. Final Regression Model:

The regression model with all the variables that best explained the dependent variable was defined as below:

Temptation to skip medication for the total scale = $22.1674 - 4.8519 (\text{number of people in household}) - 0.0907 (\text{behavioral escape avoidance}) + 0.2091 (\text{general mental health}) - 0.0401 (\text{pain interfering with work in the past 4 weeks})$

This model had a strong F value of (4.292) with a significant p (0.006). These predictors accounted for nearly 33% of variability.

A backward elimination regression procedure was carried out. The equation started with all the 4 IVs entered and they were deleted one at a time if they did not contribute significantly to regression. The complete model had an R^2 value of 0.3290. The variable pain interfering with work in the past 4 weeks got eliminated first. There was no change in the R^2 value with this elimination. Next, the variable behavioral escape avoidance was dropped from the model. This caused the R^2 value to drop by 0.006. The final R^2 value with number of people in household and General mental health was 0.3229. These were the only 2 significant predictors of Temptation to skip protease inhibitors.

E. Interactions:

An effort was made to check if temptation to skip medication due to psychological distress was affected at different levels of pain. The following model was developed:

Temptation to skip Protease Inhibitor for total scale = Pain interfering/4weeks + GMH + Pain interfering/4week*GMH.

The interaction term, “pain*GMH” did not show significance at the significance level 0.05 suggesting that there was no interaction between psychological distress and pain

F. Limitations

Self reported data: People may be inaccurate in reporting their behavior. There may be multiple influences on them in terms of their ability and desire to provide a valid response. These factors may include clarity of questions, setting, memory, literacy, and mood status.

Measurement : There seems to be no gold standard or satisfactory way to measure compliance, but the questionnaire has been designed to cover every aspect of patient's moods, disease status, coping, demographics, temptations scale etc. which can help us identify the predictors of compliance. The second measure of compliance used in our study was the number of doses missed in the past 4 weeks. This does not seem to be a very good measure of compliance. This may be because it is a single item measure and depends totally on patient recollection and memory.

Measurement issues related to timing: This data was collected when protease inhibitors were first introduced to the market, so patterns of compliance may be different now than they were then.

CONCLUSIONS

The results of this study on predictors of compliance of AIDS patient on Protease Inhibitors have provided a profile of predictors of compliance. The findings of this study are in accordance with a number of studies on predictors of compliance for HIV and other chronic disease states. Temptation to skip medication is a very new concept of compliance measurement. Results of these studies have shown that this scale could be a very good instrument to measure compliance.

Through bivariate and multivariate statistical procedures, a number of significant predictors of compliance were identified. The factors that appeared to predict compliance best were number of people in household, gender, general mental health, pain interfering with work in the past four weeks and behavioral escape avoidance.

The other demographic variables like age, race, income, insurance, current health status had little association with compliance. This finding is consistent with results obtained from other studies. Though gender was one of the significant predictors of compliance, studies in the past haven't found any consistent association between the two.

General mental health and number of people in household were two variables that best predicted compliance in our HIV patients. They accounted for major part of the variance in the temptation to skip medication scale. The negative relationship between the Temptation scale and the number of people in the household wasn't unexpected. Also, the results have shown that the higher the psychological distress the higher was the temptation to skip medication. This again wasn't surprising as many psychological factors have been associated with non-compliance.

Compliance with Protease Inhibitors is a very significant problem because of the fear of development of resistance. This data has shown that psychological distress was a significant problem with the non-compliant HIV patients on Protease Inhibitors. Since illness like psychological distress and depression are often treatable, health care providers must provide appropriate treatment and counseling to these patients. These findings also suggested the importance of social support for compliance behavior. Health care providers should educate family members about the psychological condition of this group of people and how social support can improve their compliant behavior significantly. An awareness of the factors associated with compliance can enable health care providers to identify those at risk for noncompliance behavior. They can then carry out extensive compliance-enhancing counseling programs and help reduce the impact of this problem.

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APPENDIX

- Questionnaire
- Plots

Managing Your Medications Questionnaire

Please answer the following questions thoughtfully and completely. This questionnaire is about how you think and feel about the HIV related medications that you are taking, and about the different strategies that people use to take their medications. It will take about 45 minutes for you to fill this out. You may fill it out at home and mail it in or you may return it to this clinic. When you turn it in, we will give you a gift certificate for \$20 to thank you for your participation. If you have the time to fill it out here, you may turn it in to the person who handed it to you, and receive your gift certificate now.

CODE FOR THIS QUESTIONNAIRE:

- A) What are the first 3 letters of your mother's first name? _____ (1/1-3)
- B) What is your birth date? //_____
mm dd yy (1/4-9)

SECTION I BACKGROUND INFORMATION

The first section of this questionnaire asks about your background.

→ Please circle or fill in the correct response for each question.

1. What is your age? years (1/10-11)
2. What is your gender? M F
3. How would you describe your current health status? (Please check one answer) (1/12)
☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☐ Poor
4. Which of the following best describes your ethnic background? (1/13)
☐ White, non-Hispanic ☐ Hispanic ☐ African American
☐ Native American ☐ Asian ☐ Other
5. How many years of education have you finished? (1/14-15)
6. Do you currently work either part-time or full time? (1/16)
☐ Full-time ☐ Part-time ☐ I am not currently employed
7. Do you live by yourself or with other people? (1/17)
☐ By myself ☐ With others
8. If you live with others, how many (besides you) are in your household? (1/18-19)
9. If you live with others, what is their relationship to you? (Check all that apply) (1/20-26)
☐ Husband or wife ☐ Grandparents
☐ Intimate partner ☐ Children under age 18
☐ Other adults 18 or older ☐ Children over age 18
☐ Parents

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10. Do you have any children? If so, how many? (If none, put 0) ☐☐ (1/27-28)
11. Do any of your adult children live nearby (within a half hour drive)? (1/29)
☐ Yes ☐ No ☐ Not applicable
12. How many of your family or friends can you count on for emotional support? ☐☐ (1/30-31)
13. How many of your family or friends can you count on for financial help? ☐☐ (1/32-33)
14. How many of your family or friends can you count on for physical assistance, or a place to stay? ☐☐ (1/34-35)
15. Do you feel confident that your family or friends will continue to help you with your everyday needs? (1/36)
☐ Very confident
☐ Fairly confident
☐ Somewhat confident
☐ Less than somewhat confident
☐ Not at all confident
16. If you were to need more help with every day needs, do you feel confident that your family or friends could provide it? (1/37)
☐ Very confident
☐ Fairly confident
☐ Somewhat confident
☐ Less than somewhat confident
☐ Not at all confident
17. How many of your family & friends have you told about your HIV infection? (1/38)
☐ None ☐ Less than half ☐ About half ☐ More than half ☐ All
18. What type of health insurance coverage do you currently have? (1/39-48)
☐ NONE ☐ HCHP ☐ Medicaid
☐ Blue Cross ☐ Other private insurer ☐ Medicare
☐ Ocean State ☐ HMO ☐ Other
☐ RIGHA
19. Which of the following best estimates your total (family) income during the past 12 months? (1/49)
☐ Less than \$15,000
☐ \$15,000 to \$24,000
☐ \$25,000 to \$34,000
☐ \$35,000 to \$44,000
☐ 45,000 or more
20. About how far do you live from this treatment center? (1/50)
☐ Within walking distance
☐ Within a ten minute drive or less
☐ Within a twenty minute drive or less
☐ Within a thirty minute drive
☐ More than thirty minutes away

21. When you have questions about medications for your HIV infection, who do you usually ask? *(Please check all that apply)* (1/51-58)
☐ Pharmacist	☐ Other persons with HIV infection
☐ Physician	☐ Family members
☐ Social Worker	☐ Friends
☐ Nurse	☐ Other; please specify _____
- (1/59-78)
22. Which health care provider is most helpful to you in taking your medications as directed? (1/79)
- ☐ Nurse
☐ Pharmacist
☐ Physician
☐ Social Worker
☐ Other; please specify _____
- (2/1-20)
23. Is there someone living with you or close to you who helps or reminds you to take your medications on time? (2/21)
- ☐ Yes ☐ No
24. How much bodily pain have you had during the past four weeks? (2/22)
☐ None	☐ Moderate
☐ Very mild	☐ Severe
☐ Mild	☐ Very Severe
25. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)? (2/23)
- ☐ Not at all ☐ A little bit ☐ Moderately ☐ Quite a bit ☐ Extremely
26. During the past two weeks, how many days did you stay in bed all or most of the day? ☐☐ (2/24-25)
27. How many times have you been hospitalized in the past year? *(If none, put 0)* ☐☐ (2/26-27)
28. These questions are about how you feel and how things have been with you during the past 4 weeks.

For each question, please give the one answer that comes closest to the way you have been feeling.
How much of the time during the past 4 weeks...

	NONE OF THE TIME	A LITTLE BIT OF THE TIME	SOME OF THE TIME	A GOOD BIT OF THE TIME	MOST OF THE TIME	ALL OF THE TIME	
a. Did you feel full of pep?	☐	☐	☐	☐	☐	☐	(2/28)
b. Have you been a very nervous person?	☐	☐	☐	☐	☐	☐	(2/29)
c. Have you felt so down in the dumps that nothing could cheer you up?	☐	☐	☐	☐	☐	☐	(2/30)
d. Have you felt calm and peaceful?	☐	☐	☐	☐	☐	☐	(2/31)
e. Did you have a lot of energy?	☐	☐	☐	☐	☐	☐	(2/32)
f. Have you felt downhearted and blue?	☐	☐	☐	☐	☐	☐	(2/33)
g. Did you feel worn out?	☐	☐	☐	☐	☐	☐	(2/34)
h. Have you been a happy person?	☐	☐	☐	☐	☐	☐	(2/35)
i. Did you feel tired?	☐	☐	☐	☐	☐	☐	(2/36)

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29. How long ago were you diagnosed as HIV positive? (2/37)

☐ Less than a month	☐ 1 to 2 years
☐ One to six months	☐ 3 to 4 years
☐ More than six months, but less than a year	☐ 5 years or more

30. How do you think you got your HIV infection? (2/38-42)

Please check all that apply

- ☐ Injection (IV) drug use
- ☐ Heterosexual contact
- ☐ Homosexual contact
- ☐ Blood transfusion
- ☐ Other: _____

(2/43-62)

31. What was your T cell count (CD4 count) the last time you were tested? (2/63)

- ☐ Greater than 500 ☐ 201-500 ☐ 50-200 ☐ Less than 50

SECTION II MEDICATION HISTORY

WHICH OF THE FOLLOWING MEDICATIONS ARE YOU TAKING NOW?

(2/64-77)

→ PLEASE CHECK ALL THAT APPLY:

☐ AZT (Retrovir®, zidovudine)	☐ Indinavir (Crixivan®)
☐ DDI (Videx®, didanosine)	☐ Trimethoprim or Sulfamethoxazole (Bactrim®, Septra®)
☐ DDC (Hivid®, zalcitabine)	☐ Clarithromycin (Biaxin®)
☐ D4T (Zerit®, stavudine)	☐ Dapsone
☐ 3TC (Epivir®, lamivudine)	☐ Fluconazole (Diflucan®)
☐ Saquinavir (Invirase®)	☐ Itraconazole (Sporanox®)
☐ Ritonavir (Norvir®)	☐ Rifabutin (Mycobutin®)
☐ Other: _____	

We would like to ask you about each medicine that you are currently taking. Please fill out the following 2 page medication form for each medicine that you checked on the above list.

→ If you are currently taking 1 medication, fill out 2 pages.

→ If you are currently taking 2 medications, fill out 4 pages.

→ If you are currently taking 3 medications, fill out 6 pages.

If you are currently taking more than 3 medications, please fill out 6 pages and additional pages in the Supplement at the end of this questionnaire.

Please go to page 12 after you have filled out these medication forms. .

MEDICATION #1

MEDICINE NAME _____

(3/1-20)

1. This medicine is for:

(3/21)

- ☐ HIV infection
- ☐ To treat or prevent PCP (*Pneumocystis carinii pneumonia*)
- ☐ To treat or prevent MAI (*Mycobacterium avium complex*) infection
- ☐ To treat or prevent fungal infections (*Candida* or "thrush")
- ☐ Other: _____
- ☐ Don't know

(3/22-41)

2. How often do you take this medicine?

(3/42-50)

- ☐ Two times a week
- ☐ Three times a week
- ☐ Every other day
- ☐ Once a day
- ☐ Two times a day
- ☐ Three times a day
- ☐ Four times a day
- ☐ Five times a day
- ☐ Other: _____

(3/51-70)

3. How long have you been taking this medication?

(3/71)

- ___ Less than 1 month ___ 6 months to 1 year
- ___ 1 to 3 months ___ 1 to 2 years
- ___ 4 to 6 months ___ more than 2 years

4. During the last 3 months, have you ever stopped taking this medication because you felt better?

(3/72)

- ☐ YES ☐ NO

5. During the last 3 months, have you ever stopped taking this medication because you felt worse?

(3/73)

- ☐ YES ☐ NO

6. During the last 3 months, have you ever forgotten to take this medication?

(3/74)

- ☐ YES ☐ NO

7. During the last 3 months, have you at times been careless about taking this medication?

(3/75)

- ☐ YES ☐ NO

8. During the last 3 months, have you ever taken less of this medicine than your doctor prescribed because you felt better?

(3/76)

- ☐ YES ☐ NO

9. During the last 3 months, have you ever taken less of this medicine than your doctor prescribed because you felt worse?

(3/77)

- ☐ YES ☐ NO

10. Since you began taking this medication, have you ever purposely:

	YES	NO	
a) taken more of the medicine than your physician prescribed?	☐	☐	(3/78)
b) taken less of the medicine than your physician prescribed?	☐	☐	(3/79)
c) discontinued or stopped taking your medication?	☐	☐	(3/80)

If yes.

11. a) How many times have you discontinued your medication for more than 3 days? (4/1-2)

b) What were your reasons for discontinuing your medication? (4/3-8)

(Please check all that apply)

- ☐ My doctor recommended it
- ☐ Too many side effects
- ☐ I didn't want to be reminded of my illness
- ☐ Problems with insurance coverage
- ☐ I didn't think it was working
- ☐ Other: _____ (4/9-28)

12. Sometimes it is difficult to take prescribed medicine all the time. During the past week, how many times did you miss a dose of MEDICATION 1? (4/29-30)

13. During the past month, about how many times did you miss a dose of MEDICATION 1? (4/31-32)

14. During the past three months, about how many times did you miss a dose MEDICATION 1? (4/33-34)

15. Please check any side effect(s) you are having that you believe are caused by this medicine: (4/35-50)

☐ nausea	☐ shortness of breath	☐ headaches
☐ dizziness	☐ muscle aches	☐ anxiety/worry
☐ vomiting	☐ fatigue	☐ depression
☐ abdominal pain	☐ tingling in hands/feet	☐ rash
☐ diarrhea	☐ numbness in hands/feet	☐ sensitivity to sun
☐ other: _____		

(4/51-70)

MEDICATION #2

MEDICINE NAME _____

(5/1-20)

1. This medicine is for:

(5/21)

- ☐ HIV infection
- ☐ To treat or prevent PCP (*Pneumocystis carinii pneumonia*)
- ☐ To treat or prevent MAI (*Mycobacterium avium complex*) infection
- ☐ To treat or prevent fungal infections (*Candida* or "thrush")
- ☐ Other: _____
- ☐ Don't know

(5/22-41)

2. How often do you take this medicine?

(5/42-50)

- ☐ Two times a week
- ☐ Three times a week
- ☐ Every other day
- ☐ Once a day
- ☐ Two times a day
- ☐ Three times a day
- ☐ Four times a day
- ☐ Five times a day
- ☐ Other: _____

(5/51-70)

3. How long have you been taking this medication?

(5/71)

____ Less than 1 month	____ 6 months to 1 year
____ 1 to 3 months	____ 1 to 2 years
____ 4 to 6 months	____ more than 2 years

4. During the last 3 months, have you ever stopped taking this medication because you felt better?

(5/72)

- ☐ YES ☐ NO

5. During the last 3 months, have you ever stopped taking this medication because you felt worse?

(5/73)

- ☐ YES ☐ NO

6. During the last 3 months, have you ever forgotten to take this medication?

(5/74)

- ☐ YES ☐ NO

7. During the last 3 months, have you at times been careless about taking this medication?

(5/75)

- ☐ YES ☐ NO

8. During the last 3 months, have you ever taken less of this medicine than your doctor prescribed because you felt better?

(5/76)

- ☐ YES ☐ NO

9. During the last 3 months, have you ever taken less of this medicine than your doctor prescribed because you felt worse?

(5/77)

- ☐ YES ☐ NO

10. Since you began taking this medication, have you ever purposely:

	YES	NO	
a) taken more of the medicine than your physician prescribed?	☐	☐	(5/78)
b) taken less of the medicine than your physician prescribed?	☐	☐	(5/79)
c) discontinued or stopped taking your medication?	☐	☐	(5/80)

If yes,

11. a) How many times have you discontinued your medication for more than 3 days? _____ (6/1-2)

b) What were your reasons for discontinuing your medication? _____ (6/3-8)

Please check all that apply

- ☐ My doctor recommended it
- ☐ Too many side effects
- ☐ I didn't want to be reminded of my illness
- ☐ Problems with insurance coverage
- ☐ I didn't think it was working
- ☐ Other: _____

(6/9-28)

12. Sometimes it is difficult to take prescribed medicine all the time. During the past week, how many times did you miss a dose of MEDICATION 2? _____ (6/29-30)

13. During the past month, about how many times did you miss a dose of MEDICATION 2? _____ (6/31-32)

14. During the past three months, about how many times did you miss a dose MEDICATION 2? _____ (6/33-34)

15. Please check any side effect(s) you are having that you believe are caused by this medicine:

(4/35-50)

- ☐ nausea
- ☐ dizziness
- ☐ vomiting
- ☐ abdominal pain
- ☐ diarrhea
- ☐ other: _____

- ☐ shortness of breath
- ☐ muscle aches
- ☐ fatigue
- ☐ tingling in hands/feet
- ☐ numbness in hands/feet

- ☐ headaches
- ☐ anxiety/worry
- ☐ depression
- ☐ rash
- ☐ sensitivity to sun

(6/51-70)

MEDICATION #3

MEDICINE NAME _____

(7/1-20)

1. This medicine is for:

(7/21)

- ☐ HIV infection
- ☐ To treat or prevent PCP (Pneumocystis carinii pneumonia)
- ☐ To treat or prevent MAI (Mycobacterium avium complex) infection
- ☐ To treat or prevent fungal infections (Candida or "thrush")
- ☐ Other: _____
- ☐ Don't know

(7/22-41)

2. How often do you take this medicine?

(7/42-50)

- ☐ Two times a week
- ☐ Three times a week
- ☐ Every other day
- ☐ Once a day
- ☐ Two times a day
- ☐ Three times a day
- ☐ Four times a day
- ☐ Five times a day
- ☐ Other: _____

(7/51-70)

3. How long have you been taking this medication?

(7/71)

___ Less than 1 month	___ 6 months to 1 year
___ 1 to 3 months	___ 1 to 2 years
___ 4 to 6 months	___ more than 2 years

4. During the last 3 months, have you ever stopped taking this medication because you felt better?

(7/72)

- ☐ YES ☐ NO

5. During the last 3 months, have you ever stopped taking this medication because you felt worse?

(7/73)

- ☐ YES ☐ NO

6. During the last 3 months, have you ever forgotten to take this medication?

(7/74)

- ☐ YES ☐ NO

7. During the last 3 months, have you at times been careless about taking this medication?

(7/75)

- ☐ YES ☐ NO

8. During the last 3 months, have you ever taken less of this medicine than your doctor prescribed because you felt better?

(7/76)

- ☐ YES ☐ NO

9. During the last 3 months, have you ever taken less of this medicine than your doctor prescribed because you felt worse?

(7/77)

- ☐ YES ☐ NO

10. Since you began taking this medication, have you ever purposely:

	YES	NO	
a) taken more of the medicine than your physician prescribed?	☐	☐	(7/78)
b) taken less of the medicine than your physician prescribed?	☐	☐	(7/79)
c) discontinued or stopped taking your medication?	☐	☐	(7/80)

If yes.

11. a) How many times have you discontinued your medication for more than 3 days? (8/1-2)

b) What were your reasons for discontinuing your medication? (8/3-8)

Please check all that apply

- ☐ My doctor recommended it
- ☐ Too many side effects
- ☐ I didn't want to be reminded of my illness
- ☐ Problems with insurance coverage
- ☐ I didn't think it was working
- ☐ Other: _____ (8/9-28)

12. Sometimes it is difficult to take prescribed medicine all the time. During the past week, how many times did you miss a dose of MEDICATION 3? (8/29-30)

13. During the past month, about how many times did you miss a dose of MEDICATION 3? (8/31-32)

14. During the past three months, about how many times did you miss a dose MEDICATION 3? (8/33-34)

15. Please check any side effect(s) you are having that you believe are caused by this medicine:

(8/35-50)

☐ nausea	☐ shortness of breath	☐ headaches
☐ dizziness	☐ muscle aches	☐ anxiety/worry
☐ vomiting	☐ fatigue	☐ depression
☐ abdominal pain	☐ tingling in hands/feet	☐ rash
☐ diarrhea	☐ numbness in hands/feet	☐ sensitivity to sun
☐ other: _____		(8/51-70)

Next, we would like to ask about your attitudes toward taking each of three different kinds of medications. Please fill out each of the following sections ONLY if you have taken or are currently taking any of the medications listed in each section.

SECTION III: ANTIVIRAL MEDICATIONS.....Please go to page 13 .

[AZT (Retrovir®, zidovudine), DDI (Videx®, didanosine), DDC (Hivid®, zalcitabine), D4T (Zerit®, stavudine), or 3TC (EpiVir®, lamivudine)]

SECTION IV: ANTI-INFECTIVE MEDICATIONS.....Please go to page 21 .

[Trimethoprim or Sulfamethoxazole (Bactrim®, Septra®), Clarithromycin (Biaxin®), Fluconazole (Diflucan®), Itraconazole (Sporanox®), or Rifabutin (Mycobutin®)]

SECTION V: PROTEASE INHIBITORS.....Please go to page 29 .

[Saquinavir (Invirase®), Ritonavir (Norvir®), or Indinavir (Crixivan®)]

Please go to page ³³ after you have completed these medication sections.

SECTION III ANTIVIRAL MEDICATIONS

REMINDER: FILL OUT THIS SECTION IF YOU HAVE EVER TAKEN ANY OF THESE ANTIVIRAL MEDICATIONS: AZT (Retrovir®, zidovudine), DDI (Videx®, didanosine), DDC (Hivid®, zalcitabine), D4T (Zerit®, stavudine), or 3TC (EpiVir®, lamivudine). If not, skip to page 24.

→ If you are taking more than one antiviral medication NOW, please answer these questions for the medicine that is most difficult for you to take, and fill in the name of that medicine here _____ (9/1-20)

→ If you have discontinued your antiviral medication, please answer these questions for the medicine that you took most recently, and fill in the name of that medicine here _____ (9/21-40)

Taking medications as directed (the prescribed amount taken at the right time) is not always easy. At one time or another most people simply forget to take a dose of their medication, and sometimes people discontinue taking their medications for a while. The following is a list of possible advantages and disadvantages of taking antiviral medications as directed.

→ For each numbered statement, please mark one box with an "X" to rate **HOW IMPORTANT** that statement is to you when you are thinking about whether to take your antiviral medication as directed.

	EXTREMELY IMPORTANT 5	VERY IMPORTANT 4	MODERATELY IMPORTANT 3	SLIGHTLY IMPORTANT 2	NOT IMPORTANT 1	
1. It is a hassle to take my antiviral medication several times a day.	☐	☐	☐	☐	☐	(9/41)
2. Taking my antiviral medication as directed may delay some symptoms of HIV infection.	☐	☐	☐	☐	☐	(9/42)
3. My family or friends approve when I remember to take my antiviral medication as directed.	☐	☐	☐	☐	☐	(9/43)
4. Taking too many medications may not be good for my health.	☐	☐	☐	☐	☐	(9/44)
5. When I take my antiviral medication as directed my doctor approves.	☐	☐	☐	☐	☐	(9/45)
6. Taking all of my antiviral medication as directed is too expensive.	☐	☐	☐	☐	☐	(9/46)
7. If I take my antiviral medication as directed, I can avoid possible complications of HIV infection.	☐	☐	☐	☐	☐	(9/47)
8. Taking my antiviral medication as directed may make up for my unhealthy habits.	☐	☐	☐	☐	☐	(9/48)

	NOT IMPORTANT 1	SLIGHTLY IMPORTANT 2	MODERATELY IMPORTANT 3	VERY IMPORTANT 4	EXTREMELY IMPORTANT 5	
9. When I take my antiviral medication as directed, I feel more responsible.	☐	☐	☐	☐	☐	(9/49)
10. When I'm away from home or on vacation, taking my antiviral medication as directed is difficult.	☐	☐	☐	☐	☐	(9/50)
11. When I take my antiviral medication as directed, it makes me feel depressed about having HIV infection.	☐	☐	☐	☐	☐	(9/51)
12. Taking my antiviral medication as directed causes too many annoying side effects.	☐	☐	☐	☐	☐	(9/52)
13. Taking my antiviral medication as directed will slow down this illness.	☐	☐	☐	☐	☐	(9/53)
14. I worry that taking all the doses that are prescribed might not be good for me.	☐	☐	☐	☐	☐	(9/54)
15. Taking my antiviral medication as directed gives me hope.	☐	☐	☐	☐	☐	(9/55)
16. I worry that the antiviral medication is doing more harm than good.	☐	☐	☐	☐	☐	(9/56)
17. Taking my antiviral medication as directed may help me stay well longer.	☐	☐	☐	☐	☐	(9/57)
18. It may be hard on my system, if I take my antiviral medication as directed.	☐	☐	☐	☐	☐	(9/58)
19. I worry that people will know that I'm sick if I take my antiviral medication as directed.	☐	☐	☐	☐	☐	(9/59)
20. Taking my antiviral medication as directed will help me feel better.	☐	☐	☐	☐	☐	(9/60)

Sometimes people take their medications as directed for a while, and then stop taking them for a while.

→ The following 2 questions are about how you are taking your antiviral medication **RIGHT NOW**.

21. Do you consistently take your antiviral medication as directed? ("as directed" means taking your medication at the right time and taking the prescribed amount) (9/61-80)

- ☐ a. No, I do not, and *I am not considering* taking my antiviral medication as directed.
☐ b. No, I do not, but *I am considering* taking my antiviral medication as directed.
☐ c. No, I do not, but *I am planning to start* taking my antiviral medication as directed within the next month.
☐ d. Yes, I consistently take my antiviral medication as directed.

If yes.

- 22. How long have you been taking your antiviral medication as directed? (10/1)

- ☐ a. 0-3 months
☐ b. 4-6 months
☐ c. 6-12 months
☐ d. more than 12 months

Now here are some situations that might affect whether you take your antiviral medication for HIV infection as directed.

For each situation, please mark one box with an "X" to rate **HOW TEMPTED** you would be to skip your antiviral medication or take a dose which is different from the one prescribed.

	EXTREMELY TEMPTED 5	VERY TEMPTED 4	MODERATELY TEMPTED 3	SLIGHTLY TEMPTED 2	NOT TEMPTED 1	
23. When you feel good and think you don't need it.	☐	☐	☐	☐	☐	(10/2)
24. When you are anxious about side effects.	☐	☐	☐	☐	☐	(10/3)
25. When you want to save on the cost of your medication.	☐	☐	☐	☐	☐	(10/4)
26. When you wonder whether you really need your medication.	☐	☐	☐	☐	☐	(10/5)
27. When you feel down.	☐	☐	☐	☐	☐	(10/6)
28. When you experience minor side effects.	☐	☐	☐	☐	☐	(10/7)
29. When you start to feel better.	☐	☐	☐	☐	☐	(10/8)
30. When your doctor doesn't seem interested in whether you take your medication.	☐	☐	☐	☐	☐	(10/9)
31. When you have no energy.	☐	☐	☐	☐	☐	(10/10)
32. When side effects are annoying.	☐	☐	☐	☐	☐	(10/11)

	NOT TEMPTED 1	SLIGHTLY TEMPTED 2	MODERATELY TEMPTED 3	VERY TEMPTED 4	EXTREMELY TEMPTED 5	
33. When someone doesn't remind you to take your medication.	☐	☐	☐	☐	☐	(10/12)
34. When your medical condition doesn't seem that bad.	☐	☐	☐	☐	☐	(10/13)
35. When you are taking several medications at the same time.	☐	☐	☐	☐	☐	(10/14)
36. When it seems too complex to keep track of all your medications.	☐	☐	☐	☐	☐	(10/15)
37. When you feel like giving up.	☐	☐	☐	☐	☐	(10/16)
38. When your doctor doesn't explain why you need to take your medication.	☐	☐	☐	☐	☐	(10/17)
39. When you have to take several medications every day.	☐	☐	☐	☐	☐	(10/18)
40. When you aren't sure if the medicine is really helping you.	☐	☐	☐	☐	☐	(10/19)
41. When you feel that your medication is too expensive.	☐	☐	☐	☐	☐	(10/20)
42. When you don't understand why you need your medication.	☐	☐	☐	☐	☐	(10/21)
43. When you think that you aren't that sick.	☐	☐	☐	☐	☐	(10/22)
44. When your family or friends don't seem concerned enough about your condition.	☐	☐	☐	☐	☐	(10/23)
45. When your doctor doesn't encourage you to take your medication.	☐	☐	☐	☐	☐	(10/24)
46. When your family or friends don't seem interested in whether you take your medication.	☐	☐	☐	☐	☐	(10/25)
47. When your doctor doesn't seem concerned enough about your condition.	☐	☐	☐	☐	☐	(10/26)
48. When your insurance doesn't cover the cost of your medication.	☐	☐	☐	☐	☐	(10/27)
49. When you lose confidence in your doctor.	☐	☐	☐	☐	☐	(10/28)
50. When you worry that taking too many medications might be bad for your health.	☐	☐	☐	☐	☐	(10/29)
51. When you feel you should give your body a rest.	☐	☐	☐	☐	☐	(10/30)
52. When you worry that the chemicals in the medication might harm or hurt your body.	☐	☐	☐	☐	☐	(10/31)

The following statements represent some thoughts and experiences that people have when they are taking antiviral medications on a regular basis. Think about your thoughts and experiences during the past month.

→ For each numbered statement, please mark one box with an "X" to best describe *HOW OFTEN* that thought occurs or has occurred for you during the past month.

	NEVER 1	RARELY 2	OCCASIONALLY 3	OFTEN 4	VERY OFTEN 5	
53. I seek out new information on the benefits of taking my antiviral medications.	☐	☐	☐	☐	☐	(10/32)
54. I call my health care provider if I have questions about taking my antiviral medications.	☐	☐	☐	☐	☐	(10/33)
55. I have someone I can count on to help me take my antiviral medications as directed.	☐	☐	☐	☐	☐	(10/34)
56. I reward myself when I take my antiviral medications as directed.	☐	☐	☐	☐	☐	(10/35)
57. I use reminders to help me remember to take my antiviral medications.	☐	☐	☐	☐	☐	(10/36)
58. When I am tempted to skip a dose of my antiviral medication, I remind myself about the importance of staying on schedule.	☐	☐	☐	☐	☐	(10/37)
59. I promise myself and others to take my antiviral medications as directed.	☐	☐	☐	☐	☐	(10/38)
60. I feel good about myself when I remember to take my antiviral medications as directed.	☐	☐	☐	☐	☐	(10/39)
61. I get upset with myself when I think about the times when I've forgotten to take my antiviral medications.	☐	☐	☐	☐	☐	(10/40)
62. I think that taking my antiviral medications as directed may provide knowledge to help others who have HIV infection.	☐	☐	☐	☐	☐	(10/41)
63. I do something special for myself when I take my antiviral medications as directed.	☐	☐	☐	☐	☐	(10/42)
64. When taking my antiviral medications feels like a hassle, I remind myself of all the benefits of continuing to take them regularly.	☐	☐	☐	☐	☐	(10/43)
65. I tell myself that following a regular schedule will help me take my antiviral medications as directed.	☐	☐	☐	☐	☐	(10/44)
66. When I'm unable to take my antiviral medications as directed, I'm disappointed in myself.	☐	☐	☐	☐	☐	(10/45)

	VERY OFTEN 5	OFTEN 4	OCCASIONALLY 3	RARELY 2	NEVER 1	
67. I get upset when I hear about people like me who stop taking their antiviral medications.	☐	☐	☐	☐	☐	(10/46)
68. I think that taking my antiviral medications as directed will help my family and friends by giving them hope.	☐	☐	☐	☐	☐	(10/47)
69. I ask my health care provider for information about my antiviral medications.	☐	☐	☐	☐	☐	(10/48)
70. I talk to my health care provider before changing the way I take my antiviral medications.	☐	☐	☐	☐	☐	(10/49)
71. Someone close to me reminds me to take my antiviral medications as directed.	☐	☐	☐	☐	☐	(10/50)
72. I build taking my antiviral medications into my schedule.	☐	☐	☐	☐	☐	(10/51)
73. I use a pill organizer or timer to help me take my antiviral medications as directed.	☐	☐	☐	☐	☐	(10/52)
74. When I am on vacation or away from home, I make special efforts to continue taking my antiviral medications as directed.	☐	☐	☐	☐	☐	(10/53)
75. I encourage myself to stick to my regular medication schedule.	☐	☐	☐	☐	☐	(10/54)
76. I get upset with myself when I skip my antiviral medications.	☐	☐	☐	☐	☐	(10/55)
77. I feel that when I take my antiviral medications as directed, I am a good role model for others.	☐	☐	☐	☐	☐	(10/56)
78. When I plan my day, I make sure to include taking my antiviral medications.	☐	☐	☐	☐	☐	(10/57)
79. I use everyday events like brushing my teeth or when my alarm clock goes off to remind me to take my antiviral medications on time.	☐	☐	☐	☐	☐	(10/58)
80. When it is difficult to take my antiviral medications as directed, I remind myself that others are counting on me.	☐	☐	☐	☐	☐	(10/59)
81. I stick to my plan for taking my antiviral medications as directed.	☐	☐	☐	☐	☐	(10/60)
82. I think that I am making a contribution to scientific knowledge about HIV by taking my antiviral medications as directed.	☐	☐	☐	☐	☐	(10/61)
83. I think about the benefits of taking my antiviral medications.	☐	☐	☐	☐	☐	(10/62)

	NEVER 1	RARELY 2	OCCASIONALLY 3	OFTEN 4	VERY OFTEN 5	
84. I call my health care provider when I am concerned about side effects.	☐	☐	☐	☐	☐	(10/63)
85. Emotional support from others helps me take my antiviral medications as directed.	☐	☐	☐	☐	☐	(10/64)
86. When I take my antiviral medications as directed, I congratulate myself.	☐	☐	☐	☐	☐	(10/65)
87. I try to take my antiviral medications at the same time and place so that I won't forget.	☐	☐	☐	☐	☐	(10/66)
88. When my symptoms don't seem to improve, I remind myself that it's still important to take my antiviral medication.	☐	☐	☐	☐	☐	(10/67)
89. I use determination to help me stick to my regular medication-taking schedule.	☐	☐	☐	☐	☐	(10/68)
90. I feel that I am less likely to be a burden to others if I take my antiviral medications as directed.	☐	☐	☐	☐	☐	(10/69)
91. I tell myself and others that I will take my antiviral medications as directed.	☐	☐	☐	☐	☐	(10/70)
92. I feel that my health care provider listens when I have questions about my antiviral medications.	☐	☐	☐	☐	☐	(10/71)
93. I have someone I can rely on to help me with my antiviral medication schedule.	☐	☐	☐	☐	☐	(10/72)
94. I know that my family and friends appreciate my taking my antiviral medications as directed.	☐	☐	☐	☐	☐	(10/73)
95. I avoid situations that make it difficult for me to remember to take my antiviral medications.	☐	☐	☐	☐	☐	(10/74)
96. When I'm concerned about my antiviral medication losing its effectiveness, I remind myself of the good reasons to continue taking my medication as directed.	☐	☐	☐	☐	☐	(10/75)
97. I feel more responsible when I am taking my antiviral medications as directed.	☐	☐	☐	☐	☐	(10/76)
98. I get upset by warnings about the serious problems I could have if I do not take my antiviral medications as directed.	☐	☐	☐	☐	☐	(10/77)
99. I regularly check my supply of pills.	☐	☐	☐	☐	☐	(10/78)

	VERY OFTEN 5	OFTEN 4	OCCASIONALLY 3	RARELY 2	NEVER 1	
100. I remember hearing about the importance of taking my antiviral medications as directed.	☐	☐	☐	☐	☐	(10/79)
101. I feel that my health care provider really helps me take my antiviral medications as directed.	☐	☐	☐	☐	☐	(10/80)
102. I have someone I can talk to about all my medications.	☐	☐	☐	☐	☐	(11/1)
103. I feel that I've earned my health care provider's approval when I take my antiviral medications as directed.	☐	☐	☐	☐	☐	(11/2)
104. I use meal times to help me take my antiviral medications as directed.	☐	☐	☐	☐	☐	(11/3)
105. When I get depressed, I make special efforts to continue taking my antiviral medications as directed.	☐	☐	☐	☐	☐	(11/4)
106. I'm not happy with myself when I don't take my antiviral medications as directed.	☐	☐	☐	☐	☐	(11/5)
107. When I think of the times when I didn't care about taking my antiviral medications, I feel angry with myself.	☐	☐	☐	☐	☐	(11/6)
108. I plan ahead for when my antiviral medication supply will run out.	☐	☐	☐	☐	☐	(11/7)

SECTION IV ANTI-INFECTIVE MEDICATIONS

REMINDER: FILL OUT THIS SECTION IF YOU HAVE EVER TAKEN ANY OF THESE MEDICINES TO HELP PREVENT PNEUMONIA OR INFECTION:

Trimethoprim or Sulfamethoxazole (Bactrim®, Septra®), Clarithromycin (Biaxin®),
Fluconazole (Diflucan®), Itraconazole (Sporanox®), or Rifabutin (Mycobutin®).

If not, skip to page 34.

→ If you are taking more than one anti-infective medication NOW, please answer these questions for the medicine that is most difficult for you to take, and fill in the name of that medicine here

(11/8-27)

→ If you have discontinued your anti-infective medication, please answer these questions for the medicine that you took most recently, and fill in the name of that medicine here

(11/28-47)

Taking medications as directed (the prescribed amount taken at the right time) is not always easy. At one time or another most people simply forget to take a dose of their medication, and sometimes people discontinue taking their medications for a while. The following is a list of possible advantages and disadvantages of taking anti-infective medications as directed.

→ For each numbered statement, please mark one box with an "X" to rate HOW IMPORTANT that statement is to you when you are thinking about whether to take your anti-infective medication as directed.

	1	2	3	4	5	
	NOT IMPORTANT					
	SLIGHTLY IMPORTANT					
	MODERATELY IMPORTANT					
	VERY IMPORTANT					
	EXTREMELY IMPORTANT					
1. It is a hassle to take my anti-infective medication several times a day.	☐	☐	☐	☐	☐	(11/48)
2. Taking my anti-infective medication as directed may delay some symptoms of HIV infection.	☐	☐	☐	☐	☐	(11/49)
3. My family or friends approve when I remember to take my anti-infective medication as directed.	☐	☐	☐	☐	☐	(11/50)
4. Taking too many medications may not be good for my health.	☐	☐	☐	☐	☐	(11/51)
5. When I take my anti-infective medication as directed my doctor approves.	☐	☐	☐	☐	☐	(11/52)
6. Taking all of my anti-infective medication as directed is too expensive.	☐	☐	☐	☐	☐	(11/53)
7. If I take my anti-infective medication as directed, I can avoid possible complications of HIV infection.	☐	☐	☐	☐	☐	(11/54)

	NOT IMPORTANT 1	SLIGHTLY IMPORTANT 2	MODERATELY IMPORTANT 3	VERY IMPORTANT 4	EXTREMELY IMPORTANT 5	
8. Taking my anti-infective medication as directed may make up for my unhealthy habits.	☐	☐	☐	☐	☐	(11/55)
9. When I take my anti-infective medication as directed, I feel more responsible.	☐	☐	☐	☐	☐	(11/56)
10. When I'm away from home or on vacation, taking my anti-infective medication as directed is difficult.	☐	☐	☐	☐	☐	(11/57)
11. When I take my anti-infective medication as directed, it makes me feel depressed about having HIV infection.	☐	☐	☐	☐	☐	(11/58)
12. Taking my anti-infective medication as directed causes too many annoying side effects.	☐	☐	☐	☐	☐	(11/59)
13. Taking my anti-infective medication as directed will slow down this illness.	☐	☐	☐	☐	☐	(11/60)
14. I worry that taking all the doses that are prescribed might not be good for me.	☐	☐	☐	☐	☐	(11/61)
15. Taking my anti-infective medication as directed gives me hope.	☐	☐	☐	☐	☐	(11/62)
16. I worry that the anti-infective medication is doing more harm than good.	☐	☐	☐	☐	☐	(11/63)
17. Taking my anti-infective medication as directed may help me stay well longer.	☐	☐	☐	☐	☐	(11/64)
18. It may be hard on my system if I take my anti-infective medication as directed.	☐	☐	☐	☐	☐	(11/65)
19. I worry that people will know that I'm sick if I take my anti-infective medication as directed.	☐	☐	☐	☐	☐	(11/66)
20. Taking my anti-infective medication as directed will help me feel better.	☐	☐	☐	☐	☐	(11/67)

Sometimes people take their medications as directed for a while, and then stop taking them for a while.

→ The following 2 questions are about how you are taking your anti-infective medication **RIGHT NOW**.

21. Do you consistently take your anti-infective medication as directed? ("as directed" means taking your medication at the right time and taking the prescribed amount) (11/68)

- ___ a. No, I do not, and I am **not considering** taking my anti-infective medication as directed.
- ___ b. No, I do not, but I am **considering** taking my anti-infective medication as directed.
- ___ c. No, I do not, but I am **planning to start** taking my anti-infective medication as directed within the next month.
- ___ d. Yes, I consistently take my anti-infective medication as directed.

If yes,

→ 22. How long have you been taking your anti-infective medication as directed? (11/69)

- ___ a. 0-3 months
- ___ b. 4-6 months
- ___ c. 6-12 months
- ___ d. more than 12 months

Now here are some situations that might affect whether you take your anti-infective medication for HIV infection as directed.

→ For each situation, please mark one box with an "X" to rate **HOW TEMPTED** you would be to skip your anti-infective medication or take a dose which is different from the one prescribed.

	NOT TEMPTED 1	SLIGHTLY TEMPTED 2	MODERATELY TEMPTED 3	VERY TEMPTED 4	EXTREMELY TEMPTED 5	
23. When you feel good and think you don't need it.	☐	☐	☐	☐	☐	(11/70)
24. When you are anxious about side effects.	☐	☐	☐	☐	☐	(11/71)
25. When you want to save on the cost of your medication.	☐	☐	☐	☐	☐	(11/72)
26. When you wonder whether you really need your medication.	☐	☐	☐	☐	☐	(11/73)
27. When you feel down.	☐	☐	☐	☐	☐	(11/74)
28. When you experience minor side effects.	☐	☐	☐	☐	☐	(11/75)
29. When you start to feel better.	☐	☐	☐	☐	☐	(11/76)
30. When your doctor doesn't seem interested in whether you take your medication.	☐	☐	☐	☐	☐	(11/77)

	NOT TEMPTED 1	SLIGHTLY TEMPTED 2	MODERATELY TEMPTED 3	VERY TEMPTED 4	EXTREMELY TEMPTED 5	
31. When you have no energy.	☐	☐	☐	☐	☐	(11/78)
32. When side effects are annoying.	☐	☐	☐	☐	☐	(11/79)
33. When someone doesn't remind you to take your medication.	☐	☐	☐	☐	☐	(11/80)
34. When your medical condition doesn't seem that bad.	☐	☐	☐	☐	☐	(12/1)
35. When you are taking several medications at the same time.	☐	☐	☐	☐	☐	(12/2)
36. When it seems too complex to keep track of all your medications.	☐	☐	☐	☐	☐	(12/3)
37. When you feel like giving up.	☐	☐	☐	☐	☐	(12/4)
38. When your doctor doesn't explain why you need to take your medication.	☐	☐	☐	☐	☐	(12/5)
39. When you have to take several medications every day.	☐	☐	☐	☐	☐	(12/6)
40. When you aren't sure if the medicine is really helping you.	☐	☐	☐	☐	☐	(12/7)
41. When you feel that your medication is too expensive.	☐	☐	☐	☐	☐	(12/8)
42. When you don't understand why you need your medication.	☐	☐	☐	☐	☐	(12/9)
43. When you think that you aren't that sick.	☐	☐	☐	☐	☐	(12/10)
44. When your family or friends don't seem concerned enough about your condition.	☐	☐	☐	☐	☐	(12/11)
45. When your doctor doesn't encourage you to take your medication.	☐	☐	☐	☐	☐	(12/12)
46. When your family or friends don't seem interested in whether you take your medication.	☐	☐	☐	☐	☐	(12/13)
47. When your doctor doesn't seem concerned enough about your condition.	☐	☐	☐	☐	☐	(12/14)
48. When your insurance doesn't cover the cost of your medication.	☐	☐	☐	☐	☐	(12/15)
49. When you lose confidence in your doctor.	☐	☐	☐	☐	☐	(12/16)
50. When you worry that taking too many medications might be bad for your health.	☐	☐	☐	☐	☐	(12/17)

	NOT TEMPTED 1	SLIGHTLY TEMPTED 2	MODERATELY TEMPTED 3	VERY TEMPTED 4	EXTREMELY TEMPTED 5	
51. When you feel you should give your body a rest.	☐	☐	☐	☐	☐	(12/18)
52. When you worry that the chemicals in the medication might harm or hurt your body.	☐	☐	☐	☐	☐	(12/19)

The following statements represent some thoughts and experiences that people have when they are taking anti-infective medications on a regular basis. Think about your thoughts and experiences during the past month.

→ For each numbered statement, please mark one box with an "X" to best describe *HOW OFTEN* that thought occurs or has occurred for you during the past month.

	NEVER 1	RARELY 2	OCCASIONALLY 3	OFTEN 4	VERY OFTEN 5	
53. I seek out new information on the benefits of taking my anti-infective medications.	☐	☐	☐	☐	☐	(12/20)
54. I call my health care provider if I have questions about taking my anti-infective medications.	☐	☐	☐	☐	☐	(12/21)
55. I have someone I can count on to help me take my anti-infective medications as directed.	☐	☐	☐	☐	☐	(12/22)
56. I reward myself when I take my anti-infective medications as directed.	☐	☐	☐	☐	☐	(12/23)
57. I use reminders to help me remember to take my anti-infective medications.	☐	☐	☐	☐	☐	(12/24)
58. When I am tempted to skip a dose of my anti-infective medication, I remind myself about the importance of staying on schedule.	☐	☐	☐	☐	☐	(12/25)
59. I promise myself and others to take my anti-infective medications as directed.	☐	☐	☐	☐	☐	(12/26)
60. I feel good about myself when I remember to take my anti-infective medications as directed.	☐	☐	☐	☐	☐	(12/27)
61. I get upset with myself when I think about the times when I've forgotten to take my anti-infective medications.	☐	☐	☐	☐	☐	(12/28)

	NEVER 1	RARELY 2	OCCASIONALLY 3	OFTEN 4	VERY OFTEN 5	
62. I think that taking my anti-infective medications as directed may provide knowledge to help others who have HIV infection.	☐	☐	☐	☐	☐	(12/29)
63. I do something special for myself when I take my anti-infective medications as directed.	☐	☐	☐	☐	☐	(12/30)
64. When taking my anti-infective medications feels like a hassle, I remind myself of all the benefits of continuing to take them regularly.	☐	☐	☐	☐	☐	(12/31)
65. I tell myself that following a regular schedule will help me take my anti-infective medications as directed.	☐	☐	☐	☐	☐	(12/32)
66. When I'm unable to take my anti-infective medications as directed, I'm disappointed in myself.	☐	☐	☐	☐	☐	(12/33)
67. I get upset when I hear about people like me who stop taking their anti-infective medications.	☐	☐	☐	☐	☐	(12/34)
68. I think that taking my anti-infective medications as directed will help my family and friends by giving them hope.	☐	☐	☐	☐	☐	(12/35)
69. I ask my health care provider for information about my anti-infective medications.	☐	☐	☐	☐	☐	(12/36)
70. I talk to my health care provider before changing the way I take my anti-infective medications.	☐	☐	☐	☐	☐	(12/37)
71. Someone close to me reminds me to take my anti-infective medications as directed.	☐	☐	☐	☐	☐	(12/38)
72. I build taking my anti-infective medications into my schedule.	☐	☐	☐	☐	☐	(12/39)
73. I use a pill organizer or timer to help me take my anti-infective medications as directed.	☐	☐	☐	☐	☐	(12/40)
74. When I am on vacation or away from home, I make special efforts to continue taking my anti-infective medications as directed.	☐	☐	☐	☐	☐	(12/41)
75. I encourage myself to stick to my regular medication schedule.	☐	☐	☐	☐	☐	(12/42)
76. I get upset with myself when I skip my anti-infective medications.	☐	☐	☐	☐	☐	(12/43)
77. I feel that when I take my anti-infective medications as directed, I am a good role model for others.	☐	☐	☐	☐	☐	(12/44)

	NEVER 1	RARELY 2	OCCASIONALLY 3	OFTEN 4	VERY OFTEN 5	
78. When I plan my day, I make sure to include taking my anti-infective medications.	☐	☐	☐	☐	☐	(12/45)
79. I use everyday events like brushing my teeth or when my alarm clock goes off to remind me to take my anti-infective medications on time.	☐	☐	☐	☐	☐	(12/46)
80. When it is difficult to take my anti-infective medications as directed, I remind myself that others are counting on me.	☐	☐	☐	☐	☐	(12/47)
81. I stick to my plan for taking my anti-infective medications as directed.	☐	☐	☐	☐	☐	(12/48)
82. I think that I am making a contribution to scientific knowledge about HIV by taking my anti-infective medications as directed.	☐	☐	☐	☐	☐	(12/49)
83. I think about the benefits of taking my anti-infective medications.	☐	☐	☐	☐	☐	(12/50)
84. I call my health care provider when I am concerned about side effects.	☐	☐	☐	☐	☐	(12/51)
85. Emotional support from others helps me take my anti-infective medications as directed.	☐	☐	☐	☐	☐	(12/52)
86. When I take my anti-infective medications as directed, I congratulate myself.	☐	☐	☐	☐	☐	(12/53)
87. I try to take my anti-infective medications at the same time and place so that I won't forget.	☐	☐	☐	☐	☐	(12/54)
88. When my symptoms don't seem to improve, I remind myself that it's still important to take my anti-infective medication.	☐	☐	☐	☐	☐	(12/55)
89. I use determination to help me stick to my regular medication-taking schedule.	☐	☐	☐	☐	☐	(12/56)
90. I feel that I am less likely to be a burden to others if I take my anti-infective medications as directed.	☐	☐	☐	☐	☐	(12/57)
91. I tell myself and others that I will take my anti-infective medications as directed.	☐	☐	☐	☐	☐	(12/58)
92. I feel that my health care provider listens when I have questions about my anti-infective medications.	☐	☐	☐	☐	☐	(12/59)
93. I have someone I can rely on to help me with my anti-infective medication schedule.	☐	☐	☐	☐	☐	(12/60)

	NEVER 1	RARELY 2	OCCASIONALLY 3	OFTEN 4	VERY OFTEN 5	
94. I know that my family and friends appreciate my taking my anti-infective medications as directed.	☐	☐	☐	☐	☐	(12/61)
95. I avoid situations that make it difficult for me to remember to take my anti-infective medications.	☐	☐	☐	☐	☐	(12/62)
96. When I'm concerned about my anti-infective medication losing its effectiveness, I remind myself of the good reasons to continue taking my medication as directed.	☐	☐	☐	☐	☐	(12/63)
97. I feel more responsible when I am taking my anti-infective medications as directed.	☐	☐	☐	☐	☐	(12/64)
98. I get upset by warnings about the serious problems I could have if I do not take my anti-infective medications as directed.	☐	☐	☐	☐	☐	(12/65)
99. I regularly check my supply of pills.	☐	☐	☐	☐	☐	(12/66)
100. I remember hearing about the importance of taking my anti-infective medications as directed.	☐	☐	☐	☐	☐	(12/67)
101. I feel that my health care provider really helps me take my anti-infective medications as directed.	☐	☐	☐	☐	☐	(12/68)
102. I have someone I can talk to about all my medications.	☐	☐	☐	☐	☐	(12/69)
103. I feel that I've earned my health care provider's approval when I take my anti-infective medications as directed.	☐	☐	☐	☐	☐	(12/70)
104. I use meal times to help me take my anti-infective medications as directed.	☐	☐	☐	☐	☐	(12/71)
105. When I get depressed, I make special efforts to continue taking my anti-infective medications as directed.	☐	☐	☐	☐	☐	(12/72)
106. I'm not happy with myself when I don't take my anti-infective medications as directed.	☐	☐	☐	☐	☐	(12/73)
107. When I think of the times when I didn't care about taking my anti-infective medications, I feel angry with myself.	☐	☐	☐	☐	☐	(12/74)
108. I plan ahead for when my anti-infective medication supply will run out.	☐	☐	☐	☐	☐	(12/75)

SECTION V PROTEASE INHIBITOR MEDICATIONS

REMINDER: FILL OUT THIS SECTION IF YOU HAVE EVER TAKEN ANY OF THESE PROTEASE INHIBITOR MEDICATIONS: Saquinavir (Invirase®), Ritonavir (Norvir®), or Indinavir (Crixivan®). If not, skip to page 39.

→ If you are taking more than one protease inhibitor medication NOW, please answer these questions for the medicine that is most difficult for you to take, and fill in the name of that medicine here _____ (13/1-20)

→ If you have discontinued your protease inhibitor medication, please answer these questions for the medicine that you took most recently, and fill in the name of that medicine here _____ (13/21-40)

Taking medications as directed (the prescribed amount taken at the right time) is not always easy. At one time or another most people simply forget to take a dose of their medication, and sometimes people discontinue taking their medications for a while. The following is a list of possible advantages and disadvantages of taking protease inhibitor medications as directed.

→ For each numbered statement, please mark one box with an "X" to rate HOW IMPORTANT that statement is to you when you are thinking about whether to take your protease inhibitor medication as directed.

	EXTREMELY IMPORTANT 5	VERY IMPORTANT 4	MODERATELY IMPORTANT 3	SLIGHTLY IMPORTANT 2	NOT IMPORTANT 1	
1. It is a hassle to take my protease inhibitor medication several times a day.	☐	☐	☐	☐	☐	(13/41)
2. Taking my protease inhibitor medication as directed may delay some symptoms of HIV infection.	☐	☐	☐	☐	☐	(13/42)
3. My family or friends approve when I remember to take my protease inhibitor medication as directed.	☐	☐	☐	☐	☐	(13/43)
4. Taking too many medications may not be good for my health.	☐	☐	☐	☐	☐	(13/44)
5. When I take my protease inhibitor medication as directed my doctor approves.	☐	☐	☐	☐	☐	(13/45)
6. Taking all of my protease inhibitor medication as directed is too expensive.	☐	☐	☐	☐	☐	(13/46)
7. If I take my protease inhibitor medication as directed, I can avoid possible complications of HIV infection.	☐	☐	☐	☐	☐	(13/47)
8. Taking my protease inhibitor medication as directed may make up for my unhealthy habits.	☐	☐	☐	☐	☐	(13/48)

	NOT IMPORTANT 1	SLIGHTLY IMPORTANT 2	MODERATELY IMPORTANT 3	VERY IMPORTANT 4	EXTREMELY IMPORTANT 5	
9. When I take my protease inhibitor medication as directed, I feel more responsible.	☐	☐	☐	☐	☐	(13/49)
10. When I'm away from home or on vacation, taking my protease inhibitor medication as directed is difficult.	☐	☐	☐	☐	☐	(13/50)
11. When I take my protease inhibitor medication as directed, it makes me feel depressed about having HIV infection.	☐	☐	☐	☐	☐	(13/51)
12. Taking my protease inhibitor medication as directed causes too many annoying side effects.	☐	☐	☐	☐	☐	(13/52)
13. Taking my protease inhibitor medication as directed will slow down this illness.	☐	☐	☐	☐	☐	(13/53)
14. I worry that taking all the doses that are prescribed might not be good for me.	☐	☐	☐	☐	☐	(13/54)
15. Taking my protease inhibitor medication as directed gives me hope.	☐	☐	☐	☐	☐	(13/55)
16. I worry that the protease inhibitor medication is doing more harm than good.	☐	☐	☐	☐	☐	(13/56)
17. Taking my protease inhibitor medication as directed may help me stay well longer.	☐	☐	☐	☐	☐	(13/57)
18. It may be hard on my system, if I take my protease inhibitor medication as directed.	☐	☐	☐	☐	☐	(13/58)
19. I worry that people will know that I'm sick if I take my protease inhibitor medication as directed.	☐	☐	☐	☐	☐	(13/59)
20. Taking my protease inhibitor medication as directed will help me feel better.	☐	☐	☐	☐	☐	(13/60)

Sometimes people take their medications as directed for a while, and then stop taking them for a while.

→ The following 2 questions are about how you are taking your protease inhibitor medication **RIGHT NOW**.

21. Do you consistently take your protease inhibitor medication as directed? ("as directed" means taking your medication at the right time and taking the prescribed amount) (13/61)

- ___ a. No, I do not, and I am not considering taking my protease inhibitor medication as directed.
- ___ b. No, I do not, but I am considering taking my protease inhibitor medication as directed.
- ___ c. No, I do not, but I am planning to start taking my protease inhibitor medication as directed within the next month.
- ___ d. Yes, I consistently take my protease inhibitor medication as directed.

If yes.

22. How long have you been taking your protease inhibitor medication as directed? (13/62)

- ___ a. 0-3 months
- ___ b. 4-6 months
- ___ c. 6-12 months
- ___ d. more than 12 months

Now here are some situations that might affect whether you take your protease inhibitor medication for HIV infection as directed.

→ For each situation, please mark one box with an "X" to rate **HOW TEMPTED** you would be to skip your protease inhibitor medication or take a dose which is different from the one prescribed.

	NOT TEMPTED 1	SLIGHTLY TEMPTED 2	MODERATELY TEMPTED 3	VERY TEMPTED 4	EXTREMELY TEMPTED 5	
23. When you feel good and think you don't need it.	☐	☐	☐	☐	☐	(13/63)
24. When you are anxious about side effects.	☐	☐	☐	☐	☐	(13/64)
25. When you want to save on the cost of your medication.	☐	☐	☐	☐	☐	(13/65)
26. When you wonder whether you really need your medication.	☐	☐	☐	☐	☐	(13/66)
27. When you feel down.	☐	☐	☐	☐	☐	(13/67)
28. When you experience minor side effects.	☐	☐	☐	☐	☐	(13/68)
29. When you start to feel better.	☐	☐	☐	☐	☐	(13/69)
30. When your doctor doesn't seem interested in whether you take your medication.	☐	☐	☐	☐	☐	(13/70)

	NOT TEMPTED 1	SLIGHTLY TEMPTED 2	MODERATELY TEMPTED 3	VERY TEMPTED 4	EXTREMELY TEMPTED 5	
31. When you have no energy.	☐	☐	☐	☐	☐	(13/71)
32. When side effects are annoying.	☐	☐	☐	☐	☐	(13/72)
33. When someone doesn't remind you to take your medication.	☐	☐	☐	☐	☐	(13/73)
34. When your medical condition doesn't seem that bad.	☐	☐	☐	☐	☐	(13/74)
35. When you are taking several medications at the same time.	☐	☐	☐	☐	☐	(13/75)
36. When it seems too complex to keep track of all your medications.	☐	☐	☐	☐	☐	(13/76)
37. When you feel like giving up.	☐	☐	☐	☐	☐	(13/77)
38. When your doctor doesn't explain why you need to take your medication.	☐	☐	☐	☐	☐	(13/78)
39. When you have to take several medications every day.	☐	☐	☐	☐	☐	(13/79)
40. When you aren't sure if the medicine is really helping you.	☐	☐	☐	☐	☐	(13/80)
41. When you feel that your medication is too expensive.	☐	☐	☐	☐	☐	(14/1)
42. When you don't understand why you need your medication.	☐	☐	☐	☐	☐	(14/2)
43. When you think that you aren't that sick.	☐	☐	☐	☐	☐	(14/3)
44. When your family or friends don't seem concerned enough about your condition.	☐	☐	☐	☐	☐	(14/4)
45. When your doctor doesn't encourage you to take your medication.	☐	☐	☐	☐	☐	(14/5)
46. When your family or friends don't seem interested in whether you take your medication.	☐	☐	☐	☐	☐	(14/6)
47. When your doctor doesn't seem concerned enough about your condition.	☐	☐	☐	☐	☐	(14/7)
48. When your insurance doesn't cover the cost of your medication.	☐	☐	☐	☐	☐	(14/8)
49. When you lose confidence in your doctor.	☐	☐	☐	☐	☐	(14/9)
50. When you worry that taking too many medications might be bad for your health.	☐	☐	☐	☐	☐	(14/10)
51. When you feel you should give your body a rest.	☐	☐	☐	☐	☐	(14/11)

EXTREMELY TEMPTED	5
VERY TEMPTED	4
MODERATELY TEMPTED	3
SLIGHTLY TEMPTED	2
NOT TEMPTED	1

52. When you worry that the chemicals in the medication might harm or hurt your body. ☐ ☐ ☐ ☐ ☐ (14/12)

SECTION VI WAYS OF COPING WITH HIV

Here are some ways that different people may cope with HIV and its treatments. There are no right or wrong answers.

→ In the last month, **HOW OFTEN** did you think, feel, or do each item?
(Please circle one number for each item)

VERY OFTEN	5
OFTEN	4
OCCASIONALLY	3
RARELY	2
NEVER	1

In the last month, I

1. concentrated on the next step	1	2	3	4	5	(14/13)
2. felt the only thing to do was wait	1	2	3	4	5	(14/14)
3. did something just to do something	1	2	3	4	5	(14/15)
4. talked to someone to find out more	1	2	3	4	5	(14/16)
5. criticized or lectured myself	1	2	3	4	5	(14/17)
6. tried not to close off options	1	2	3	4	5	(14/18)
7. hoped a miracle would happen	1	2	3	4	5	(14/19)
8. went along with fate	1	2	3	4	5	(14/20)
9. went on as if it were not happening	1	2	3	4	5	(14/21)
10. tried to keep my feelings to myself	1	2	3	4	5	(14/22)
11. looked for the silver lining, looked on the bright side	1	2	3	4	5	(14/23)
12. slept more than usual	1	2	3	4	5	(14/24)
13. looked for sympathy or understanding	1	2	3	4	5	(14/25)
14. was inspired to be creative	1	2	3	4	5	(14/26)
15. tried to forget the whole thing	1	2	3	4	5	(14/27)
16. tried to get professional help	1	2	3	4	5	(14/28)
17. changed or grew as a person in a good way	1	2	3	4	5	(14/29)
18. waited to see what would happen before acting	1	2	3	4	5	(14/30)

	NEVER	RARELY	OCCASIONALLY	OFTEN	VERY OFTEN	
	1	2	3	4	5	
19. made a plan of action and followed it	1	2	3	4	5	(14/31)
20. let my feelings out somehow	1	2	3	4	5	(14/32)
21. came out of the experience better than before	1	2	3	4	5	(14/33)
22. talked to someone who could do something	1	2	3	4	5	(14/34)
23. tried to make myself feel better by eating, drinking, smoking or drug use	1	2	3	4	5	(14/35)
24. took a big chance and did something risky	1	2	3	4	5	(14/36)
25. tried not to act too hastily	1	2	3	4	5	(14/37)
26. found new faith	1	2	3	4	5	(14/38)
27. rediscovered what is important in life	1	2	3	4	5	(14/39)
28. changed something so things will turn out	1	2	3	4	5	(14/40)
29. avoided being with people	1	2	3	4	5	(14/41)
30. didn't let it get to me; refused to think about it	1	2	3	4	5	(14/42)
31. asked a friend or relative for advice	1	2	3	4	5	(14/43)
32. kept others from knowing how bad things were	1	2	3	4	5	(14/44)
33. made light of it; refused to get too serious	1	2	3	4	5	(14/45)
34. talked to someone about how I was feeling	1	2	3	4	5	(14/46)
35. took it out on other people	1	2	3	4	5	(14/47)
36. drew on past experiences from similar situations	1	2	3	4	5	(14/48)
37. knew what had to be done, so increased efforts	1	2	3	4	5	(14/49)
38. refused to believe it was happening	1	2	3	4	5	(14/50)
39. came up with different solutions	1	2	3	4	5	(14/51)
40. tried to keep my feelings from interfering	1	2	3	4	5	(14/52)
41. changed something about myself	1	2	3	4	5	(14/53)
42. wished the situation would go away or be over	1	2	3	4	5	(14/54)
43. had fantasies/wishes about how it might turn out	1	2	3	4	5	(14/55)
44. prayed	1	2	3	4	5	(14/56)
45. prepared for the worst	1	2	3	4	5	(14/57)
46. went over in my mind what I would say or do	1	2	3	4	5	(14/58)
47. thought of how a person I admire would act	1	2	3	4	5	(14/59)
48. reminded myself how much worse things could be	1	2	3	4	5	(14/60)
49. tried to find out as much as I could	1	2	3	4	5	(14/61)
50. treated the illness as a challenge	1	2	3	4	5	(14/62)

Now here are some questions about injection (skin popping or IV) drugs.

Please circle or fill in the correct response for each question.

51. Have you ever used injection drugs?

(14/63)

- ☐ No
☐ Yes.

If yes,

→ Please fill out the remaining questions only if you have ever used injection drugs.

52. Do you use injection drugs now?

(14/64)

- ☐ No, not in the past 6 months
☐ Not now, but once or twice in the past 6 months
☐ Yes, occasionally
☐ Yes, regularly

If injected at all during the past 6 months,

→ 53. During the past 6 months, how often have you injected the following:

	NEVER	LESS THAN TWICE PER MONTH	2-4 TIMES PER MONTH	2-7 TIMES PER WEEK	MORE THAN ONCE PER DAY	
a. Heroin by itself	☐	☐	☐	☐	☐	(14/65)
b. Cocaine by itself?	☐	☐	☐	☐	☐	(14/66)
c. Cocaine and heroin, or speedball?	☐	☐	☐	☐	☐	(14/67)
d. Amphetamines, such as uppers, speed, meth, or crack?	☐	☐	☐	☐	☐	(14/68)

→ 54. During the past 6 months, how often did you use a brand new needle or one that you are sure no one else used EACH TIME you shot up?

(14/69)

- ☐ Never ☐ Rarely ☐ Sometimes ☐ Almost always ☐ Always

→ 55. During the past 6 months, how many people did you share needles or works with? (14/70)

- ☐ None
☐ 1 other person
☐ 2-3 different people
☐ 4-10 different People
☐ More than 10 different people

→ 56. During the past 6 months, how often have:

	NEVER	LESS THAN TWICE PER MONTH	2-4 TIMES PER MONTH	2-7 TIMES PER WEEK	MORE THAN ONCE PER DAY	
a. You used needles or works after someone without cleaning?	☐	☐	☐	☐	☐	(14/71)
b. Others used needles or works after you without cleaning?	☐	☐	☐	☐	☐	(14/72)
c. You used a needle after someone who is HIV positive had used it?	☐	☐	☐	☐	☐	(14/73)
d. You shot up in a shooting gallery, hit house or another place where groups of users shoot up?	☐	☐	☐	☐	☐	(14/74)
e. You shared rinse water?	☐	☐	☐	☐	☐	(14/75)
f. You shared a cooker?	☐	☐	☐	☐	☐	(14/76)
g. You shared cotton?	☐	☐	☐	☐	☐	(14/77)

→ 57. During the past 6 months, where did you get needles?

	<u>SOME of your needles</u> (Answer yes or no to all)		<u>MOST of your needles</u> (Check only one)	
	YES	NO		
a. At a needle exchange?	☐	☐	☐	(14/78)
b. On the street?	☐	☐	☐	(14/79)
c. In a shooting gallery?	☐	☐	☐	(14/80)
d. At a drugstore?	☐	☐	☐	(15/1)
e. At the same place where you buy drugs?	☐	☐	☐	(15/2)
f. From a diabetic?	☐	☐	☐	(15/3)
g. From another person not mentioned?	☐	☐	☐	(15/4)
h. From another place not mentioned?	☐	☐	☐	(15/5)

→ 58. During the past 6 months, if you haven't used a needle exchange...or if you had difficulties getting needles from a needle exchange, how come? (15/6-11)

Please check all that apply

- ☐ Don't know about it
- ☐ Too far
- ☐ Open too few hours
- ☐ Scared of getting arrested
- ☐ Scared someone will see me there
- ☐ Other reason (please specify) _____

(15/12-32)

59. Are you planning to use only your own works (needles, syringes, cotton, cooker, rinse water) or a brand new needle EVERY TIME you inject within the next 6 months? If so, how soon? (15/33)
- ☐ NO, I am not planning to start using new needles every time
 - ☐ YES, within the next year
 - ☐ YES, within the next 6 months
 - ☐ YES, within the next month
 - ☐ YES, I already use new needles every time
60. Have you been using new needles every time you use IV needles? If so, for how long? (15/34)
- ☐ NO, I have not been using using new needles every time
 - ☐ YES, for 30 days or less
 - ☐ YES, for MORE than 30 days but LESS than 6 months
 - ☐ YES, for MORE than 6 months but LESS than a year
 - ☐ YES, for MORE than a year
61. Now, how ready are you to STOP using injection drugs completely? (15/35)
- ☐ Not ready
 - ☐ Somewhat ready
 - ☐ Ready
 - ☐ Very Ready

For information about needle exchange in Rhode Island, call (401) 277-2320.

For information on the "Medication for The Needy-Assistance Program" at The University of Rhode Island, call 1-800-215-9001.

This completes this survey. Thank you for your assistance with this project & for sharing your thoughts on HIV related medications.

SUPPLEMENT TO SECTION II

MEDICATION #4

MEDICINE NAME _____

(15/36-55)

1. This medicine is for:

(15/56)

- ☐ HIV infection
- ☐ To treat or prevent PCP (*Pneumocystis carinii pneumonia*)
- ☐ To treat or prevent MAI (*Mycobacterium avium complex*) infection
- ☐ To treat or prevent fungal infections (*Candida* or "thrush")
- ☐ Other: _____
- ☐ Don't know

(15/57-76)

2. How often do you take this medicine?

(15/77)

- ☐ Two times a week
- ☐ Three times a week
- ☐ Every other day
- ☐ Once a day
- ☐ Two times a day
- ☐ Three times a day
- ☐ Four times a day
- ☐ Five times a day
- ☐ Other: _____

3. How long have you been taking this medication?

(16/1-20)

☐ Less than 1 month	☐ 6 months to 1 year
☐ 1 to 3 months	☐ 1 to 2 years
☐ 4 to 6 months	☐ more than 2 years

4. During the last 3 months, have you ever stopped taking this medication because you felt better?

(16/21)

- ☐ YES ☐ NO

5. During the last 3 months, have you ever stopped taking this medication because you felt worse?

(16/22)

- ☐ YES ☐ NO

6. During the last 3 months, have you ever forgotten to take this medication?

(16/23)

- ☐ YES ☐ NO

7. During the last 3 months, have you at times been careless about taking this medication?

(16/24)

- ☐ YES ☐ NO

8. During the last 3 months, have you ever taken less of this medicine than your doctor prescribed because you felt better?

(16/25)

- ☐ YES ☐ NO

9. During the last 3 months, have you ever taken less of this medicine than your doctor prescribed because you felt worse?

(16/26)

- ☐ YES ☐ NO

10. Since you began taking this medication, have you ever purposely:

	YES	NO	
a) taken more of the medicine than your physician prescribed?	☐	☐	(16/27)
b) taken less of the medicine than your physician prescribed?	☐	☐	(16/28)
c) discontinued or stopped taking your medication?	☐	☐	(16/29)

If yes,

→ 11.a) How many times have you discontinued your medication for more than 3 days? _____ (16/30-31)

b) What were your reasons for discontinuing your medication? (16/32-37)
Please check all that apply

- ☐ My doctor recommended it
- ☐ Too many side effects
- ☐ I didn't want to be reminded of my illness
- ☐ Problems with insurance coverage
- ☐ I didn't think it was working
- ☐ Other: _____ (38-57)

12. Sometimes it is difficult to take prescribed medicine all the time. During the past week, how many times did you miss a dose of MEDICATION 4? _____ (16/58-59)

13. During the past month, about how many times did you miss a dose of MEDICATION 4? _____ (16/60-61)

14. During the past three months, about how many times did you miss a dose MEDICATION 4? _____ (16/62-63)

15. Please check any side effect(s) you are having that you believe are caused by this medicine: (16/64-79)

☐ nausea	☐ shortness of breath	☐ headaches
☐ dizziness	☐ muscle aches	☐ anxiety/worry
☐ vomiting	☐ fatigue	☐ depression
☐ abdominal pain	☐ tingling in hands/feet	☐ rash
☐ diarrhea	☐ numbness in hands/feet	☐ sensitivity to sun
☐ other: _____		

(17/1-20)

MEDICATION #5

MEDICINE NAME _____

(17/21-40)

1. This medicine is for:

(17/41)

- ☐ HIV infection
- ☐ To treat or prevent PCP (*Pneumocystis carinii pneumonia*)
- ☐ To treat or prevent MAI (*Mycobacterium avium complex*) infection
- ☐ To treat or prevent fungal infections (*Candida* or "thrush")
- ☐ Other: _____
- ☐ Don't know

(17/42-61)

2. How often do you take this medicine?

(17/62)

- ☐ Two times a week
- ☐ Three times a week
- ☐ Every other day
- ☐ Once a day
- ☐ Two times a day
- ☐ Three times a day
- ☐ Four times a day
- ☐ Five times a day
- ☐ Other: _____

(18/1-20)

3. How long have you been taking this medication?

(18/21)

- ☐ Less than 1 month ☐ 6 months to 1 year
- ☐ 1 to 3 months ☐ 1 to 2 years
- ☐ 4 to 6 months ☐ more than 2 years

4. During the last 3 months, have you ever stopped taking this medication because you felt better?

(18/22)

- ☐ YES ☐ NO

5. During the last 3 months, have you ever stopped taking this medication because you felt worse?

(18/23)

- ☐ YES ☐ NO

6. During the last 3 months, have you ever forgotten to take this medication?

(18/24)

- ☐ YES ☐ NO

7. During the last 3 months, have you at times been careless about taking this medication? (18/25)

- ☐ YES ☐ NO

8. During the last 3 months, have you ever taken less of this medicine than your doctor prescribed because you felt better?

(18/26)

- ☐ YES ☐ NO

9. During the last 3 months, have you ever taken less of this medicine than your doctor prescribed because you felt worse?

(18/27)

- ☐ YES ☐ NO

10. Since you began taking this medication, have you ever purposely:

	YES	NO	
a) taken more of the medicine than your physician prescribed?	☐	☐	(18/28)
b) taken less of the medicine than your physician prescribed?	☐	☐	(18/29)
c) discontinued or stopped taking your medication?	☐	☐	(18/30)

If yes,

→ 11.a) How many times have you discontinued your medication for more than 3 days? _____ (18/31-32)

b) What were your reasons for discontinuing your medication? (18/33-38)
Please check all that apply

- ☐ My doctor recommended it
- ☐ Too many side effects
- ☐ I didn't want to be reminded of my illness
- ☐ Problems with insurance coverage
- ☐ I didn't think it was working
- ☐ Other: _____ (18/39-58)

12. Sometimes it is difficult to take prescribed medicine all the time. During the past week, how many times did you miss a dose of MEDICATION 5? _____ (18/59-60)

13. During the past month, about how many times did you miss a dose of MEDICATION 5? _____ (18/61-62)

14. During the past three months, about how many times did you miss a dose MEDICATION 5? _____ (18/63-64)

15. Please check any side effect(s) you are having that you believe are caused by this medicine: (18/65-80)

☐ nausea	☐ shortness of breath	☐ headaches
☐ dizziness	☐ muscle aches	☐ anxiety/worry
☐ vomiting	☐ fatigue	☐ depression
☐ abdominal pain	☐ tingling in hands/feet	☐ rash
☐ diarrhea	☐ numbness in hands/feet	☐ sensitivity to sun
☐ other: _____		

(19/1-20)

MEDICATION #6

MEDICINE NAME _____

(19/21-40)

1. This medicine is for:

(19/41)

- ☐ HIV infection
- ☐ To treat or prevent PCP (*Pneumocystis carinii pneumonia*)
- ☐ To treat or prevent MAI (*Mycobacterium avium complex*) infection
- ☐ To treat or prevent fungal infections (*Candida* or "thrush")
- ☐ Other: _____
- ☐ Don't know

(19/42-61)

2. How often do you take this medicine?

(19/62)

- ☐ Two times a week
- ☐ Three times a week
- ☐ Every other day
- ☐ Once a day
- ☐ Two times a day
- ☐ Three times a day
- ☐ Four times a day
- ☐ Five times a day
- ☐ Other: _____

(20/1-20)

3. How long have you been taking this medication?

(20/21)

- ___ Less than 1 month ___ 6 months to 1 year
- ___ 1 to 3 months ___ 1 to 2 years
- ___ 4 to 6 months ___ more than 2 years

4. During the last 3 months, have you ever stopped taking this medication because you felt better?

(20/22)

- ☐ YES ☐ NO

5. During the last 3 months, have you ever stopped taking this medication because you felt worse?

(20/23)

- ☐ YES ☐ NO

6. During the last 3 months, have you ever forgotten to take this medication?

(20/24)

- ☐ YES ☐ NO

7. During the last 3 months, have you at times been careless about taking this medication? (20/25)

- ☐ YES ☐ NO

8. During the last 3 months, have you ever taken less of this medicine than your doctor prescribed because you felt better?

(20/26)

- ☐ YES ☐ NO

9. During the last 3 months, have you ever taken less of this medicine than your doctor prescribed because you felt worse?

(20/27)

- ☐ YES ☐ NO

10. Since you began taking this medication, have you ever purposely:

	YES	NO	
a) taken more of the medicine than your physician prescribed?	☐	☐	(20/28)
b) taken less of the medicine than your physician prescribed?	☐	☐	(20/29)
c) discontinued or stopped taking your medication?	☐	☐	(20/30)

If yes,

+ 11.a) How many times have you discontinued your medication for more than 3 days? _____ (20/31-32)

b) What were your reasons for discontinuing your medication? (20/33-38)
Please check all that apply

- ☐ My doctor recommended it
- ☐ Too many side effects
- ☐ I didn't want to be reminded of my illness
- ☐ Problems with insurance coverage
- ☐ I didn't think it was working
- ☐ Other: _____ (20/39-58)

12. Sometimes it is difficult to take prescribed medicine all the time. During the past week, how many times did you miss a dose of MEDICATION 6? _____ (20/59-60)

13. During the past month, about how many times did you miss a dose of MEDICATION 6? _____ (20/61-62)

14. During the past three months, about how many times did you miss a dose MEDICATION 6? _____ (20/63-64)

15. Please check any side effect(s) you are having that you believe are caused by this medicine: (20/65-80)

☐ nausea	☐ shortness of breath	☐ headaches
☐ dizziness	☐ muscle aches	☐ anxiety/worry
☐ vomiting	☐ fatigue	☐ depression
☐ abdominal pain	☐ tingling in hands/feet	☐ rash
☐ diarrhea	☐ numbness in hands/feet	☐ sensitivity to sun
☐ other: _____		

(21/1-20)

1. Plot of Temptation to skip Protease Inhibitors for Total scale Vs Pain interfering with work in past 4 weeks

Plot of Y*QI25. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 76 obs had missing values.

3. Plot of Temptation to skip Protease Inhibitor for Total scale Vs # of hospitalizations
In the past year

Plot of Y*QI27. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 77 obs had missing values.

4. Plot of Temptation to skip Protease Inhibitors for Total scale Vs T cell count last tested

Plot of Y*QI31. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 78 obs had missing values.

5. Plot of # of doses missed in the past three months Vs Pain interfering with work in the past 4 weeks

Plot of MISSPI*QI25. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 78 obs had missing values.

6. Plot of # of doses missed in the past 3 months Vs # of days in bed in the past 2 weeks

Plot of MISSPI*QI26. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 78 obs had missing values.

7. Plot of # of doses missed in the past 3 months Vs # of hospitalization in past year

Plot of MISSPI*QI27. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 79 obs had missing values.

8. Plot of # of doses missed in the past 3 months Vs Tcell count last tested

Plot of MISSPI*QI31. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 81 obs had missing values.

9. Plot of # of doses missed in the past 3 months Vs general mental health

Plot of MISSPI*TGMH. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 81 obs had missing values.

10. Plot of # of doses missed in the past 3 months Vs vitality energy and fatigue

Plot of MISSPI*TFAT. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 81 obs had missing values.

11. Plot of # of doses missed in the past 3 months Vs seek and use social support

Plot of MISSPI*SSSS. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 80 obs had missing values.

12. Plot of doses missed in the past 3 months Vs Behavioral Escape Avoidance

Plot of MISSPI*SBEA. Legend: A = 1 obs, B = 2 obs, etc.

13. Plot of # of doses missed in the past 3 months Vs Cognitive
Escape Avoidance

Plot of MISSPI*SCEA. Legend: A = 1 obs, B = 2 obs, etc.

14. Plot of # of doses missed in the past 3 months Vs Focus on Positive

Plot of MISSPI*SFOP. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 80 obs had missing values.

15. Plot of # of doses missed in the past 3 months Vs. Distancing

Plot of MISSPI*SDIS. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 78 obs had missing values.

16. Plot of Temptation to skip Protease Inhibitors for the Total scale Vs General mental Health

Plot of Y*TGMH. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 78 obs had missing values.

17. Plot of Temptation to skip Protease Inhibitors for the Total scale Vs
Vitality, fatigue & energy

Plot of Y*TFAT. Legend: A = 1 obs, B = 2 obs, etc.

Plot of Y*SSSS. Legend: A = 1 obs, B = 2 obs, etc.

19. Plot of Temptation to skip Protease Inhibitor for Total scale Vs Behavioral Escape Avoidance

Plot of Y*SBEA. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 77 obs had missing values.

20. Plot of Temptation to skip Protease Inhibitor for Total scale Vs Cognitive Escape Avoidance

Plot of Y*SCEA. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 76 obs had missing values.

Plot of Y*SFOP. Legend: A = 1 obs, B = 2 obs, etc.

22. Plot of Temptation to skip Protease Inhibitor for Total scale Vs Distancing

Plot of Y*SDIS. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 76 obs had missing values.

23. Plot of Temptation to skip Protease Inhibitors for Total Scale Vs Age

Plot of Y*QI1. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 76 obs had missing values.

24. Plot of Temptation to skip Protease Inhibitors for Total Scale Vs gender

Plot of Y*QI2A. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 76 obs had missing values.

25. Plot of Temptation to skip Protease Inhibitors for Total Scale Vs Current Health Status

Plot of Y*QI3. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 76 obs had missing values.

1

26. Plot of Temptation to skip Protease Inhibitors for Total Scale Vs Race

Plot of Y*QI4. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 77 obs had missing values.

1

27. Plot of Temptation to skip Protease Inhibitors for Total Scale Vs Years of Education

Plot of Y*QI5. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 77 obs had missing values.

1

28. Plot of Temptation to skip Protease Inhibitors for Total Scale Vs Number of people in household

Plot of Y*QI8A. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 83 obs had missing values.

1

29. Plot of Temptation to skip Protease Inhibitors for Total Scale Vs Insurance

Plot of Y*X. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 76 obs had missing values.

1

30. Plot of Temptation to skip Protease Inhibitors for Total Scale Vs Income

Plot of Y*QI19. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 78 obs had missing values.

31. Plot of number of doses missed in the past 3 months Vs age

Plot of MISSPI*Q11. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 78 obs had missing values.

32. Plot of number of doses missed in the past 3 months Vs Gender
 Plot of MISSPI*QI2A. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 78 obs had missing values.

33. Plot of number of doses missed in the past 3 months Vs Current health status

Plot of MISSPI*QI3. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 78 obs had missing values.

34. Plot of number of doses missed in the past 3 months Vs Race

Plot of MISSPI*QI4. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 79 obs had missing values.

35. Plot of number of doses missed in the past 3 months Vs Years of Education

Plot of MISSPI*QI5. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 79 obs had missing values.

1

36. Plot of number of doses missed in the past 3 months Vs number of people in household

Plot of MISSPI*QI8A. Legend: A = 1 obs, B = 2 obs, etc.

QI8A

NOTE: 84 obs had missing values.

37. Plot of number of doses missed in the past 3 months vs Income

Plot of MISSPI*QI19. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 79 obs had missing values.

38. Plot of number of doses missed in the past 3 months Vs Insurance

Plot of MISSPI*X. Legend: A = 1 obs, B = 2 obs, etc.

NOTE: 78 obs had missing values.

1. Plot of pain interfering with work in the past 4 weeks Vs
Temptation to skip Protease Inhibitors for total scale

2. Plot of # of days in bed in the past 2 weeks Vs Temptation to skip Protease Inhibitors for total scale

3. Plot of # of hospitalization in the past year Vs Temptation to skip Protease Inhibitors for total scale

Frequency

4. Plot of T cell count last tested Vs Temptation to skip Protease Inhibitors for total scale

Frequency

5. Plot of pain interfering with work in the past 4 weeks Vs # of doses missed in the past three months

6. Plot of # of days in bed in the past 2 weeks Vs # of doses missed in the past 3 months

7. Plot of # of hospitalization in the past year Vs # of doses missed in the past three months

Frequency

8. Plot of T cell count last tested Vs # of doses missed in the past three months

Frequency

9. Plot of General mental health Vs # of doses missed in the past three months

Frequency

10. Plot of vitality energy and fatigue Vs # of doses missed in the past three months

Frequency

11. Plot of seek and use social support Vs # of doses missed in the past three months

12. Plot of Behavioral escape avoidance Vs # of doses missed in the past 3 months

Frequency

Frequency

14. Plot of focus on positive Vs # of doses missed in the past three months

Frequency

15. Plot of Distancing Vs # of doses missed in the past 3 months

Frequency

16. Plot of General mental Health Vs Temptation to skip Protease inhibitors for total scale

Frequency

Y Midpoint

17. Plot of Vitality energy and fatigue Vs Temptation to skip Protease inhibitors for total scale

Frequency

18. Plot of seek and use social support Vs Temptation to skip Protease inhibitors for total scale
Frequency

19. Plot of Behavioral escape avoidance Vs Temptation to skip Protease inhibitors for total scale

Frequency

Y Midpoint

20. Plot of Cognitive escape avoidance Vs Temptation to skip Protease Inhibitors for total
scale
Frequency

21. Plot of Focus on Positive Vs Temptation to skip Protease Inhibitors for total scale
Frequency

Y Midpoint

22. Plot of Distancing Vs Temptation to skip Protease inhibitor for total scale

Frequency

23. Plot of age Vs Temptation to skip Protease Inhibitors for total scale
Frequency

24. Plot of current health status Vs temptation to skip Protease Inhibitors for total scale
Frequency

25. Plot of race Vs Temptation to skip Protease Inhibitors for total scale
Frequency

26. Years of education Vs Temptation to skip Protease Inhibitors for total scale Frequency

27. Number of people in household Vs Temptation to skip Protease Inhibitors for total scale
Frequency

28. Insurance Vs Temptation to skip Protease Inhibitors for total scale
Frequency

29. Income Vs Temptation to skip Protease Inhibitors for total scale
Frequency

30. Age Vs # of doses missed in the past three months Frequency

31. Current health Status Vs # of doses missed int he past three months

Frequency

32. Race Vs # of doses missed in the past three months

33. Years of education Vs # of doses missed in the past three months

Frequency

34. # of people in household Vs # of doses missed in the past three months

Frequency

PI # MISSED DOSES/3 MO.

35. Insurance Vs # of doses missed in the past three months
Frequency

36. Income Vs # of doses of missed in the past three months
Frequency

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