You have been asked to volunteer for a clinical research study involving an experimental drug named elvitegravir for the treatment of HIV-1 infection. An experimental drug means that the United States Food and Drug Administration (FDA) has not approved it for use by the general public.

This consent form may contain words you do not understand. Please ask the study doctor or study staff to explain any words or information you do not clearly understand before agreeing to volunteer for this clinical research study.

YOUR RIGHTS
This consent form tells you about the study. Your study doctor or study nurse will go over this with you and answer any questions you may have regarding this research study. If you agree to volunteer, you will be asked to sign and date this consent form. You will be given a copy of the signed and dated consent form to keep.

No one can force you to take part in this study. Even if you agree to participate now, you are free to change your mind. You may refuse to join or stop at any time without penalty or loss of benefits to which you would otherwise be entitled.

Before you agree to volunteer, you must understand the purpose of the study, how your participation may help you, any potential risks to you, and what is expected of you during the study.

DISCLOSURE OF MONEY RECEIVED OUTSIDE OF THE STUDY:
This research study is supported by money from Gilead Sciences, Inc.. In addition, the person leading this research study receives payment from Gilead Sciences, Inc. for activities that are not a part of this study. These activities may include consulting, advisory board membership, giving speeches or writing reports. If you would like more information, please ask the researchers or the study coordinator.

PURPOSE OF THE STUDY
With an estimated 33 million people in the world infected with the virus, HIV is a major medical problem. The purpose of this study is to determine if elvitegravir (which is one of a new class of anti-HIV medications called integrase inhibitors) is safe and effective when given in combination with a background regimen (or “BR” for short) in subjects who are failing their current regimen of HIV medications. A “regimen” is considered to be all the anti HIV medications that you are taking or you will be taking to fight your HIV infection. The safety and effectiveness of elvitegravir will be compared 1
with that of a similar integrase inhibitor called raltegravir that has been approved by the FDA. The dose used in this study for raltegravir is the dose that has been approved. The safety and how well these drug combinations are tolerated will be determined based on vital signs (i.e., heart rate, breathing rate, body temperature, and blood pressure), physical exams, laboratory tests and questions about any problems you might experience during the study. As part of this study, levels of HIV-1 in the blood ("viral load") and drug levels of elvitegravir and raltegravir will be measured at various times during the study.

**DESIGN OF THE STUDY**

If you agree to participate in this research study, you will be one of 700 subjects recruited from about 230 study sites in the United States, including Puerto Rico, Europe, Australia, Canada and Mexico. It is expected that approximately 5-10 people will participate in this study at the University of Pennsylvania.

The first part of the study is a double-blind study, which means that neither you nor your study doctor will know which study drug you are receiving. You will be enrolled in the study into one of two treatment arms to receive either elvitegravir 150 mg or raltegravir 400 mg. Elvitegravir must be taken with ritonavir. Because you will be taking a ritonavir-boosted protease inhibitor (PI), a class of HIV drugs, as part of your BR, you will take elvitegravir together with ritonavir and the PI that is prescribed by your study doctor. You will receive three tablets of study drug per day, in addition to your BR medications. Of these three study drug tablets, one of the drugs will be active (elvitegravir or raltegravir). The remaining tablet(s) will be placebo, which means it contains material with no active effect on your HIV but looks like the equivalent active study drug. This is also a randomized (by chance, like a flip of a coin) study, so you will be selected to receive one of the two treatments listed below:

Treatment Arm 1: elvitegravir 150 mg once a day + raltegravir placebo twice a day + BR

Treatment Arm 2: raltegravir 400 mg twice a day + elvitegravir placebo once a day + BR

You will have a 1 out of 2 chance of being assigned to each of the treatment arms. Again, your treatment arm assignment will not be known to you or your doctor.

Your study doctor will choose your BR treatment regimen based on the anti-HIV drugs you have taken in the past and the screening results of viral resistance testing (genotype/phenotype). The BR will be made up of a fully-active ritonavir-boosted PI and a second drug. The following ritonavir-boosted PIs are allowed for use in this study: Aptivus® (tipranavir), Kaletra® (lopinavir/ritonavir), Lexiva® (fosamprenavir), Prezista™ (darunavir) or Reyataz® (atazanavir). For some HIV medicines, taking a low dose of ritonavir increases ("boosts") the effectiveness of the HIV medicine.

The second drug may or may not be fully-active and can be one nucleoside or nucleotide reverse transcriptase inhibitor (NRTI), etravirine, maraviroc,T-20 or one of three fixed-dose combination therapies Combivir®, Truvada®, or Kivexa®/Epzicom®. However, the second drug must not be efavirenz, nevirapine, or delavirdine (due to unknown pharmacokinetic interactions); an integrase inhibitor; or any of the combination drugs Atripla® or Trizivir®.
If you are randomized to receive elvitegravir and you are taking either Kaletra® (lopinavir/ritonavir) or Reyataz® (atazanavir) as part of your BR, you will receive a lower dose of elvitegravir (85 mg).

Once you are confirmed to be eligible to participate in the study, and you state that you want to take part in the study, you will be assigned a unique subject number.

If you qualify and you decide to participate in the open-label (OL) extension phase of the study, you will be required to return for additional study visits. Open-label means you and your doctor will know what study drugs you will be taking. Depending on the antiretroviral agents that your study doctor chooses for you in this study, you will be given one of the following treatments:

- elvitegravir 85mg once daily + background regimen (BR) if your BR includes atazanavir/r or lopinavir/r
- elvitegravir 150mg once daily + background regimen (BR) if your BR does not include atazanavir/r or lopinavir/r

Elvitegravir and raltegravir will be supplied by Gilead Sciences, Inc., the Sponsor of this study. If your study doctor decides to use tenofovir disoproxil fumarate (tenofovir DF), also known as VIREAD®, as part of your BR, this will also be supplied by Gilead Sciences. All other medications chosen as part of your BR, including ritonavir, will be your responsibility, and supplied by your local pharmacy or your study doctor. The study drugs supplied by Gilead Sciences, Inc. must be stored at room temperature. Your study doctor or study nurse will inform you as to the proper storage of all other drugs used in this study.

If you are a subject who has screened or previously enrolled into Study GS-US-183-0144 and are now rolling over into the GS-US-183-0145 study, you will continue to attend your regular scheduled visits as outlined below.

**DURATION OF THE STUDY**

The screening period (the time between the screening visit and baseline visit) may last up to 56 days. You will receive the blinded study drug(s) for a minimum of 96 weeks (22 months). During this time, you will be required to visit the clinic at least 19 times. After 96 weeks, you will continue to take your study drug and attend visits every 8 weeks until Week 144, and then every 12 weeks until the blinded portion of the study is completed. If you complete the required on-study treatment and you qualify, you will be offered the opportunity to receive elvitegravir for the open-label extension phase of the study. Elvitegravir will be provided open-label for an additional 144 weeks or until commercial approval is received to sell elvitegravir in your country (whichever occurs first). If you complete the open-label extension you will be given the option to participate in another open label extension phase of the study if commercial approval has not yet been obtained in your country.

**STUDY PROCEDURES**

**Screening**

To help the study doctor determine your eligibility and safety to participate in this study, you need to be seen at the clinic within 56 days before the study starts. After you consent and you receive a copy of the informed consent form, you will have several screening procedures done. These procedures will include:
CONSENT FORM

a. An interview about your medical history, including any illnesses or health problems, and your history of HIV-1 disease-related events and any current or prior HIV medications
b. A complete physical examination, including vital signs (blood pressure, temperature, breathing rate, and heart rate), weight and height
c. A urine sample for standard laboratory tests
d. If you are a female able to become pregnant, a blood pregnancy test will be required. If the blood test is positive, you will not be eligible to participate in the study.
e. About 4 teaspoons (20 mL) of blood will be taken for general health screening tests, such as chemistry and blood count, and to determine the amount of HIV-1 in your blood.
f. About 1 teaspoon (6 mL) of blood will be drawn for an HIV-1 genotype/phenotype test. Genotype testing is a technique that finds changes or “mutations” in certain regions of the HIV-1 gene. Phenotype testing is a technique used to determine whether a mutation in the HIV-1 gene changes how anti-HIV drugs affect the HIV-1 virus. Some mutations can prevent certain anti-HIV drugs or drug regimens from reducing the level of HIV-1 in your blood. When this occurs, the HIV-1 has become “resistant” to that drug and possibly other similar drugs. The genotype and phenotype tests will help your doctor decide the best medicines to prescribe for you and to compose your BR while you participate in this study. Your screening time may be extended up to 56 days if your study doctor requires you to repeat the genotype/phenotype test.
g. A 12-lead ECG (electrocardiogram) to check the functioning of your heart.

The study doctor will review all of your medical information and findings from your screening visit (including medical history, medications, clinical laboratory results, physical exam, etc.) and other entry criteria, as required by the study protocol, to determine if you are eligible to participate in this study.

Pre-Baseline
Once you are found to be eligible, you may come back to the clinic between 1 and 14 days before the Baseline visit for the “Pre-Baseline” visit. It may be possible for you to complete the Pre-Baseline visit over the telephone. At this visit you will be randomized into the study and you will be prescribed your BR. It is very important that you do not take any of the prescribed medications until after all of the required study procedures at the Baseline visit have been completed.

At the Pre-Baseline visit, you will also be asked whether there has been any change in your health (illness or health problems) since the screening visit and whether you have used any medications since then, other than those you named at the screening visit.

Restrictions during the Study
You will be told not to eat or drink anything except water for at least 8 hours before your blood is drawn at the Baseline Visit, Weeks 24, 48, 72, and 96 and every 24 weeks (post-week 96 visit until unblinding) and every 48 weeks (post unblinding visit).

You cannot take any antacids that contain calcium, magnesium, or aluminum (for example, Tums®, or Rolaids®), Carafate® (an ulcer medicine), or vitamins/mineral supplements that contain calcium, iron or zinc for a minimum of 2 hours before or 2 hours after any dose of study drug. You must check with the study doctor before taking any medication or health supplements for the length of the study.
Baseline/Day 1
You will be asked to come back to the clinic within 56 days after the Screening visit for the “Baseline” (Day 1) visit. The following procedures will occur during this visit:

a. You will be asked whether there has been any change in your health (illness or health problems) and whether you have taken any new medications since your last visit.

b. A complete physical examination, including vital signs and weight

c. A urine sample for standard laboratory tests

d. If you are a female able to become pregnant, a urine pregnancy test will be required. If the urine pregnancy test is positive, you will have a blood pregnancy test to confirm the result. If the blood test is positive, you will not be enrolled into the study.

e. About 3 teaspoons (about 15 mL) of blood will be taken for chemistry, complete blood count, CD4+ cell count (white blood cell that fights infection), tests for hepatitis B virus, hepatitis C virus and to determine HIV-1 levels in your blood.

f. About 1 teaspoon (about 6 mL) of blood will be collected and stored to allow the possibility of conducting tests at a later date (for example, to check whether the HIV in your blood can develop resistance to this anti-HIV drug).

g. Tests on blood being drawn at this visit will be used to measure changes in the amount of sugar and fats in your blood. About 1 teaspoon (about 4 mL) of blood will be taken for this test. It is important that your blood is drawn for this sample in the morning prior to eating (in a fasting state). If you have not fasted, you will be asked to return to the clinic within 72 hours in a fasted state. “Fasting” means that you will not eat or drink anything, except water, for at least eight hours before your blood is drawn.

h. You will be counseled regarding the importance of taking all study medications.

i. You will receive a 4-week supply of study drug at this visit. The study drugs should be taken at the same time every day with food and with the BR medications and the ritonavir-boosted PI. You will be responsible for picking up the other medicines that make up your BR. You should pick up these medicines before or during this visit.

j. It is very important that you do not take any of the prescribed medications until after all of the required study procedures at the Baseline visit have been completed.

Weeks 2, 4, 8, 12, 16, 20, 24, 32, 40, 48, 56, 64, 72, 80, 88 and 96
The following procedures will occur during these visits:

a. You will be asked whether there has been any change in your health (illness or health problems) and whether you have taken any new medications since your last visit.

b. A physical examination, including vital signs and weight (a complete physical examination will be performed at Weeks 24, 48, 72 and 96 and at the Early Study Drugs Discontinuation visit; a symptom directed physical examination will be performed at all other visits as needed).

c. A urine sample for standard laboratory tests

d. If you are a female able to become pregnant, a urine pregnancy test will be required. If the urine pregnancy test is positive, you will have a blood pregnancy test to confirm the result. If the blood test is positive, you will be withdrawn from the study and asked to return for a follow-up visit.

e. About 3 teaspoons (about 15 mL) of blood will be taken for chemistry (at the weeks 24, 48, 72, and 96 study visits), complete blood count, CD4+ cell count and to determine HIV-1 levels in your blood.
CONSENT FORM

f. About 1 teaspoon (about 6 mL) of blood will be collected and stored to allow the possibility of conducting tests at a later date (for example, to check whether the HIV in your blood can develop resistance to this anti-HIV drug and to measure the amount of drug in your blood).

g. Blood being drawn at the Weeks 24, 48, 72 and 96 visits will be used to measure changes in the amount of sugar and fats in your blood. About 1 teaspoon (about 4 mL) of blood will be taken for this test. It is important that your blood is drawn for this sample in the morning prior to eating. If you have not fasted, you will be asked to return to the clinic within 72 hours in a fasted state. “Fasting” means that you will not eat or drink anything, except water, for at least eight hours before your blood is drawn.

h. At your Week 2, 12, 16, 24, and 48 visits, about 1 teaspoon (about 6 mL) of blood will be taken to measure the amount of elvitegravir or raltegravir in your blood. This type of testing is called pharmacokinetics (PK) and measures the amount of the study drug in your blood. It tells the researchers how much time it takes for the study drug to be absorbed into your body and how long it stays in your body after it has been absorbed. For this test to be accurate it is important that you take your study drugs AFTER your blood sample has been taken.

i. At your Week 8, 20, 32, and 40 visits about 1 teaspoon (about 6 mL) of blood will be taken to measure the amount of elvitegravir or raltegravir in your blood for PK. You do not need to wait to take your study drug prior to these visits.

j. For the Week 4 visit only, an intensive PK blood sample will be collected at the following timepoints: pre-dose, 1 hour post-dosing, and 24 hours post-dosing. There will be an option for you to choose to complete blood sampling at 2, 3, and 4 hours post-dosing as well. About 1 teaspoon (about 6 mL) of blood will be drawn for each time point. For this test to be accurate it is important that you take your study drugs AFTER your pre-dose blood sample has been taken.

k. Subjects that do not appear to be responding well to study drug (your viral load does not drop sufficiently enough) will have samples sent for HIV-1 RNA testing and blood drawn for HIV-1 genotype/phenotype testing (a test which determines if the HIV treatment you are currently taking is still working against the HIV virus) at the Week 12 visit. Suboptimal virologic response means you have HIV-1 RNA higher than 50 copies/mL and have had less than a $1 \log_{10}$ reduction in HIV-1 RNA from baseline at the Week 8 visit. The study doctor will then decide to either switch your BR with or without study drug. You will remain on study until the end of the study even if this happens.

l. Subjects meeting the definition of virologic rebound (your viral load returns to the level it was at when you started the study) will be required to return to the clinic for a scheduled or unscheduled visit to confirm whether or not you are truly failing your treatment. Virologic rebound means that the HIV-1 levels in your blood have been detected again after having been undetectable at earlier visits. About 2 teaspoons (about 12 mL) of blood will be drawn during this visit. The study doctor will then decide to either switch your BR with or without study drug. You will remain on study until the end of the study even if this happens.

m. You will be counseled regarding the importance of taking all study medications.

n. You will receive a 4-week supply of study drug at the Weeks 4, 8, 12, 16 and 20 visits. You will receive an 8-week supply of study drug beginning at the Week 24 visit and continuing every 8 weeks. The study drugs should be taken at the same time every day with food and with the BR medications and the ritonavir-boosted PI. You will be responsible for picking up
the other medicines that make up your BR. You should pick up these medicines before or
during each study visit.
o. You will be required to bring your study drug bottles back to the clinic at each visit (with
the exception of your Week 2 visit).

Every 8 weeks Following Week 96 through Week 144 and every 12 weeks through the Unblinding
Visit
The following procedures will occur during these visits:
a. You will be asked whether there has been any change in your health (illness or health
problems) and whether you have taken any new medications since your last visit.
b. A physical examination (complete physical examination will be performed every 24 weeks
and at the Early Study Drugs Discontinuation visit), including vital signs and weight; a
symptom directed physical examination will be performed at all other visits as needed.
c. A urine sample for standard laboratory tests
d. If you are a female able to become pregnant, a urine pregnancy test will be required. If
the urine pregnancy test is positive, you will have a blood pregnancy test to confirm the
result. If the blood test is positive, you will be withdrawn from the study and asked to
return for a follow-up visit.
e. About 3 teaspoons (about 15 mL) of blood will be taken for chemistry, complete blood
count, CD4+ cell count and to determine HIV-1 levels in your blood.
f. About 1 teaspoon (about 6 mL) of blood will be collected and stored to allow the possibility
of conducting tests at a later date (for example, to check whether the HIV in your blood can
develop resistance to this anti-HIV drug and to measure the amount of drug in your blood).
g. Tests on blood drawn every 24 weeks will be used to measure changes in the amount of
sugar and fats in your blood. About 1 teaspoon (about 4 mL) of blood will be taken for this
test. It is important that your blood is drawn for this sample in the morning prior to eating.
If you have not fasted, you will be asked to return to the clinic within 72 hours in a fasted
state. “Fasting” means that you will not eat or drink anything, except water, for at least
eight hours before your blood is drawn.
h. Subjects meeting the definition of virologic rebound will be required to return to the clinic
for a scheduled or unscheduled visit to confirm whether or not you are truly failing your
treatment. Virologic rebound means that the HIV-1 levels in your blood have been detected
again after having been undetectable at earlier visits. About 2 teaspoons (about 12 mL) of
blood will be drawn during the unscheduled visit. The study doctor will then decide to
either switch your BR with or without study drug. You will remain on study until the end of
the study.
i. You will be counseled regarding the importance of taking all study medications.
j. You will receive an 8-week supply of study drug beginning at the Week 48 visit and
continuing every 8 weeks until Week 144 and then you will receive a 12 week supply until
the end of the blinded portion of the study. The study drugs should be taken at the same
time every day with food and with the BR medications and the ritonavir-boosted PI. You
will be responsible for picking up the other medicines that make up your BR. You should
pick up these medicines before or during each study visit.
k. You will be required to bring your study drug bottles back to the clinic at each visit.
CONSENT FORM

Open-Label Extension
Visits for the open-label extension will be every 12 weeks. If you choose to stop taking raltegravir and begin taking elvitegravir at the unblinding visit, you will have additional visits at week 2^{OL}, 4^{OL}, and 8^{OL}. The following procedures will be completed at study visits throughout the open-label extension:

a. You will be asked whether there has been any change in your health (illness or health problems) and whether you have taken any new medications since your last visit.

b. A physical examination, including vital signs and weight (complete physical examination at Week 0^{OL} and every 24 weeks until Week 144^{OL} and symptom-directed physical examination at all other visits as needed).

c. A urine sample for standard laboratory tests.

d. A 12-lead ECG (electrocardiogram) for Week 0^{OL}, Week 48^{OL}, Week 96^{OL}, and Week 144^{OL} to check the functioning of your heart.

e. If you are a female able to become pregnant, a urine pregnancy test will be required. If the urine pregnancy test is positive, you will have a blood pregnancy test to confirm the result. If the blood test is positive, you will be withdrawn from the study and asked to return for a follow-up visit.

f. About 15 mL (about 3 teaspoons) of blood will be taken for chemistry, complete blood count, CD4+ cell count and to determine HIV-1 levels in your blood.

g. Tests on blood (Week 0^{OL}, Week 48^{OL}, Week 96^{OL}, Week 144^{OL}) will be used to measure changes in the amount of sugar and fats in your blood. About 4 mL (about 1 teaspoon) of blood will be taken for this test. It is important that your blood is drawn for this sample in the morning prior to eating. If you have not fasted, you will be asked to return to the clinic within 72 hours in a fasted state. “Fasting” means that you will not eat or drink anything except water for at least eight hours before your blood is drawn.

h. Subjects meeting the definition of virologic rebound will be required to return to the clinic for a scheduled or unscheduled visit to confirm whether or not you are truly failing your treatment. Virologic rebound means that the HIV-1 levels in your blood have been detected again after having been undetectable at earlier visits. About 12 mL (about 2 teaspoons) of blood will be drawn during the unscheduled visit. The study doctor will then decide to either switch your BR with or without study drug. You will remain on study until the end of the study.

i. About 6 mL (about 1 teaspoon) of blood will be collected and stored to allow the possibility of conducting tests at a later date (for example, to check whether the HIV in your blood can develop resistance to this anti-HIV drug and to measure the amount of drug in your blood).

j. You will receive a supply of study drug to last you until your next study visit. The study drugs should be taken at the same time every day with food and with the BR medications. You will be responsible for picking up the other medicines that make up your BR. You should pick up these medicines before or during each study visit.

k. You will be required to bring your study drug bottles back to the clinic at each visit.

l. You will be counseled regarding the importance of taking all study medications

Early Study Drugs Discontinuation Visit
If you discontinue from the study at any time before the study is complete, you will be asked to return to the study center within 72 hours of stopping study drugs. For safety purposes, you will be asked to continue to come to the scheduled study visits through the end of the study. Procedures at this visit will include:
CONSENT FORM

a. You will be asked whether there has been any change in your health (illness or health problems) and whether you have taken any new medications since your last visit.
b. A complete physical examination, including vital signs and weight
c. A urine sample for standard laboratory tests.
d. A 12-lead ECG (electrocardiogram) to check the functioning of your heart (if it has been more than 48 weeks since your last ECG).
e. If you are a female able to become pregnant, a urine pregnancy test will be required. If the urine pregnancy test is positive, you will have a blood pregnancy test to confirm the result.
f. About 3 teaspoons (about 15 mL) of blood will be taken for complete blood count, chemistry, CD4+ cell count and to determine HIV-1 levels in your blood.
g. About 1 teaspoon (about 6 mL) of blood will be collected and stored to allow the possibility of conducting tests at a later date (for example, to check whether the HIV in your blood can develop resistance to this anti-HIV drug and to measure the amount of drug in your blood).
h. About 2 teaspoons (about 12 mL) of blood may be drawn for an HIV-1 genotype/phenotype test.
i. Tests on blood will be used to measure changes in the amount of sugar and fats in your blood if it has been more than 48 weeks since done previously. About 4 mL (about 1 teaspoon) of blood will be taken for this test. It is important that your blood is drawn for this sample in the morning prior to eating. If you have not fasted, you will be asked to return to the clinic within 72 hours in a fasted state. “Fasting” means that you will not eat or drink anything except water for at least eight hours before your blood is drawn.
j. You will be required to bring your study drug bottles back to the clinic.

30-Day Follow-Up
You will be asked to attend a 30-Day Follow-Up visit in the following cases:

- If you discontinue your study drugs, you will be asked to return to the study center 30 days after the completion of the Early Study Drugs Discontinuation visit. (After discontinuing study drugs if you have continued to attend regularly scheduled visits, you will not be required to come in for a 30-Day Follow-up visit.).
- If you continue on study drugs until the Unblinding Visit and decide not to take part in the optional open-label extension, you will be asked to return to the study center 30 days after completion of study drugs.
- If you complete the open-label extension, you will be asked to return to the study center 30 days after completion of study drugs.

Procedures at this visit will include:

a. You will be asked whether there has been any change in your health (illness or health problems) and whether you have taken any new medications since your last visit.
b. A symptom-driven physical examination, including vital signs and weight
c. A urine sample for standard laboratory tests.
d. If you are a female able to become pregnant, a urine pregnancy test will be required. If the urine pregnancy test is positive, you will have a blood pregnancy test to confirm the result.
CONSENT FORM

ee. About 3 teaspoons (about 15 mL) of blood will be taken for complete blood count, chemistry, CD4+ cell count and to determine HIV-1 levels in your blood.
f. Should any of your evaluations show abnormal results, you may be asked to return to the study center to repeat the test until it returns to normal or baseline.

STORAGE OF BLOOD SAMPLES
A portion of your blood sample drawn at visits Baseline (Day 1), Weeks 2, 4, 8, 12, 16, 20, 24, 32, 40, 48, every 8 weeks post-Week 48 through Week 144 and then every 12 weeks in the blinded phase of the study, and at all visits in the open label extension phase of the study, and Early Study Drugs Discontinuation visit will be frozen and stored. Your stored blood samples and the information collected about you during the study may be used by the Sponsor or its research partners for HIV-1 genotyping/phenotyping assays or their development, for retesting the amount of HIV-1 in your blood, for measurement of antiviral drug levels in your blood, or for future testing to learn more about how the study drug has worked against HIV-1 in your blood.

The way the HIV virus becomes resistant to the medicines we use to treat it is by changing its genetic information, so the drugs may no longer work. The way to detect if this has happened is to do a genotype or a phenotype of your HIV virus. Genotype testing detects changes or “mutations” in certain regions of the HIV-1 genome. Phenotype testing is used to determine whether a mutation in an HIV-1 gene changes how anti-HIV drugs affect the HIV-1 virus. Some mutations can prevent certain anti-HIV drugs or drug regimens from reducing the level of HIV-1 in your blood. When this occurs, the HIV-1 has become “resistant” to that drug and possibly other similar drugs. Genotype and phenotype tests may be experimental; that is, these tests may not have been approved by the FDA. The test results may not have direct benefit to you. At the conclusion of this study, these samples may be retained in storage by Gilead Sciences, Inc. for a period up to 10 years.

No human genetic testing will be performed without your expressed consent.

RISKS and BENEFITS

ELVITEGRAVIR SIDE EFFECTS
As of June 17, 2012, a total of 327 HIV-1 infected subjects and 907 HIV uninfected subjects had been dosed with EVG as a single agent in Pase 1 and 2 clinical studies. In addition, 354 HIV-1 infected subjects have received EVG in an ongoing Phase 3 study.

The following adverse reactions to treatment have been identified based on data from the ongoing Phase 3 study:

Very common (more than or equal to 10%): diarrhea, nausea, fatigue, and headache
Common (more than or equal to 1% and less than 10%): depression, difficulty sleeping (insomnia), stomach pain (abdominal pain), indigestion (dyspepsia), vomiting and rash.

PROTEASE INHIBITORS AND NUCLEOSIDE REVERSE TRANSCRIPTASE INHIBITORS SIDE EFFECTS
Some major concerns linked with PIs include abnormal increases in blood cholesterol and triglyceride levels, abnormal body fat redistribution, and an increase in blood sugar. The most common side effects of PIs include nausea, diarrhea and abdominal discomfort. Other less common side effects
include increases in liver function tests, rash, muscle pain or headaches. In addition, each PI may be linked with its own unique side effects. Please ask your study doctor for more specific information.

Lactic acidosis (increase in lactate levels, the symptoms of which include of nausea, vomiting, abdominal pain, general discomfort and tiredness that doesn’t get better) and severe hepatomegaly (enlargement of the liver) with steatosis (fatty deposits) have been reported. There have also been reports of fatal cases with the use of NRTI, another class of anti-HIV drugs taken alone or in combination with other anti-HIV drugs. A majority of these cases have been in women. Obesity and taking nucleoside drugs for a long time may be risk factors. Patients with known risk factors for liver disease may be at greater risk; however, cases have also been reported in patients with no known risk factors. If you experience any of these symptoms, you should contact your study doctor.

RALTEGRAVIR SIDE EFFECTS
The dose of raltegravir being used in this study has been approved by the FDA. For information on side effects, please refer to the raltegravir patient leaflet or talk to your study doctor for more information.

TENOFOVIR DF SIDE EFFECTS
The dose of tenofovir DF being used in this study has been approved by the FDA. For information on side effects, please refer to the tenofovir DF patient leaflet or talk to your study doctor for more information.

IMMUNE RECONSTITUTION SYNDROME
Autoimmune disorders such as Graves’ disease (a disease in which the thyroid produces excessive thyroid hormones), polymyositis (a disease caused by inflammation leading to weakness of the muscles), and Guillain-Barre syndrome (a disease that occurs when the body’s immune system attacks part of the nervous system, leading to nerve inflammation that causes muscle weakness), have also been reported to occur in the setting of immune reconstitution, however, the time to onset is variable and can occur many months after starting treatment. Call your study doctor right away if you notice any signs or symptoms of an infection after starting study medication.

ALLERGIC REACTION RISKS
As with taking any drug, there is a risk of allergic reaction. If you have a very serious allergic reaction, you may be at risk of death. Some symptoms of allergic reactions are:
- rash
- difficulty breathing
- wheezing
- sudden drop in blood pressure
- swelling around the mouth, throat or eyes
- a fast pulse
- sweating

Please seek treatment and alert the study doctor and study staff immediately if you have any of these symptoms, or any other side effects, during the study.

If risks are identified while this study is ongoing, you will be told about them in a timely manner. Medical staff are in the clinic to provide medical attention if needed.
CONSENT FORM

BLOOD DRAWS
In addition to risks linked with the study drug(s), drawing blood from a vein may cause local pain, bruising, occasional lightheadedness, fainting, and very rarely, infection at the site of the blood draw.

ECG
After you have an ECG, you may have mild irritation, slight redness, and itching at the places on your skin where the recording patches are placed. You may have to have your chest shaved for this procedure.

OTHER
As with all drugs, allergy as well as unexpected or yet unknown side effects may occur. Any new information that becomes known during the study and that may affect your participation will be shared with you by your study doctor.

Viruses that are resistant to elvitegravir and raltegravir may develop during the course of treatment. This may reduce your treatment options in the future. Throughout the study, your study doctor will monitor your HIV-1 levels for viral rebound (increases in HIV-1 levels after having previous results of lowered HIV-1 levels). Resistant mutations develop most rapidly in people who do not adhere to all of the drugs in their anti-HIV drug regimen. Therefore, it is important to take all your study drugs as prescribed by your study doctor.

You may have a side effect that requires your study doctor to end your participation in the study. You should contact your study doctor immediately if you feel that you cannot tolerate your drug regimen.

POSSIBLE BENEFITS OF THE STUDY
There is no guarantee that you will receive personal benefit from participating in this study. The study drugs are not expected to cure you of HIV-1 infection. However, information gained from your participation in this study may help to determine if elvitegravir is effective against HIV-1 and is safe and easy to tolerate. Your participation in this study may benefit the community and scientists and doctors who work with HIV-1 by providing increased knowledge and information about the treatment of your disease.

PREGNANCY AND BREAST FEEDING
The effects of elvitegravir alone or in combination with ritonavir and other HIV medications have not been fully evaluated on the developing fetus in humans. Animal studies do not indicate direct or indirect harmful effects of elvitegravir with respect to pregnancy. Because the effects of elvitegravir on a developing fetus as well as on exposed infants are unknown, any female able to become pregnant (i.e., not surgically sterile or less than two years post-menopausal) must have a negative blood pregnancy test to enroll; females who are breastfeeding will not be enrolled in this study.

It is very important while you are in this study that you do not become pregnant if you are a female, or do not cause others to become pregnant if you are a male. You are aware that not having sex is the only certain way to prevent pregnancy. If you are a sexually active male or female, it is required that you use an effective method of birth control from the screening visit throughout the study and for 30 days following the last dose of study drug. Effective methods of contraception in this study are: two separate forms of contraception, one of which must be an effective barrier method, or be non-
CONSENT FORM

heterosexually active, practice sexual abstinence, or have a vasectomized partner (confirmed sterile). If you are a female who is sexually active and able to become pregnant, please speak with your study doctor to determine the best method of birth control for you to use during this study. Hormone-based contraceptives may not be effective at preventing pregnancy when they are used with elvitegravir.

Even if you use highly effective birth control methods, you could still become pregnant. There is a slight chance that a pregnancy test could be wrong. If the pregnancy test is wrong, and you receive the study drug while pregnant, the study drug may harm an unborn baby. If you are female and become pregnant or suspect that you have become pregnant while in the study, you will be required to stop taking all the study drugs and to notify your study doctor immediately. You will be discontinued from the study and will also need to inform the study site of the outcome of the pregnancy.

Other not yet identified side effects could occur to you, your embryo or fetus should you become pregnant during the time you participate in the study or after you have completed the study.

CONDOM USE
It has been proven that condom use decreases the risk of spreading HIV and Hepatitis B between sexually active individuals. To decrease your risk of transmitting the virus to another individual and to decrease the risk of being infected with a different strain of HIV, we recommend that condoms be used for all sexual activity to include oral, vaginal, and anal sexual contact. Condom use is recommended in addition to your current form of birth control.

TREATMENT OPTIONS
You have the option to discuss with your study doctor not to participate or to choose other anti-HIV drugs to treat your disease. These medicines include commercially available medicines. Your study doctor will discuss appropriate alternative treatment options with you. You will be made aware of any new findings in a timely manner that become available during the course of the study and that may affect your willingness to participate in this study.

WITHDRAWAL FROM STUDY AND REFUSAL TO PARTICIPATE
Special care will need to be taken when determining if you need to stop the study drug. Your study doctor will supervise any discontinuation of the study drug with your health as the first priority. Your participation in this study may be stopped at any time by a) your study doctor, b) Gilead Sciences, Inc., c) the FDA, d) the Institutional Review Board (a review group that gives approval to your study doctor to conduct this study), and e) other appropriate regulatory agencies.

Your participation in this clinical research study is voluntary, and you can refuse to participate or stop at any time without stating a reason. Your refusal or withdrawal will not affect your access to other medical care.

Your study doctor may withdraw you from the study if it is considered important for your medical safety. If it is discovered that you did not give an accurate medical history or did not follow the instructions for the study given by your study doctor and/or study nurse, you may be taken off the study at any time. If you are taken off the study, you will no longer receive the study drugs.
COST OF TREATMENT
The elvitegravir, raltegravir, and tenofovir DF used in this study will be given to you at no cost. All clinic, professional, diagnostic and laboratory fees that are part of this study will also be provided at no cost to you. You or your usual health care payer will be responsible for the BR medications and any other health care costs.

PAYMENT FOR PARTICIPATION
You will be compensated $50 (CASH) for each clinic visit you attend to cover transportation costs, parking, child care, etc., and for your time and inconvenience. The scheduled visits for this study are: screening, pre-baseline, baseline, Weeks 2, 4, 8, 12, 16, 20, 24, 32, 40, 48, 56, 64, 72, 80, 88, and 96., if you attend all study visits, the maximum compensation you will receive is $950. You will continue to receive $50 for every post 96 week visits attended and the unblinding visit, early discontinuation/completion visit, 30-day follow up. If you are requested to come into the clinic for additional visits or to have your blood re-checked, you will also be compensated ($25) for that visit. You will be paid at the end of each visit attended; if you do not come in for a scheduled visit you will not be paid for that visit.

If you agree to participate in the open-label extension study, you may receive up to $850 for your participation, but this will depend on the number of visits you complete. The open label portion is a total of 17 visits: Weeks 2, 4, 8, 12, 24, 36, 48, 60, 72, 84, 96, 108, 120, 132, 144 and a discontinuation visit. In addition, you will get $50 for the 30-Day Follow-Up Visit after the Early Study Drugs Discontinuation Visit. You will be paid $50 at the end of each study visit. You will only be paid for the visits you completed.

COMPENSATION FOR INJURY
If you have a medical emergency during the study, you should go to the nearest emergency room. You may contact the Principal Investigator or Emergency contact listed on page one of this form. You may also contact your own doctor, or seek treatment outside of the University of Pennsylvania. Be sure to tell the doctor or his/her staff that you are in a research study being conducted at the University of Pennsylvania. Ask them to call the telephone numbers on the first page of this consent form for further instructions or information about your care.

In the event that you are hurt or injured as a direct result of taking the study drug or the study procedures in this research study, medical treatment will be offered to you by the University of Pennsylvania. The Sponsor, Gilead Sciences, Inc. will reimburse you or the University of Pennsylvania for the reasonable costs of any medical treatment of a study-related injury or illness provided that you have followed the instructions of the study doctors. Other than reimbursement of medical treatment expenses, the Sponsor or the University of Pennsylvania has no plans to provide any other form of compensation for study-related injury or illness. If you have an illness or injury during this research trial that is not directly related to your participation in this study, you and/or your insurance will be responsible for the cost of the medical care of that illness or injury.

If you receive Medicare benefits, the Sponsor, Gilead Sciences, Inc., is required by law to report payment made to you for treatment, complications, and injuries that arise from this Study.

Information that you are taking part in the Study, medical treatment received, Medicare claims, and other personal information about you such as your name, social security number, and date of birth,
CONSENT FORM

will be provided to the Centers of Medicare and Medicaid Services and its agents and/or contractors for this purpose.

STATEMENT OF PRIVACY

If you take part in this study, your personal information, including information about your health, will be collected by the study doctors and recorded on study record forms. The study record forms will not contain your name or address but will contain initials, date of birth and a code number. The code number list will be held by the study doctor. Biological samples, including blood samples, that are collected during the study will be analyzed and stored for possible future testing. All information collected or learned about you during the course of this study will be treated as strictly confidential. The study records and biological samples will be analyzed by the Sponsor and may be shared with its research partners; however, any data or information learned from the study that is to be reported in scientific reports, journals, or published materials by the Sponsor or its research partners, will not include any personal information identifying you as a subject in a study. The Sponsor may also wish to use your personal information and any biological samples taken during this study for future research on the prevention, treatment or diagnosis of HIV-1. Gilead Sciences, Inc. will take all reasonable steps to ensure that in any future research on HIV-1 your privacy will be protected.

Representatives from government agencies, institutional review boards, and the Sponsor or its authorized representatives, may also need access to your medical records and study records for the purpose of checking data collected for the study. By signing the HIPAA Privacy Authorization, you authorize this access.

The Sponsor may wish to send information or biological samples collected or data learned during this study to its researchers, its research partners or regulatory authorities located in other countries to be analyzed for purposes of this study or for future research into HIV-1. Some countries outside the U.S. may not have laws that provide the same level of protection as laws in the U.S., but Gilead Sciences, Inc. will take all reasonable steps to ensure that your privacy is protected.

AUTHORIZATION TO USE AND DISCLOSE RECORDS

The authorization part of the consent gives more detailed information about how your personal health information may be used and disclosed by the University of Pennsylvania Health System (UPHS), the School of Medicine and the individual Principal Investigator, subject to University of Pennsylvania procedures.

What personal health information is collected and used in this study and might also be disclosed?
The following personal health information will be collected, used for research, and may be disclosed during your involvement with this research study:

- Name, address, telephone number, date of birth
- Personal and family medical history
- Current and past medications or therapies
- Results of physical exams, laboratory tests and procedures you will undergo during this research study
CONSENT FORM

Why is your personal contact and health information being used?
Your personal contact information is important for the research team to contact you during the study. Your personal health information and results of tests and procedures are being collected as part of this research study. In some situations, your personal health information might be used to help guide your medical treatment.

Which of our personnel may use or disclose your personal health information?
The following individuals may use or disclose your personal health information for this research study:

- The Principal Investigator and the Investigator’s study team
- Authorized members of the workforce of the UPHS and the School of Medicine, and University of Pennsylvania support offices, who may need to access your information in the performance of their duties (for example: for research oversight and monitoring, to provide treatment, to manage accounting or billing matters, etc.).

Who, outside of UPHS and the School of Medicine, might receive your personal health information?
As part of the study, the Principal Investigator, the study team and others listed above, may disclose your personal health information, including the results of the research study tests and procedures. This information may be disclosed to those listed below:

- **Pharmaceutical sponsor (Gilead Sciences, Inc and its affiliates):** This is the company that supplies drugs for the study. Information regarding safety and adverse effects needs to be collected and monitored.
- **Contract Research Organization (PAREXEL International):** Monitors will visit the site on a regular basis to review data and assure accuracy and completeness of information before the data are analyzed.

Regulatory and safety oversight organizations in the US and other countries

- The Food and Drug Administration
- The Office of Human Research Protections
- The Study Monitoring Committee

Once your personal health information is disclosed to others outside of UPHS or the School of Medicine, it may no longer be covered by federal privacy protection regulations. Data are reported to the sponsor on Case Report Forms that identify you by your unique study number and not your name, medical record number. Information regarding your health, such as side effects of the study medications you experience will be reported by your subject number and initials only. All samples collected for analysis will be labeled with your study number, visit number and date of your visit.

The Principal Investigator or study staff will inform you if there are any additions to the list above during your active participation in the trial. Any additions will be subject to University of Pennsylvania procedures developed to protect your privacy.
CONSENT FORM

How long may UPHS and the School of Medicine be able to use or disclose your personal health information?
Your authorization for use of your personal health information for this specific study does not expire.

Your information may be held in a research repository (database). However, UPHS and the School of Medicine may not re-use or re-disclose information collected in this study for a purpose other than this study unless:

• You have given written authorization to do so
• The University of Pennsylvania’s Institutional Review Board grants permission after ensuring that appropriate privacy safeguards are in place
• As permitted by law

Will you be able to access your records?
During your participation in this study, you might not be able to access some or all of your medical records. For example, access to portions of your medical records may be denied in studies where your knowledge of study results included in such records could affect the reliability of the study. You will have access to your medical record information when the study is over or earlier, if possible. The Principal Investigator is not required to release research information to you that is not part of your medical record.

Can you change your mind?
Yes, at any time you may withdraw your approval to allow the use and disclosure of your personal health information as described here. You must do so in writing to the Principal Investigator at the address on the first page. Even if you withdraw your permission, your personal health information that was collected before we received your written request may still be used and disclosed, as necessary for the study. If you withdraw your permission to use your personal health information, you will also be withdrawn from the research study.

If you withdraw your permission to use any blood or tissue obtained for the study, the Sponsor may need to retain and use any samples that have already been collected to comply with its legal obligations and to maintain the scientific integrity of the study.

You will be given a copy of this Research Subject HIPAA Authorization describing your confidentiality and privacy rights for this study. You will also be given the UPHS and School of Medicine’s Notice of Privacy Practices that contains more information about the privacy of your personal health information.

ELECTRONIC MEDICAL RECORD
An Electronic Medical Record (EMR) is an electronic version of the record of your care within a health system. An EMR is simply a computerized version of a paper medical record.

If you are receiving care or have received care within the University of Pennsylvania Health System (UPHS) (outpatient or inpatient) and are participating in a University of Pennsylvania research study, results of research-related procedures (i.e. laboratory tests, imaging studies and clinical procedures) may be placed in your existing EMR maintained by UPHS.
CONSENT FORM

If you have never received care within UPHS and are participating in a University of Pennsylvania research study that uses UPHS services, an EMR will be created for you for the purpose of maintaining any results of procedures performed as part of this research study. The creation of this EMR is required for your participation in this study. In order to create your EMR, the study team will need to obtain basic information about you that would be similar to the information you would provide the first time you visit a hospital or medical facility (i.e. your name, the name of your primary doctor, the type of insurance you have). Results of research procedures performed as part of your participation in the study (i.e. laboratory tests, imaging studies and clinical procedures) may be placed in this EMR.

Once placed in your EMR, these results are accessible to appropriate UPHS workforce members that are not part of the research team. Information within your EMR may also be shared with others who are determined by UPHS to be appropriate to have access to your EMR (e.g. health insurance company, disability provider, etc).

CONTACT INFORMATION

For questions about this study or a research-related injury, contact:
- Pablo Tebas, MD (215-349-8092)
- Clinical Trials Unit (215-349-8092)

For questions about your rights as a research subject, contact:
- Director of Regulatory Affairs at the University of Pennsylvania by phoning (215) 898-2614

RESEARCH STUDY REGISTRY

A description of this clinical trial will be available on [http://www.clinicalTrials.gov](http://www.clinicalTrials.gov), as required by US Law. This website will not include information that can identify you. At most, the website will include a summary of the results. You can search this Website at anytime.

CONSENT

When you sign this form, you are agreeing to take part in this research study. This means that you have read the consent form, your questions have been answered, and you have decided to volunteer. Your signature also means that you are permitting the University of Pennsylvania Health System and the School of Medicine to use your personal health information collected about you for research purposes within our institution. You are also allowing the University of Pennsylvania Health System and the School of Medicine to disclose that personal health information to outside organizations or people involved with the operations of this study.

A copy of this consent form will be given to you. You will also be given the University of Pennsylvania Health System and School of Medicine’s Notice of Privacy Practices that contains more information about the privacy of your health information.

This Consent Form contains important information to help you decide if you want to be in this study. If you have questions that are not answered in this form, please ask one of the study staff. Please answer the following questions by placing your initials in the line for “Yes” or “No”.

---

IRB Approved for re-consenting purposes only  
From: 12/17/2012 To: 12/16/2013
CONSENT FORM

1. Have you understood this form? ___ Yes ___ No

2. Have you had the opportunity to ask questions and discuss the study? ___ Yes ___ No

3. Have you received answers you find acceptable to all of your questions? ___ Yes ___ No

4. Have you received enough information about the study to make an informed decision? ___ Yes ___ No

5. Do you understand you are free to stop the study at any time without having to give a reason and without affecting your medical care? ___ Yes ___ No

6. Do you understand your medical records may be reviewed and how the information will be used? ___ Yes ___ No

If you answered NO to any of the six questions listed above, you should not sign this form. Once you have had all your questions answered and you are comfortable participating in this study, please sign below.

By signing and dating this form you agree that you are volunteering to be in this study.

____________________________________________   ____________________________________
Name of Subject (Please Print in BLOCK LETTERS)  Signature of Subject              Date

____________________________________________ _____________________________________
Name of Person Obtaining Consent (Please Print)  Signature                                           Date

For subjects unable to give authorization, the authorization is given by the following authorized subject representative:

___________________________________         ______________________________               __________
Authorized subject representative [PRINT]        Authorized subject representative Signature        Date

Provide a brief description of above person’s authority to serve as the subject’s authorized representative.

☐ I agree to have my stored blood samples tested by the sponsor as described on page 8 of this consent form.

____________________________________________   ____________________________________
Name of Subject (Please Print in BLOCK LETTERS)  Signature of Subject              Date
CONSENT FORM

☐ I agree to have my blood samples tested by the sponsor for HIV resistance patterns using genotype and phenotype tests as described on page 10 of this consent form.

Name of Subject (Please Print in BLOCK LETTERS) Signature of Subject Date

IRB Approved for re-consenting purposes only
From: 12/17/2012 To: 12/16/2013