hiv and older adults
# Table of Contents

HIV and Older Adults ...........................1

Facing New Challenges .......................3
   Creating a Life Without Shame ..........4
   Sexual Healing ...............................6
   Over the Hill? Not Under the Sheets ....7

Medical Matters ...............................10
   Immune System ............................13
   Heart and Blood Vessels ................14
   High Cholesterol & Triglycerides ....17
   Body Weight ................................19
   Diabetes ....................................20
   The Senses ..................................21
   Nervous System & Mental Health ....22
   Bones ........................................24
   Kidneys & Urinary System .............26
   Liver .........................................27
   Skin .........................................28
   Cancer ......................................30

Managing Your Meds ..........................35
   Not All Mixes Match .................36
   Alternative Therapies ...............37
   Liver and Kidneys and Meds, Oh My! ..37
   It’s Your Life to Control ..............38
   Checklist for Healthy Aging .......39
In 2005, 1,000 people volunteered for an unprecedented ACRIA study designed to shed light on the unique needs of people over 50 living with HIV. In the study – called Research in Older Adults with HIV, or ROAH – 80% of volunteers were people of color and 33% were women, mirroring older people living with HIV in New York City. ROAH found that their concerns focused on the illnesses of aging, feelings of isolation and the negative impact of HIV stigma, shame, or ageism, which is discrimination based on age.

• Volunteers had been living with HIV for an average of 13 years, and while half had an AIDS diagnosis based on serious illness, only 13% had a CD4 count below 200. Nearly 85% were taking HIV meds.

• 67% self-identified as heterosexual, 9% as bisexual, and 24% as homosexual.

• 70% lived alone, which is double the number of all older New Yorkers.

• More than half of those who had used alcohol or drugs were in recovery. Over one-third continued to use recreational drugs or alcohol, and more than half smoked.

• Thirty-six percent had used injection drugs at some time.

ROAH and other research have found that older adults with HIV often lack the family and community support that can provide the care they will need as they age. This type of care is critical; about 44 million Americans currently act as caregivers to family and friends who have various illnesses. If this informal care were replaced by paid caregivers, it would cost more than $450 billion a year.
HIV and Older Adults

Until a few years ago, few would have thought that people with HIV would become seniors. But thanks to striking advancements in HIV treatment, people with HIV are now living much longer. The number of older adults with HIV is today larger than ever. The CDC predicts that by 2015 half of all those in the U.S. living with HIV will be over 50.

Even though the success of HIV treatment is the main reason for this “graying” of the epidemic, one in every six new cases of HIV is found in people over 50 in NYC and the U.S. It is likely that the majority of New Yorkers living with HIV will be over 50 years old within the next few years, and this trend is happening across the U.S.

As the chart above shows, in 2010 people over 40 made up 77% of all people with HIV in New York City. Nationally, they account for 70% of all cases, as seen in the chart below.

We don’t know all the unique challenges older adults with HIV will face, but we’re discovering more every day. The effect of HIV on the aging process itself, for instance, is just beginning to be studied. We do know that the health challenges of aging – heart disease, diabetes, cancer, etc. – are occurring sooner or more often for many people as they age with HIV. It is critical that we learn more about these medical issues.

We have much hard work to do to understand this epidemic.
Facing New Challenges

Most conversations about healthcare begin with the body, but wellness means taking care of the mind and soul as well. And people with HIV, particularly those who are aging, face a host of social challenges to emotional wellness. Perhaps at the top of that list of ills is the deadly disease of shame that persistent HIV stigma creates, and the difficulty people with HIV face as they seek friends and life partners.

“We formed a local brunch group that meets monthly, but because of the stigma, we go out of our area for the brunch. In spite of the support group, there are times of loneliness. My general feeling is that I am not interested in dating again, just finding a companion with whom I can talk and travel, someone who understands what it is like to live with HIV and be a senior.”

—Sharon, 59
Participants in ROAH – ACRIA’s study of 1,000 people with HIV over age 50 – said they experienced high levels of stigma, and that the negative reactions of others were harder to accept than their own feelings of guilt or shame.

Creating a Life without Shame

HIV stigma can be deadly. It often combines with racism, sexism, homophobia, and ageism to create barriers to the services people need. It can have a strong impact on health and well-being, and can cause older adults to become isolated and fearful and to avoid needed medical and social services. It can prevent them from reaching out to their families, churches, or community organizations for help, and it can reduce the effectiveness of HIV prevention efforts.

Stigma’s Toll on Older New Yorkers with HIV

- Over half of the volunteers in the study said they do not receive support from their places of worship, mostly because of negative attitudes toward people with HIV.
- Only 46% had told all their family members they have HIV, and only 35% had told all of their friends.
- The adults in ROAH reported depressive symptoms five times more often than the general New York City population. About a third reported social isolation.
Stigma related to HIV is more common than that of most other health conditions. Fear of HIV is so powerful that it can extend to the families and friends of people with HIV, and even to their HIV care providers. Some people fear that disclosing their HIV status or insisting on using condoms will limit opportunities for sexual contact or lead to rejection or violence from partners. For other people, the negative reactions they experience may decrease their desire to stay healthy, including taking all prescribed medications on time.

Older adults with HIV may also experience ageist attitudes from service providers, friends, and family. This creates a double barrier to prevention, treatment, and care. Knowledge about HIV and aging can go a long way to reduce the stigma caused by the misinformation that is still too common.

Telling It Straight:
I Was Stymied by Stigma

You know, stigma is a terrible thing. But people criticize you because they are angry at themselves; it’s about what you know about yourself. You can be a long-term survivor, like me. I have four children and they’re grown. They really don’t talk about the virus to me, because I guess they look at me and they don’t want to accept it. And I really don’t get sick, so it’s not a family conversation. But when they’re ready, we’ll talk about it.

Diane Smith, 59
Healthy Sexuality

The myth that sex is only for younger people remains strong. But the biological changes that happen when we age do not always include reduced sexual desire. Researchers have found that 60% of men and 38% of women over age 60 say they are sexually active. (The difference between men and women may be because women tend to live longer than men and are more likely to be widowed or without a partner.)

One study found that older adults who had sex at least once a month said that maintaining an active sex life was an important part of their relationships with their partners. Most said that they were at least as satisfied sexually as they had been in their 40s – about half of people aged 45-59 had sex at least once a week.

The older adults in this study said that being ill or on medication lessened sexual activity, and they reported that if their health were better, their sex lives would improve. However, only 38% of older men and 22% of older women in the study had discussed sexual matters with their doctors after age 50.

Because older adults remain sexually active, they face a real risk for HIV. Yet many, especially post-menopausal women, do not see themselves at risk for HIV or other STDs, and aren’t worried about becoming pregnant. As a result, they may be less likely to practice safer sex than younger people.

The inability to get or keep an erection (erectile dysfunction or ED) can occur at any age but is more common in older men. Some common causes are alcohol and tobacco use, fatigue, liver or kidney failure, stroke, prostate or bladder surgery, diabetes, high blood pressure, certain medications, and problems with a partner. There are many treatments available if addressing these causes doesn’t help. Drugs like Viagra, injections, and surgery are effective. Since this can increase sexual activity, prevention strategies and safer sex messages that target older adults are needed. Physicians need to discuss sexual risks with all patients, regardless of age.

A high number of the older adults in ROAH said they weren’t sexually active. This may due to the fact that 70% of them lived alone and that only 15% lived with their sexual partners. In addition, the stress of disclosing their HIV status, and the potential rejection that could – and too often does – follow, drives many people either to stick to positive sexual partners or to avoid sex altogether. Still, a great many older adults are clearly choosing to remain sexually active – and that fact has crucial implications for those living with and at risk for HIV.
Over the Hill?  
Not Under the Sheets

A landmark study of 3,000 people confirmed that interest in sex does not fall off later in life – and if it does, it is usually due to poor health or to having no partner.

• 73% of people aged 57-64 reported having sex in the previous year, as did 53% of those aged 64-75 and 26% of those aged 75-85.
• Over 53% of the men reported having sex exclusively with women, 38% exclusively with men, and almost 10% with both genders.
• Among those who were sexually active, the majority reported having sex two to three times a month.
• If a person’s health was very good, that person was twice as likely to be sexually active as those in poor health.

Sixteen percent of people in ROAH who said they were sexually active reported that they had unprotected anal or vaginal sex with a partner who was not known to have HIV.

While 28% of those who were sexually active said they would not have unprotected sex under any circumstance, 32% said that a desire for sex and an attractive partner might lead them to do so, and 32% said they might if the partner asked for it. ROAH volunteers offered numerous reasons for having unprotected sex – 27% cited being high on drugs, 19% said they felt depressed or needy, and 14% believed there was only a low risk of getting an STD. Almost half of those who were sexually active used alcohol or drugs with sex. And while the risk of

Telling It Straight:

I’ve Been Singled Out

I don’t know if it’s my age or my medication, but I don’t have much of a sex drive. Anyway, I like cuddling and being affectionate more than what you see on TV, where you get all worked up. I would love to date again … but I’m at the stage in my life where I want more than I found in the men I tried to date. My girlfriend says I’ve got high standards. Well, yeah. So, right now I really haven’t found anybody that I want to spend time with.

Patricia Shelton, 54
infection with a second strain of HIV is still being debated, unprotected sex presents a clear risk of other STDs for people with HIV. Use of drugs like Viagra was linked to an increase in unprotected sex among men with partners whom they knew to be HIV positive or whose HIV status was unknown. But these meds did not increase the incidence of unsafe sex when the men had sex with partners known to be HIV-negative.

Some people with HIV only have unprotected sex with others who are also HIV-positive – a practice known as serosorting. The idea is that if both partners have HIV, there is nothing to worry about. However, because there are multiple strains of HIV, some of which are treatment-resistant, you can never be sure if your HIV-positive partner has the same strain of the virus. If you become infected by a different strain (known as superinfection), or a treatment-resistant strain of HIV, your HIV medications may no longer work for you. However, if both partners have an undetectable viral load and have had HIV for more than a few years, the risk of superinfection is very low.

Despite all of these realities, many healthcare providers don’t consider older adults to be at risk for HIV and other STDs. They may be less likely to talk to older adults about drug or alcohol use, or may be uncomfortable providing safer sex info to people who are older than they are.

That puts the burden on us – as we age, we’ve got to push past fears and insist our healthcare providers take our sexual lives seriously, too. Ask questions, and insist they be answered. Conversations that may be inappropriate or uncomfortable in other settings may make the difference between wellness and illness when sitting down with your doctor.

The stakes are high: When doctors and patients fail to communicate about sexual health, it throws them off the path to diagnosing broader health issues properly. Many age-related illnesses share symptoms with HIV disease, so not talking about risk factors and HIV-related symptoms can lead to a wrong or delayed diagnosis of HIV or other STDs – and a dangerous lag in beginning treatment. In fact, older adults with HIV are far more likely to be diagnosed late in disease than their younger counterparts.
Did You Know?

Many older women who have been through menopause do not insist upon using condoms because they can’t get pregnant. But the truth is that the physical changes of aging – such as the thinning of the vaginal wall – can make them more vulnerable to STDs, including HIV.
Once emotional wellness is addressed, you’re ready to address old-fashioned physical health as well – and that can be complicated when also dealing with the aging process. In addition to the usual aging process, people with HIV may be at risk of developing multiple chronic illnesses at a much earlier age. A person with three or more chronic illnesses is said to have multimorbidity. Managing multimorbidity is a complicated process that needs your active involvement with your health care providers.

People with HIV often learn a lot about keeping the virus at bay, and some even become “HIV experts,” helping those newly diagnosed get educated, too. But living well with HIV takes more than just understanding how to keep track of HIV medications and lab reports. Aging leads to a variety of diseases and conditions, some of which are complicated by HIV. The following pages contain a brief overview of some of the most common conditions people encounter as they age – and tips for staying a step ahead of them.

“If you don’t know, learn; and if you do, teach.”

Those words created hope for me, and brought opportunity. So I just started asking a lot of questions. I’m at this age now, and there’s a lot of knowledge I’ve absorbed over the years, and I want to share it.

—Ed Shaw, 66
Health changes that are a normal part of aging can be similar to changes that happen in people with HIV. Fatigue, lowered immunity, skin conditions, and nutritional imbalances happen with aging but can occur in people with HIV regardless of their age. Some HIV drug side effects, like the loss of fat in the face and limbs, also occur in some people as they age. So in older adults with HIV, it can be difficult to pinpoint the cause of certain conditions and to find the best treatment.

Certain aspects of aging are obvious: thinning hair, wrinkles, loss of height, etc. None of us are surprised by the fact that our bodies change as we age; look in a mirror and that truth is clear. But changes are also happening inside that we cannot see or feel. These changes involve our internal organs, happen at different rates, and are different for each individual. The changes are influenced by genetics, gender, medications, substance use, life stressors, quality of medical and social support, and other illnesses.

HIV is more common in poorer communities, among people of color, and in women, all of whom are also at higher risk for many age-related diseases. For example, African-Americans are more likely to have high blood pressure or diabetes. In addition, the racial and ethnic groups most affected by HIV are also those who face the most difficulty in obtaining healthcare. So as people with HIV age, they face the challenges of health risks from aging, drug side effects, effects of HIV that are not controlled by medications, and other diseases and conditions – HIV alone will not define their health.

It’s not possible to list all of the biological changes of aging here. It’s also important to remember that people age in different ways and at different rates. Most changes are gradual, almost unnoticed, while others can occur suddenly. Their causes fall into three basic categories: disease, inactivity or disuse, or aging itself. While there is a large amount of information available to assist in the medical management of HIV, there is little data on how older adults with HIV are best managed when they develop illnesses associated with aging. Also, there are behavioral factors that need to be addressed, such as smoking, physical inactivity, and substance abuse. These may be lifelong and will have a negative impact. Finally, although the aging process cannot be reversed, in some cases it can be slowed through life-style changes (nutrition, exercise, stopping smoking). Addressing all three areas is challenging, but can be done.
Did You Know?

When an older person is infected with HIV, the CD4 cell loss can be greater than in younger people. Studies have found that older people with HIV who are not taking HIV meds are twice as likely to die as younger people with HIV.

Immune System

Since immune function declines with age, HIV disease can progress more rapidly in older adults. The thymus gland – which produces immune cells such as the all-important CD4 cells – begins to shrink early in life, and as a result the number of immune cells in our bodies decreases as we grow older.

It was once thought this meant it would take longer for CD4 cell counts to rise in older adults once they started taking HIV meds. But studies show that three months after older adults start HIV drugs, their CD4 counts increase and viral loads drop much the same as they do in younger people. (This may be the result of older people being more adherent to drug regimens than younger individuals.)

Still, some older adults do not restore their CD4 counts to as high a level as younger patients, and this may be due to the aging process itself. And the decline in the immune system found in all aging adults means that older adults are at greater risk when a failure to diagnose HIV results in delayed treatment. The current recommendation is that HIV treatment be started in people over 50 regardless of their CD4 cell count. Another advantage of earlier treatment could be the blunting of inflammation, which can become chronic and destructive. It is thought that some of the increase in chronic conditions like bone loss and heart disease may be the result of chronic inflammation. Earlier treatment for HIV should help lessen such damage.

Older adults’ immune systems are further burdened by oxidative stress, or the cumulative damage done to immune cells by molecules called free radicals. HIV further heightens this stress because it uses free radicals to replicate. So antioxidants like beta carotene and vitamins A, C, and E may be important for older adults with HIV, and it’s best if they come from fruits and vegetables.
Heart & High Blood Pressure

Blood vessels lose elasticity and thicken with age. This change places older adults at risk for high blood pressure, heart disease, and stroke. But aging alone does not cause heart disease. There is much that can be done to prevent it – and prevention is a particularly important goal for those aging with HIV. Recent studies suggest that HIV itself may increase the risk for heart disease and the premature aging of blood vessels. Also, there is the possibility that some HIV meds may heighten risk for heart disease.

High blood pressure, or hypertension, affects over 60% of people aged 60 or above. It increases the risk of heart attacks, strokes, and heart and kidney failure. When people are successful in lowering their blood pressure to normal, the risk of developing any of these complications is also lowered.

There is no clear link between HIV and high blood pressure. While several studies have shown that blood pressure may rise in people with HIV, this is usually due to aging, smoking, weight gain, or other non-HIV problems. People taking HIV meds do have a higher risk of developing high blood pressure, but this may be due to the changes in cholesterol and triglycerides that can be caused by certain HIV drugs.

Although studies include few older adults with HIV, accepted guidelines state that blood pressure above 140/90 should be treated. However, geriatricians caution not to lower blood pressure below 130/70 due to the risks of low blood pressure, like fainting when standing.

People with high blood pressure usually have no symptoms for years before they begin to develop complications, so it’s important to monitor blood pressure regularly, either at visits to the doctor, at senior centers, or at other health events that target older adults. It’s also useful to check blood pressure at home with a digital blood pressure monitor, to avoid falsely high readings that may happen in the doctor’s office because of nervousness. The accuracy of a home monitor should be checked by taking it to the doctor’s office and comparing its readings to those of the doctor’s equipment.
What Can You Do About It?
Blood pressure can be lowered in two ways: by living a more healthy life or by taking medication. Losing excess weight, stopping smoking, drinking less alcohol, using less salt, and increasing potassium and exercise can often be enough to treat mild hypertension. There are many medications available for those whose blood pressure does not respond to these efforts. Frequently, both a healthier way of life and medication are needed.

Even a weight loss of several pounds may be enough to end the need for drugs or to lower the dose needed. Exercise also helps, and moderate exercise is as effective as intense exercise. A 20-30 minute daily walk may be all that is needed. Eating more fruits and vegetables can also lower blood pressure, due to the potassium they contain. Using less salt may reduce the need for hypertension drugs, with or without weight reduction.

Drinking less alcohol (no more than 8 ounces of wine a day, for example) can reduce hypertension and may even help prevent it. Stopping smoking may not affect blood pressure, but it does remove another important risk factor for heart disease. Stress reduction has not been proven to lower blood pressure. It may be that how one copes with stress leads to hypertension, rather than the stress itself.

When it comes time to start medication, different doctors recommend different drugs for different people. In general, most physicians start with a diuretic, and then add another drug, such as a beta blocker, ACE inhibitor, or calcium channel blocker. However, some calcium channel blockers may interact with certain HIV medications.
## National Cholesterol Education Program Guidelines
(to be revised in 2013)

### Total Cholesterol

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 200</td>
<td>Best</td>
</tr>
<tr>
<td>200 to 239</td>
<td>Borderline</td>
</tr>
<tr>
<td>240 and above</td>
<td>High</td>
</tr>
</tbody>
</table>

### HDL

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 and above</td>
<td>Best (lower risk)</td>
</tr>
<tr>
<td>40 to 59</td>
<td>The higher, the better</td>
</tr>
<tr>
<td>Less than 40</td>
<td>Low (higher risk)</td>
</tr>
</tbody>
</table>

### LDL

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 100</td>
<td>Best for people with heart disease or diabetes</td>
</tr>
<tr>
<td>100 to 129</td>
<td>Good</td>
</tr>
<tr>
<td>130 to 159</td>
<td>Borderline</td>
</tr>
<tr>
<td>160 to 189</td>
<td>High</td>
</tr>
<tr>
<td>190 and above</td>
<td>Very High</td>
</tr>
</tbody>
</table>

### Triglycerides

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 150</td>
<td>Normal</td>
</tr>
<tr>
<td>150 to 199</td>
<td>Borderline</td>
</tr>
<tr>
<td>200-499</td>
<td>High</td>
</tr>
<tr>
<td>500 and above</td>
<td>Very High</td>
</tr>
</tbody>
</table>
High Cholesterol & Triglycerides

People who are at risk for heart disease because of high cholesterol will clearly benefit from lowering it. Since most people with HIV over 50 have one or more risk factors for heart disease, they are prime candidates for changing their habits and lowering their cholesterol. In addition, certain HIV meds can raise cholesterol and triglycerides.

There are two types of cholesterol: the “healthy” cholesterol HDL, or high-density lipoprotein, and the “lousy” cholesterol LDL, or low-density lipoprotein.

HDL helps remove cholesterol from the body, while LDL deposits it on the walls of blood vessels, which can lead to heart disease and strokes. Total cholesterol is basically the sum of HDL and LDL.

For many years, doctors considered an LDL level of 100 best, but many doctors now recommend getting it below 100 for people with heart disease or diabetes. And new guidelines may be coming that recommend a level below 100 for more people. The table at left shows the current recommendations for cholesterol levels.

Men over age 45 and women over 55 are at greater risk for heart disease. It’s important to know if there is a family history of heart disease, as this increases a person’s risk and might lead to earlier use of certain tests and treatments.

Telling It Straight:
I Got More than HIV on My Mind

I continue to take meds for HIV, but other problems manifest themselves as I age – like hypertension, high cholesterol, and depression (which was the hardest thing to deal with). Conversations with my doctor are now only partly related to HIV – they’re more about checking my prostate and getting the colon cancer tests that are recommended for men over 50. Thankfully, on those fronts, so far, so good.

Paul Muller, 52
What Can You Do About It?

While people can’t change their age or ancestors, there is a lot that can be done to lower the risk of heart disease. Foods that are high in salt can increase blood pressure. Limiting alcohol to only one or two glasses of red wine a day is best (if there are no other problems like gastrointestinal bleeding or certain other illnesses). Increasing the amount of omega-3 fatty acids (found in flaxseed oil, certain fish, and walnuts) can also help, as can reducing the amount of saturated fat.

Exercise may help prevent heart disease. Thirty minutes a day, five days a week is usually enough, but any amount is better than none. Begin by walking at least 20 minutes a day and slowly increasing the time. Good shoes and a safe place to walk are important.

Drugs known as statins are very effective in lowering LDL, but unfortunately many of them interact with HIV drugs. Your doctor will pick those with the least chance of interactions. A study of health records in California found that people with HIV taking statins had slightly smaller reductions than those without HIV. In particular, Pravachol performed less well when compared to other statins. Other drugs are used to lower triglycerides (another fat in the blood) and raise HDL.

Did You Know?

Medication is often needed to reduce blood pressure or lower cholesterol and triglycerides. But some meds complicate HIV treatment, and some HIV meds may heighten heart disease risk. Plus, who needs more drugs? Lifestyle changes can help.

• **Exercise.** Walking 20-30 minutes a day may be all that’s needed.

• **Lose weight.** Even the loss of several pounds can reduce drug dosages.

• **Eat your veggies.** In one study, people had normal blood pressure after only eight weeks of increasing fruits and vegetables and lowering fatty foods.
Body Weight

Just about everybody thinks they’re either too fat or too skinny. But managing aging and HIV means you’ve got to keep an eye on both possibilities – it’s important to avoid being overweight, but as you age it’s also crucial to eat enough to maintain the nutrients your body needs.

People lose muscle mass and gain fat as they age, especially if they don’t exercise. As a result, the body will burn fewer calories. Diet and exercise can help with these changes, and slow down or reverse the loss of muscle.

Recent studies have offered different opinions regarding weight and health outcomes. Although most studies say that thinner is better, there is some evidence that people with a chronic condition actually do better with a little extra weight. Certainly, being overweight makes the heart work harder and can contribute to diabetes and high blood pressure. Losing weight, however, is easier said than done. New research has shown that each person has a weight range that is very difficult to change. That is, someone who weighs 250 pounds may find it very difficult to get down to 150 and stay there, although medications can help. For the extremely obese, surgery may be needed. For the rest of us, the goal is to use diet and exercise to stay at the lower end of each body’s natural range.

While gaining weight is a concern for people in their 40s and 50s, maintaining weight can be a concern for some seniors. When a person lives beyond his or her 70s, the ability to digest and absorb nutrients can change significantly, making it difficult to maintain weight. Constipation also can affect older adults, since the intestines may slow down, as do stomach secretions and even swallowing.

Telling It Straight:

I know that HIV is something that I will have to live with from now on, but as I grow older, I’m also experiencing other health issues. Four months ago, my doctor told me I had high blood pressure. Even though it runs in my family, it was a bit overwhelming to try to deal with this new diagnosis. I wake up every morning and put my feet on the floor even if I feel a little dizzy. I can still see, walk, talk, and think. So with all this being said, I enthusiastically look forward to another milestone in my life and many more wonderful years in my life’s journey.

Joan Warner, 64
Diabetes

The body’s inability to control blood sugar properly, known as diabetes, is an increasing problem in the U.S., including among people with HIV. Screening for diabetes should be done regularly by a non-fasting blood measurement such as glycosolated hemoglobin or fasting blood sugar (glucose).

The risk for diabetes increases the more a person weighs. It also increases when taking certain HIV drugs, especially older protease inhibitors. Newer protease inhibitors have little or no effect on sugar. Type 2 diabetes, the kind that usually affects adults, is tied to body weight, age, and family history – if your parents had it, you are more likely to develop it as well. African-Americans are particularly plagued by diabetes. They are more likely to get it and more likely to die from it once they have it.

Diabetes can lead to heart disease and stroke, kidney damage, and damage to the retina of the eye. Diabetic neuropathy, or nerve damage, can also occur and is often difficult to separate from HIV neuropathy, which can be caused by certain HIV meds or by the virus itself. Damage to blood vessels because of diabetes can lead to amputation of the lower limbs because of gangrene, and this risk is greatly increased in those who smoke. But with treatment, diabetes can be controlled and these risks may be lessened.

Diabetes is managed by losing weight, by changing the diet, and sometimes by taking pills or insulin injections. Often, losing weight is enough to normalize a person’s blood sugar. Preventing weight gain is important in avoiding diabetes (See body weight).
The Senses

Vision, hearing, taste, smell, and touch all decline as we age. Again, this is different for everyone. In general, we lose our ability to hear higher pitched sounds, which can make it harder to hear conversations, especially in noisy rooms. The perception of certain types of pain can be decreased with age as well, and it may be harder to identify some flavors and odors. Certain meds, including HIV meds, can cause a change in taste.

After age 40, the need for reading glasses can occur either gradually or almost overnight. Eyes dry out as we age and are less responsive to light, especially in low light. Eye problems such as cataracts, glaucoma, and vision loss due to macular degeneration must be monitored and can often be effectively treated. Fortunately, HIV-related eye infections, such as CMV retinitis, are now uncommon.

Older adults with HIV may experience more problems with vision and hearing than those without the virus. In a recent study of HIV-positive

Did You Know?
The risk for diabetes increases when taking certain HIV drugs, especially protease inhibitors. And African-Americans, who already are overrepresented in the HIV epidemic, are also particularly hard hit by diabetes. But there’s a simple way to fend off adult-onset diabetes, or to lesson the damage it does once you have it: lose weight and exercise.
adults over 50, 62% reported either a “little” trouble or “a lot” of trouble with vision, even when wearing glasses or contact lenses. Among adults without HIV of the same age, only 13% reported any trouble with vision. We see a similar pattern in terms of hearing, with 33% of HIV-positive adults reporting trouble with hearing compared to 11% in the general population. Some of this may be due to not having a recent eye glass prescription or from correctable conditions like ear wax, so it is important to have regular visits with your eye doctor or audiologist. Vision and hearing loss among older people with HIV may also increase the risk for mental health problems like depression.

Dry mouth is probably the most common dental problem seen in people with HIV – it can be caused by HIV meds or other drugs. Low saliva increases the risk of cavities, which can lead to abscessed teeth, so regular checkups are essential for everyone, especially those with dry mouth.

In general, teeth are tough, so it is gum disease that causes the greatest tooth loss in older adults. Regular dental checkups and good oral hygiene can prevent this. Also, the taste buds can change and become less responsive with age. This affects the desire to eat, which can lead to unwanted weight loss.

Did You Know?

Older people with HIV may be more likely to have symptoms of depression than younger people with HIV, and are more likely to be depressed than people their own age who are HIV negative.

• It’s estimated that 5% to 20% of people with HIV suffer from major depression – symptoms that don’t go away over time and interfere with daily life.

• Many other people with HIV do not meet the criteria for a clinical diagnosis, but may have several symptoms of depression that can have a negative impact on their lives.
The changes that occur in our brains mostly affect how the mind processes and uses information and remembers things. The risk for Alzheimer’s disease increases with age, but it is not an automatic part of the aging process and is not the only condition that affects mental functioning.

Changes in brain function can make it more difficult to do more than one thing at a time (multi-tasking). It can be more difficult to remember names and numbers. Seniors may find themselves taking more time searching for the right word to use or to recall information. But regular physical activity and mental stimulation may help preserve brain function.

Nerve damage to the hands and feet (peripheral neuropathy), leading to pain or numbness, was common before HIV combination therapy became available. With better HIV treatments, it is seen less often, but diabetes or other illnesses of aging can cause similar symptoms. Pain medications and other treatments may be helpful.

Older adults with HIV may become depressed at some point. Some studies suggest that older adults with HIV are more likely to have depressive symptoms than younger adults. Research finds that greater feelings of HIV stigma and loneliness are strongly linked with depression in older adults. Depressive symptoms in people with HIV may affect adherence to treatment, doctor visits, social activities, and personal relationships.

It can be difficult for doctors to diagnose depression in people with HIV because many of its symptoms are similar to common HIV symptoms like fatigue, poor appetite, weight loss, loss of sex drive, and sleep difficulties. Also, certain medications (particularly hepatitis C meds) can lead to depressive symptoms.

Older adults with HIV and their care providers should pay attention to these symptoms, especially if they occur with other warning signs of depression like mood swings, having the “blues”, feelings so sad nothing can cheer you up, or increased forgetfulness. Rates of bipolar, anxiety and post-traumatic stress disorder are also high in people with HIV. People that have any of these symptoms should talk to a doctor, social worker, or case manager.
Many people with depression or other mental health issues can be treated at their AIDS service organization, by their primary care provider, or by a psychiatrist. People prescribed antidepressants should never stop them “cold turkey” but rather lower the dose gradually under the care of a doctor. Other treatments include therapy and stress management.

It is important to co-treat substance abuse and mental health issues. Finding a mental health provider that is willing to treat a substance abuser can be difficult but there are providers willing to do so.
Bones

Bone growth stops by the time we reach our mid-20s, and most people lose bone mass as they age. For some people, bones actually shrink. Joints become less flexible and may be affected by arthritis. Muscles become less elastic. Women are especially at risk for reduced bone mineral density (BMD, or osteopenia), causing serious fractures and breaks. BMD loss can result from HIV itself or the use of certain HIV medications. Other risk factors include smoking, alcohol use, steroids, proton pump inhibitors, low vitamin D levels, low estrogen in women, and low testosterone in men. However, African-Americans tend to have less loss of BMD. While some studies have found no difference among HIV medications, other studies have suggested some are more likely to cause BMD loss, especially during the first year of treatment.

Many studies have shown a reduction of BMD in older people with HIV. DEXA scans are recommended at regular intervals.

Some people will benefit from calcium supplements. Weight-bearing exercise may be more beneficial than aerobic activities like swimming. Bone death due to loss of blood supply, called osteonecrosis, can be caused by certain medications or alcohol use, so the risk-benefit ratio must be considered before starting treatment. Vitamin D should be taken by those with low levels.

Although arthritis is a common condition at older ages, it does not appear to be directly related to HIV. Standard arthritis treatments can be used.

Telling It Straight:

What I Really Need is Love

I was 62 years old at the time of my HIV diagnosis. I had already lived a lot longer than many and had few regrets, so I was not terribly threatened by the prospect of dying. My professional career was over anyway. My main regret was that I had not experienced my dream – the love of a man. What worse barrier to the realization of that dream could I imagine than HIV infection? My greatest chagrin about my status was that it severely limited my dating prospects!

John, 64
Kidneys & Urinary system

The kidneys (along with the liver) remove toxins from the body, and usually operate quite well even at older ages. Most kidney problems are due to other conditions like high blood pressure, diabetes, or urinary tract infections. HIV has been associated with a specific type of kidney disease known as HIV-associated nephropathy. Although uncommon, it may occur more frequently in African-Americans.

The right HIV meds can improve kidney function in some people, but certain drugs, like Viread, should be avoided in people with serious kidney problems. One HIV med (Crixivan) can lead to kidney stones, so it should be taken with at least eight glasses of water a day.

Many age-related changes of the urinary system happen as a result of decreased kidney function. Medications, high blood pressure, and diabetes can all place stress on the kidneys.

Impaired bladder function occurs in almost a third of those over age 65. Older adults may have problems controlling urination or bowel movements, called incontinence. In women, this is often a result of reduced hormone levels and the thinning of the walls of the urethra. In men, it is often tied to changes in the prostate. Incontinence is treatable and does not need to be a part of aging.
Liver

The liver can actually replace its damaged cells, which minimizes the effects of aging on this essential organ. The most common causes of liver damage are the chronic abuse of alcohol or acetaminophen (Tylenol), especially when taken together.

Although HIV may be present in liver cells, most damage is from co-infection with a hepatitis virus, especially hepatitis C. “Baby boomers” (people born between 1946 and 1964) have been found to have a higher risk for hep C and should consider testing. HIV meds can also lead to liver problems, and switching HIV meds may be necessary in some cases. Certain HIV meds also fight hepatitis B, and could lead to a hep B flare-up if the HIV meds are stopped by people who have both viruses.

People with HIV and hepatitis will do best to lower their use of alcohol and recreational drugs or to stop them altogether. There are treatments available for hepatitis, and it’s essential that those who are not infected get vaccinated to prevent hepatitis A and B. Many people with hepatitis find it worthwhile to see a liver specialist in addition to their HIV care provider. This is particularly important now, since a number of new hepatitis C medications are expected to be approved soon and their use in people with HIV will require a high level of expertise.

Did You Know?

Melanoma and another skin cancer, called squamous cell carcinoma, are seen more often in people with HIV and can progress more rapidly. We don’t know if this is more serious in older adults with HIV, but given the fact that these cancers are more common in older people, it’s likely that people with HIV will be at greater risk for these cancers as they age.
Telling It Straight:

My Peace of Mind Heals

I manage a lot, but HIV is the easiest – I’m taking two pills in the morning and afternoons. But for high blood pressure, I think I’m on my third regimen. I never eat salt, but I have to work at not getting upset over everything. Menopause is the worst. Because of that I don’t rest properly. So I’m tired, but then what am I tired from? Is it everyday living? Is it HIV? Or is it high blood pressure? But I always tell people peace of mind is the best thing in the world for all of it. It took me years to get mine.

Patricia Shelton, 54

Skin

The majority of changes in the skin – lesions, age spots, and wrinkles – are due to sun-related skin damage, but the aging process adds to the stress on skin. Aging makes the skin less able to retain moisture and to control body temperature. And skin, along with hair, gets thinner and is more easily damaged.

Reduced production of oils can also lead to dry skin and wrinkles. Sweat helps regulate body temperature by helping the body stay cool. The aging body can be less able to regulate its temperature in response to outside temperature extremes because of a decreased ability to sweat. Certain medications can make the skin more sensitive to the sun, and some HIV meds can cause temporary or more serious rashes, or changes in the skin, nails and hair.

Skin cancer comes in two forms: melanoma and non-melanoma. Non-melanoma skin cancer, such as basal cell carcinoma, is common and very curable. Melanoma is rarer and much more serious. Most skin cancers are caused by overexposure to ultraviolet light from the sun. Using a sun block with an SPF of at least 30 can reduce the risk of skin cancer.

Early diagnosis is important in curing skin cancer, so people should tell their doctors if they notice any change in the size or appearance of a mole.

Before the 1980s, the skin cancer Kaposi’s sarcoma (KS) was seen mainly in older Italian and Jewish men and, rarely, in older women. When AIDS first appeared, young men
developed a form of KS that progressed rapidly and was harder to treat. KS can also occur in the mouth, lungs, intestines, and other organs. Since the advent of effective HIV treatment, KS is seen far less often.

People who have had chicken pox (caused by the varicella-zoster virus) may see it reappear as shingles when they age, leading to skin lesions on the chest and sometimes the face. Since people with HIV may have a compromised immune system, they are at higher risk for shingles-related complications like pain. A vaccine to prevent herpes zoster infection is now available for those who never had chicken pox, and is recommended for those over age 60, but not for people with HIV or weakened immune systems.

A 2011 summary of studies found that melanoma was not more frequent in people with HIV, although the category of “skin cancer” was more frequent.
Cancer
Older adults with HIV may be at higher risk for cancer, since the risk of cancer increases with age, having HIV positivity (especially with a lower CD4 cell count), and risk factors like smoking. The encouraging news is that older adults with HIV seem to get breast cancer, prostate cancer, and other common cancers at about the same age and frequency as people who are HIV negative. Standard cancer screening guidelines should be followed.

Breast Cancer
Breast cancer is the second most common cancer in women (skin cancer is the most common), but also occurs, rarely, in men. A large study of women with HIV in the U.S. found less breast cancer than in HIV-negative women, but the rate is still substantial.

Lung Cancer
More Americans die each year of lung cancer than of colon, breast, and prostate cancer combined. This is partly due to the fact that it is so hard to cure. Lung cancer has a five-year survival rate of only 15%, and this has not improved greatly over the past few years. Over 80% of all lung cancers are caused by smoking. Stopping smoking greatly reduces the risk of lung cancer, but it can take years for the lungs to repair the damage done.

A large study found that lung cancer rates were higher among people with HIV. In NYC, twice as many people with HIV smoke as do HIV-negative people. Even in areas where this is not true, the rate of lung cancer and the aggressiveness of the illness are increased in people with HIV. While nicotine addiction is hard to overcome, there are new treatments that can help, such as pills, gums, and patches to reduce nicotine cravings, and certain antidepressants.

Breast Cancer
Breast cancer is the second most common cancer in women (skin cancer is the most common), but also occurs, rarely, in men. A large study of women with HIV in the U.S. found less breast cancer than in HIV-negative women, but the rate is still substantial.

Most breast tumors are benign, meaning they are not cancerous. Usually a biopsy of the tumor is needed to see if it is benign or malignant (cancerous). If the breast cancer has not yet spread to other parts of the body (like the lymph nodes) it is almost always treatable. But once it has spread, it is harder to control. The good news is that the rate of death from breast cancer has declined over the last few years, probably because of increased screening.

It is recommended that every 1-2 years all women should have mammograms after the age of 40. However, a separate government group has suggested waiting to begin screening until after age 50,
except in women who are at high risk. People are at higher risk for breast cancer if they have already had it in one breast or have a family history of the disease. Genetic tests are available for those with a strong family history. Women under 40 who are at high risk need to be followed closely by a doctor skilled in this disease.

**Colorectal Cancer**
Cancer of the colon and rectum is more common in people over 50 – the rate rises from 15 cases per 100,000 people in their 40s to 400 cases per 100,000 people over age 80. Because colon and rectal cancers have much in common, they are often referred to together as colo-rectal cancer.

There is no clear evidence that these cancers are more common in people with HIV, but as the HIV-positive population ages, this may change. Warning signs of colorectal cancer include blood in the stool, a change in the shape of the stool, or pain in the lower abdomen. Everyone who is over 50 should have regular screenings. Colonoscopies are one option, and are usually done in the hospital on an outpatient basis. A flexible tube, called a colonoscope, with a light at the end is passed through the anus into the colon and the entire length of the colon is examined. The doctor is looking for small growths, called polyps, which can become cancerous. Removing them before this happens can prevent the disease.

**Anal Cancer**
Anal cancer occurs significantly more often in people with HIV. Some groups have recommended yearly anal pap smears for people with HIV, especially men who have sex with men,
anyone with a history of anal warts, and women with abnormal cervical tests. HPV (human papillomavirus) can progress faster in people with HIV, so catching it before it becomes cancerous is important. If caught early, anal cancer has a high likelihood of being cured with radiation and chemotherapy.

**Liver Cancer**
People with HIV are at a higher risk for liver cancer, probably because of hepatitis B and C, and cirrhosis. Screening recommendations vary, and include regular liver function blood tests and ultrasounds of the liver at regular intervals.

**Prostate Cancer**
Men with HIV do not appear to have a higher rate of this type of cancer, and at least one study has found a lower rate. Over 80% of people with prostate cancer are men over 65. This is the most common cancer in men but most men who have it will not die from it, especially if it does not spread beyond the prostate. A rectal exam can find some of the cases.

The PSA, or prostate-specific antigen, test is more sensitive than a rectal exam, but often detects cancers that will not spread. Surprisingly, some men with low PSA levels have prostate cancer, while some men with high levels do not have cancer. The U.S. Preventive Services Task Force recently recommended against the routine use of PSA as a screen for prostate cancer, since an elevated PSA often leads to biopsy.

**Endometrial, Cervical and Ovarian cancer**
Endometrial cancer occurs in a woman’s uterus and happens most often after menopause. The most common symptoms are irregular periods or vaginal bleeding – women with these symptoms should see their gynecologist. Women with HIV should have pap smears more frequently – some need them at least every six months – because of an increased risk for cervical cancer, especially if they have low CD4 counts. These tests look for changes in cells in the cervix (the part of the uterus that extends downward into the vagina). A large study showed an average risk of uterine cancer in women with HIV, but a higher risk of cervical cancers, and no increased risk for ovarian cancers. However, cancers of the ovaries are hard to detect at early stages.
that in many cases may not be positive for cancer. However, many medical associations have countered that individuals at higher risk for prostate cancer, such as African Americans and those with a family history of prostate cancer, should be offered the test. Older adults with HIV should talk with their physician about whether to have a PSA test.

It is important that patients understand these nuances before a PSA test, because a high PSA level often leads to biopsies and surgeries that may not be actually needed. The complications of surgery can include impotence and urinary incontinence – and though not everyone has these complications, it’s also true that not everyone with prostate cancer needs surgery.

Benign prostatic hyperplasia, or BPH, is not cancerous. It is caused by enlargement of the prostate and commonly occurs with aging. BPH can constrict the urethra (the tube that urine passes through) and result in a slower and weaker stream of urine. Men with BPH have frequent urination, often waking up at night to urinate. If drug treatments don’t work, the most effective treatment is surgery.

Telling It Straight:
I Stand Up for Myself

If people are negative, I can turn it back to positive. I’ve got lots of nieces and nephews, and I’ve sponsored a lot of them to come over here. There’s quite a lot of stigma in the Caribbean about gay lifestyle and HIV. I did have a problem one time with a nephew who attacked me when my sister told him I am gay; I had to take him to court. But I gave him the movie Philadelphia and, over the years, we have worked things out.

David Singh, 69
Managing Your Meds

HIV meds are definitely easier to take these days: fewer pills, fewer food restrictions, and once-daily dosing of many HIV meds. But they still differ in important ways from other meds older adults may be used to taking. Unlike blood pressure or cholesterol meds, for instance, missing even a few doses of HIV drugs can lead to resistance and treatment failure. So if older adults are to benefit from HIV treatment, special care must be given to adherence education and assistance.
Not All Mixes Match

Sometimes the amount of one medication in your body can be increased by other meds you are taking at the same time, which can cause heightened side effects. On the other hand, sometimes the interaction between two drugs you’re taking can accidentally decrease the amount of an HIV med in your system, leading to treatment failure. Also, some combinations may be hard on the kidneys or liver, or lead to other problems.

So it’s important for everyone to take the “brown bag” test: put all the pills you take in a bag and show them to your medical care provider at least once, and also whenever they start a new med. This includes prescription meds, herbs, supplements, vitamins, and over-the-counter meds like Advil or Rolaids. The care provider can then check for drug interactions, as well as checking the medical record to make sure everything is safe and correct. This booklet does not supply a complete list of meds that interact with HIV meds. People on HIV meds should check with their HIV medical providers or pharmacists before they start any new med. It’s smart to have a regular pharmacist who is knowledgeable about HIV medications and interactions that might affect you.

Also, medical providers love it when people are knowledgeable and ask about interactions.

Some protease inhibitors, such as Norvir and Kaletra, slow down the metabolism of other meds, which means the other meds are removed from the body more slowly. People taking protease inhibitors should start erectile dysfunction drugs like Viagra at low doses to avoid the risk of potentially serious side effects. Lower doses may also be needed for medications used to treat high cholesterol, high blood pressure, anxiety, and insomnia. Some cholesterol-lowering meds and corticosteroids should be avoided when taking protease inhibitors such as Norvir or Kaletra. And when a protease inhibitor is stopped, other meds may need dose adjustments.

Reyataz should not be taken with proton pump inhibitors like Prilosec or at the same time as antacids like Pepcid, because those meds can reduce the stomach acid that is needed to absorb Reyataz. People taking Sustiva or Atripla may need to change their methadone dose. Coumadin (used to keep blood clots from expanding) may need to be adjusted when Atripla or Sustiva is started or stopped.
Alternative therapies

People often have strong beliefs about herbal or nutritional supplements. Whether or not your doctor agrees with your beliefs, it’s important to discuss any natural remedies you take, since there is a risk of interactions with HIV meds. For example, St. John’s wort, an herb used for depression, should not be used with some HIV meds, nor should garlic when taken in a high-dose capsule form. Kava kava may cause liver problems, and echinacea, an herb used to reduce cold symptoms, should probably not be used for extended periods of time by people with HIV.

Herbal and nutritional supplements are not classified as drugs by the FDA and do not require the same thorough testing for purity and effectiveness, so impurities and mislabeling are possible. Close monitoring of HIV viral load may be useful when a new herbal or nutritional supplement is tried.

Liver and Kidneys and Meds, Oh my!

Some HIV meds are removed from the body by the kidneys, so certain HIV meds are given in lower doses if severe kidney disease is a problem. Atripla and Viread cannot be used in patients with severe kidney disease. Many HIV meds are cleared from the body by the liver as well. Some of the protease inhibitors should be given in lower doses if severe liver disease is a problem.

Sustiva and Atripla may cause a false positive on a urine screen for marijuana, even though they don’t contain any marijuana-like substances. Recreational drugs such as Ecstasy may be deadly in combination with some HIV meds. Because many recreational drugs are removed from the body by the liver, a person could overdose when HIV meds slow down the liver’s function. Poor adherence, or missed doses, is a more common problem when people mix HIV meds and recreational drugs, including alcohol.
It’s Your Life to Control

Much of this booklet has focused on the challenges that all older adults face as they age. It is not clear whether this process and age-related illnesses will be different for those living with HIV. Will the virus and HIV meds make age-related disorders worse? We simply do not know. But people with HIV need to alert their healthcare providers to any new symptoms they have, and to get regular tests for age-related illnesses.

Conversely, living with HIV may help in managing aging. Seniors often need to develop positive coping skills as they age. Could the coping skills that people develop when they live with HIV be useful as they confront the challenges of aging? They may be less threatened by illness and disability. They may be able to accept age-related conditions better compared with those who have not lived with a life-threatening chronic illness.

On the other side of the coin, like people living with HIV, many seniors have developed positive coping skills along with the emotional maturity they gain with age. But life experience is no sure defense against illnesses like Alzheimer’s disease, addiction, anxiety disorders, and depression. And aging well is not only about medical care – a healthy social environment and emotional life are equally critical.

Research has identified many things that help people with HIV adapt to their illness. For some, spirituality and religion help make sense out of their illness and combat the negative effects of stigma. Others find comfort and support from family and friends, which has been found to increase adherence to treatment and staying in care. Many HIV-positive older adults have been able to find happiness and strength while coping with a challenging illness. They have had the support of a unique system of medical care.

However, the medical care system must also adapt to the reality of an aging HIV epidemic, and broaden its focus to managing the multiple comorbid conditions that often accompany HIV. In the end, it is a challenge that people living with HIV and those who care for them must confront and overcome.
Checklist for Healthy Aging

These things should be considered for maintaining optimal health with aging, whether you are HIV positive or negative.

- Exercise regularly
- Eat a healthy diet rich in fruits and vegetables
- Maintain a healthy weight
- Engage in social and intellectually stimulating activities
- Control type 2 diabetes
- Lower high blood pressure levels
- Lower high blood cholesterol levels
- Stop smoking
- Get regular cancer screenings
- Get treatment for depression
ACRIA is an independent, not-for-profit community-based AIDS research and education organization committed to improving the length and quality of life for people with HIV through medical research and health literacy.

ACRIA conducts an HIV Health Literacy Program to offer people with HIV and their care providers the tools and information they need to make informed treatment decisions. Health Literacy Program services include: workshops conducted at community-based groups throughout the New York City area in English and Spanish; technical assistance trainings for staff of AIDS service organizations; individual treatment counseling; and publications, including a quarterly treatment periodical and booklets in English and Spanish on treatment-related topics. TrialSearch is our online, searchable database of HIV clinical trials enrolling throughout the United States. ACRIA’s National Training and Technical Assistance Program offers training and ongoing support to help non-medical service providers and community members in various parts of the country acquire the skills and information needed to provide HIV treatment education in their communities. The Older Adults Training and Technical Assistance Program offers similar services locally and nationally with a focus on the needs of middle-aged and older adults.

To learn more about ACRIA’s research studies or the HIV Health Literacy Program, please call or email us at treatmented@acria.org. For more information, visit ageisnotacondom.org or facebook.com/AgeIsNotaCondomACRIA

Funding for this booklet was provided by New York City Department of Health and Mental Hygiene and M•A•C AIDS Fund.

Free distribution of this booklet was made possible in part by generous donations from U.S. government employees to ACRIA through the Combined Federal Campaign (CFC). CFC #11357

AIDS Community Research Initiative of America
575 Eighth Ave., Suite 502, New York, NY 10018
212-924-3934  Fax: 212-924-3936

www.acria.org

Daniel Tietz, Executive Director