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HIV and  
Sexual Health

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# HIV and Sexual Health



**Welcome.** The first Greater Manchester HIV and gonorrhoea communication was well received by professionals and people living with HIV alike. Feed back has been very positive and suggestions for future content have been too numerous to list here.

The second communication looks at the sexual health needs of people living with HIV. This was a thorny subject only a few short years ago when it was suggested that people who test positive for HIV should be offered a general sexual health check up and that this should be regular if they are sexually active. Since that time we have experienced a major syphilis outbreak in the Greater Manchester area and significant numbers of the people testing positive for syphilis are also HIV positive. The sections in this communication on syphilis and other sexually transmitted infections demonstrate clearly why HIV positive patients should be referred for a full sexual health check up.

The aim of these public health communications is to inform and educate a range of people with an interest in HIV. We hope this second edition succeeds as well as the first. Copies of the first communication on HIV and gonorrhoea and can still be obtained from the Greater Manchester HIV Investment Strategy Project (address at end) or accessed via <http://www.nwpho.org.uk/reports/Gonorrhoea.pdf>

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## Introduction

Even though there is still no cure for HIV, the advances in treatment over the past few years have resulted in a substantial decrease in illness and death among people diagnosed with HIV. This has been a remarkable achievement and as such many people are able to live a healthy life. However, the total number of new cases of HIV has increased over time, with an estimated 4,000 new cases of HIV in the UK for 2002 and this is increasing annually. This increase in HIV diagnoses has major public health implications, partly because the virus can, and will, continue to spread if people do not practise safer sex (irrespective of whether they have a confirmed diagnosis) but also because the needs of people living with HIV will, over time, differ. For example, people with HIV may decide to start taking anti-HIV therapy and need to know the implications of the available treatment and issues around co-infection and superinfection. Some people may not realise that if they have a sexually transmitted infection they are more susceptible to acquiring HIV and vice versa.

Because therapy is becoming much more advanced and people living with HIV often have improved health and are also living longer, other issues such as superinfection, sexually transmitted infections and stigma, need addressing. To put all of this into context, the bulletin starts by providing a general introduction on HIV progression and treatment. *This public health communication therefore aims to identify and discuss the issues surrounding HIV and sexual health. In doing so, the main areas addressed are treatment, safer sex, sexually transmitted infections, reproductive health and support for those people with HIV.*

## Progression of HIV disease

HIV attacks and destroys the human immune system and in doing so, HIV weakens the body's ability to fight off infections. More specifically, HIV destroys CD4 cells (also known as CD4 T-lymphocytes or T-helper cells),

which are fundamental in co-ordinating the immune system and recognising infections. Because of this, the number of CD4 cells drop thereby impairing the immune system and leaving the individual more susceptible to infections.

The natural range of CD4 counts in unaffected people is quite large, and depends on gender. In males without HIV the range is between 400 and 1200 cells/mm<sup>3</sup> whereas for females it ranges from 500 to 1600 cells/mm<sup>3</sup>. When CD4 cells become depleted by HIV opportunistic infections such as *Pneumocystis carinii* pneumonia (PCP) and candida can develop. It is estimated that for every fall of 100 cells in the CD4 count, the relative risk of developing an opportunistic infection increases two-fold. Furthermore, once CD4 count is below 200, there is an approximate 85% chance of developing an AIDS-related condition within three years, if no treatment is taken. CD4 count is therefore used as a marker to monitor disease progression and often influences when treatment should begin. It should, however, be acknowledged that the risk of death among people with the same CD4 count varies dramatically. Also, certain other factors (referred to as co-factors) can influence the progression process from HIV to AIDS, including viral infections, sexually transmitted infections, different strains of HIV and superinfection. However, with appropriate treatment and care many HIV-positive people lead a healthy lifestyle<sup>1</sup>.

Viral load is another marker used to monitor disease progression and refers to the amount of HIV that circulates in the blood plasma (the fluid between blood cells). The higher a person's viral load, the higher the level of HIV in their blood and so the greater the possibility that immune systems can become damaged. It is therefore important that a person's viral load is kept low to decrease the risk of opportunistic infections. Once anti-HIV treatment commences, the CD4 count is expected to increase whilst viral load decreases. Thus, the viral load test, in addition to CD4 count, can be used as an indicator to measure the amount of HIV in the blood and to assess the effectiveness of anti-HIV therapy.

## Treatment

### Anti-retroviral therapy

Anti-retroviral therapy (ART) is a major factor in prolonging a person's life span if they have an HIV diagnosis. ART works by slowing down or preventing the depletion of CD4 cells, thereby maintaining the body's immune system and ultimately prolonging good health. ART cannot, however, stop the production of HIV completely and so the virus survives, ready to reproduce rapidly if treatment is discontinued.

The most common way to treat many people diagnosed with HIV is by administering three or more anti-HIV drugs in combination, or regimen, often referred to as HAART (Highly Active Anti Retroviral Therapy). Indeed, of all individuals attending for treatment for either HIV or AIDS in the North West during 2001 nearly two thirds (64.8%) were receiving triple or more combination therapy. The use of fewer than three drugs during 2001 was rare, with no individuals receiving mono therapy and only 1% receiving dual therapy, which is in line with the British HIV Association Guidelines. In total, 34% (n=675) of individuals were not receiving any treatment, of which 56% (n=379) were asymptomatic.

The timing of when a person should begin taking anti-HIV therapy requires much thought, discussion and understanding because once treatment begins a strict regime must be adhered to in order for the drugs to work properly. This is because anti-HIV drugs appear to work best when used for the first time. People taking ART must take the drugs on time and follow any diet restrictions that are recommended by their HIV doctor. If a person fails to

follow the treatment plan carefully and accurately then the drugs are unlikely to be absorbed properly by the body and so the individual is in danger of increasing the progression process from HIV to AIDS. If the drugs are not taken as prescribed then the HIV is more likely to develop resistance to the drugs, which will have serious long-term consequences. It is vital that people are aware and understand that their life style will, most definitely, change once therapy begins.

When a person begins therapy they must have regular tests, most commonly the CD4 count and viral load, to ensure that levels remain high and low respectively. If an HIV-related illness occurs and/or viral load increases, then these are likely to be indications that ART may be failing so treatment needs to be reviewed and probably changed.

Opinions are divided as to the optimal time when ART should be changed after viral load begins to increase. On one hand some doctors may recommend changing the treatment as soon as the viral load starts to rise, whereas others may suggest careful monitoring of the overall trend of the viral load. A change to a person's drug regime will depend upon drugs already used, CD4 count and their general health.

### Resistance

One of the major concerns over anti-HIV therapy is the development of drug resistance where the drugs taken are not able to adequately stop HIV reproducing. Once drug resistance develops, the blood level of HIV increases and so the risk of becoming ill also increases. Consequently the drug regime will usually be changed.



There are two main ways in which to reduce the chance of drug resistance:

- (i) To take combination therapy, often three or four drugs.
- (ii) Take the drugs exactly as prescribed.

From the increased drug resistance among people living in developed countries, drug-resistant strains of HIV have begun to emerge. Consequently, another important issue to consider is transmission of drug-resistant HIV as this will reduce the availability of treatment options.

### Dual HIV Infection

Dual infection is a term that includes superinfection and co-infection. Superinfection is when a second infection occurs after the first infection is established whereas co-infection is when two infections occur at the same time or very close to each other.

There is now consensus that there is more than one strain of HIV. In fact, at least eight major sub-types of HIV-1 have been identified and one major sub-type of HIV-2 (Sub-types HIV-1 are the more common types in the UK whereas subtype HIV-2 is rare in the UK). The implications of this are vast, especially because an individual can be infected with two different subtypes at the same time. Also, re-infection is

theoretically possible and sub-types of HIV can re-combine to form new sub-types. Therefore, even for HIV positive couples, it is important that safe sex is practised.

In March 2002 the medical community was presented with the first unequivocal evidence of superinfection. A gay man had shown to have been infected with two different types of HIV on separate occasions more than two and a half years apart<sup>2</sup>.

Many different strains of HIV exist, some of which are more aggressive than others. It has been suggested that transmission of an aggressive strain to an individual who is already infected with a less aggressive strain may trigger the onset of an AIDS related illness. American studies of four individuals with dual HIV infection found that all four had progressed to AIDS or AIDS related death within two years of dual infection<sup>3</sup>.



### Infectiousness

People newly infected with HIV, especially those in the window period (up to three months following infection), when the body has not produced sufficient HIV anti-bodies, often have very high levels of HIV in their blood. They may also have high levels of HIV in their sexual fluids making unprotected sex risky in terms of ongoing transmission. Researchers have estimated the HIV transmission rate from unprotected vaginal sex to be ten times higher in people with primary HIV infection<sup>4</sup>.

Furthermore, about a third of HIV positive people in the UK are unaware of their HIV status and therefore may not be taking the necessary precautions to prevent further transmission. In the early stages of HIV infection, an individual's viral load falls as the body produces anti-bodies. However, the viral load will increase with the progression to AIDS rendering those with advanced HIV equally as infectious as newly infected individuals.

Individuals whose viral load has fallen to an undetectable level may still transmit HIV to other people, mainly because the level of HIV varies within different parts of the body. For example, an individual may have an undetectable viral load in their blood sample, but high levels in their sexual fluids and therefore transmission can still occur<sup>1</sup>. Additionally, because ART blocks the production of HIV cells but does not kill them, the virus will always remain in the body.

### Safer Sex

Safer sex is advised for all people to minimise the spread of HIV and STIs, irrespective of their HIV status. However, HIV positive people should also consider their own health; namely to prevent re-infection with a more virulent strain of HIV and co-infections with other STIs. Here we face some of the issues for people with HIV and for people with partners who are HIV positive.

### Oral sex

The possibility of passing HIV to another person through sexual contact depends on the type of sexual activity. HIV is most easily transmitted through unprotected vaginal and anal sex, whereas oral sex has been shown to be significantly less of a risk. An increasing amount of evidence suggests that unprotected oral sex may carry a greater risk than initially thought. The Public Health laboratory Service estimate that between 1% and 3% of HIV infections in the UK are orally transmitted<sup>5</sup>.

Viral load testing has shown that HIV is almost always found in semen. However, HIV levels often vary in vaginal fluid although viral load is known to be higher around the time of menstruation when HIV bearing cells are shed from the cervix, therefore this is the most risky time for oral sex. Individuals are at an increased risk of contracting HIV orally if they have an untreated STI, especially in the throat and the risk is increased if there are cuts or abrasions to the lips, gums or mouth. Also, many other STIs are transmitted through oral sex and the Greater Manchester syphilis outbreak was linked to oral sex.

### Sexually Transmitted Infections (STIs)

There are important differences between safer sex messages intended to minimise the risk of contracting an STI and messages intended to reduce the risk of HIV transmission. STIs, in general although not exclusively, are more infectious, easier to transmit and are often not as life threatening compared with HIV. However, if an HIV positive person has an STI, such as herpes, or genital ulceration, the risk of HIV transmission increases substantially. One reason for the increased risk of co-infection is because of the physiological changes, i.e. STIs can increase the quantity of HIV-bearing cells present in the vaginal fluid or semen thereby increasing infectiousness. Additionally, if a person is HIV positive, then they are more susceptible to STIs if exposed and so it becomes more difficult for the body's defence system to deal with. For example, genital warts are generally harmless in HIV negative people but can become severe and painful for people whose immune system is compromised.

It is important for everyone to maintain good sexual health and this is particularly so for HIV positive people, not only to prevent the spread of infections but also to minimise any possible complications of having an untreated STI. Although HIV positive people can be treated successfully for STIs, their treatment may be more aggressive if they have a weakened immune system.

Many STIs do not have clear symptoms; in fact, some STIs have no symptoms at all. It is therefore advisable for sexually active people to have occasional check ups as early

Table 1 Sexual orientation by HIV status for diagnosed cases of syphilis in Manchester.<sup>7</sup>

HIV Status	Sexual orientation				Total %(number)
	Homosexual %(number)	Heterosexual %(number)	Bisexual %(number)	Unknown %(number)	
Positive	n=330 30.3 (100)	n=58 3.4 (2)	n=17 29.4 (5)	n=9 0 (0)	n=414 25.8 (107)
Negative	51.5 (170)	44.8 (26)	29.4 (5)	0 (0)	48.6 (201)
Unknown	18.2 (60)	51.7 (30)	41.2 (7)	9 (9)	25.6 (106)

identification of infection can help to prevent long term health problems. The frequency at which these sexual health check ups occur depend upon an individual's sexual activity levels and the risks taken.

### Syphilis

It is estimated that the risk of HIV transmission to an HIV negative individual may be increased up to five-fold if they have syphilis. Conversely, there is a seven-fold increase in the risk of contracting syphilis if a person has HIV<sup>6</sup>. The reason for these different transmission rates is because syphilis has a significantly high risk of transmission via unprotected oral sex. Whereas for HIV, the risks of transmission through unprotected oral sex is smaller, although still possible. Data from the Manchester outbreak show that 30% of gay men diagnosed with syphilis were also HIV positive (table 1). It is therefore important that safer sex messages include information about co-infection, especially between syphilis and HIV. Of the reported cases of syphilis in the Manchester outbreak study, the break-down by sexual orientation was: 80% homosexual, 14% heterosexual, 4% bisexual and 2% unknown sexual orientation (table 1).

### Herpes

Recent infection with genital herpes substantially increases the risk of HIV transmission, especially if ulceration has caused damage to the membranes. People with HIV tend to have herpes attacks more frequently, more severely and for longer time periods compared with people who are HIV negative. Sometimes, herpes lesions in HIV positive individuals can become infected with other bacteria leading to large painful blisters.

The herpes viruses can act as a co-factor in progression to AIDS, activating HIV and making it easier to infect certain cells. An HIV positive person who has herpes ulcers that last for four weeks or longer is diagnosed as having AIDS.

### Hepatitis B

Hepatitis B is a very infectious virus, much more so than HIV, and is usually passed on through blood, semen, vaginal fluids or from mother to baby (vertical transmission). Furthermore, hepatitis B can cause serious or fatal damage to the liver. Fortunately there is an effective vaccine for hepatitis B which is now recommended for gay and bisexual men regardless of their HIV status. Although the vaccination is perfectly safe to administer to HIV positive people, consultation with an HIV doctor is advised. This is mainly because people with HIV may experience some problems achieving the required level of immunity (especially if they have low CD4 counts), and therefore the virus can be easily transmitted by a HIV positive person, if condoms are not used.

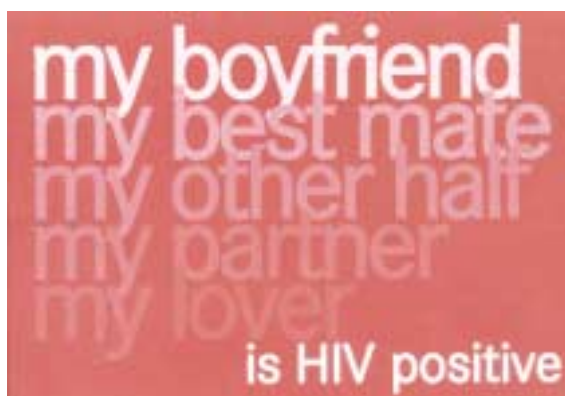
Hepatitis B does not hasten the progression or severity of HIV infection. In fact people with HIV are less likely to experience liver damage as a result of hepatitis B infection, although they are more likely to become chronic carriers of the virus hepatitis B. This is because the damage caused by hepatitis B is not through the virus itself but rather by the person's immune system destroying infected cells in the liver. Because the immune system of HIV positive people is often impaired, people diagnosed with both HIV and chronic hepatitis B may be less likely to experience liver problems than people with fully functioning immune systems. Conversely the hepatitis B levels of those people with HIV will remain higher because the virus is not cleared from the body as effectively as it would be in those with fully functioning immune systems.

### Hepatitis C

Hepatitis C was identified in 1989 and is predominately transmitted through blood-to-blood contact. However, there is growing evidence to suggest that sexual transmission is on the increase, notably amongst gay men.

People with HIV and hepatitis C have higher levels of the hepatitis C virus compared with those people without HIV and people who are co-infected are more likely to suffer from liver disease. As such, the likelihood of transmitting hepatitis C sexually potentially increases. The prognosis for co-infection with HIV and hepatitis C remains unclear although research suggests it may hasten both liver damage and the progression of HIV infection.

Unfortunately there is no vaccine for hepatitis C and its treatment is complex. This is because the side effects from the anti-hepatitis C drugs often outweigh their benefits and treatment is often not successful, even in HIV negative people. Treatment for co-infected individuals should be based on their virological and immunological status. Many specialists may recommend treating the condition that is



considered to be the most life-threatening, usually HIV. However, people with HIV and hepatitis C should obtain specialist medical advice in relation to their treatment options.

### Sexual dysfunction

Sexual dysfunction is common amongst men in general, and men living with HIV may be particularly affected. This is because sexual dysfunction in men can often be as a result of lower than normal testosterone levels and men with advanced HIV infection have been found to have low testosterone levels. Also, the inability to maintain an erection can be as a result of certain anti-HIV drugs, including protease inhibitors, which may cause numbness in the genital area.

Loss of sexual drive or libido can have significant impact on quality of life and may lead to depression. Many sexual dysfunctions are psychological and may be addressed through a consultation with a psycho-sexual counsellor.

The world's most popular cure for impotence, Viagra (sildenafil), should only be used by individuals on anti-HIV treatment following consultation with their HIV doctor. This is because side effects have known to be fatal to HIV positive people<sup>8</sup>.

### Reproductive health

#### Contraception

Women with HIV may experience problems with their menstrual cycle (short or prolonged periods), especially if they have a CD4 count below 200, and HIV positive women are often less fertile compared with HIV negative women. However, HIV positive women can, and do, conceive and therefore contraception issues should be considered.

Condoms are the most effective form of barrier contraception and are the recommended form of contraception to reduce the risks of transmitting and contracting HIV and STIs. Not only does the use of condoms reduce the risk of passing on HIV and STIs they also reduce the risk of pregnancy. If couples choose not to use condoms then they should be aware of the effects that

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HIV itself or the therapy has on other methods of contraception.

The effectiveness of oral contraception (the pill) may be reduced if used in conjunction with anti-retroviral therapies, as HIV drugs reduce the levels of oestrogen in the blood. Therefore it is important that additional contraception, such as condoms, be used.

There is no evidence to suggest that the Intra Uterine Device (the coil) is any less effective in HIV positive women. However there have been disproportionate reports of anaemia and pelvic inflammatory disease in women with HIV.

### Sperm Washing

If pregnancy is to be considered for couples where the man is HIV positive and the woman is HIV negative, then the risk of sexual transmission of HIV to the women must be thought about. To minimise this risk, from the male to female, a technique known as 'sperm washing' is conducted.

HIV is found primarily in semen, not in sperm. It is therefore possible to extract sperm from the infected semen and following this purification process, the woman may be artificially inseminated with the washed sperm. The risk of HIV infection to the woman is minimal, but still exists. This process has been widely used in Milan where over 2,000 inseminations using the sperm washing technique have occurred. To date, none of the women have sero-converted and all of the children are HIV negative. As yet this process is not generally available on the NHS in the UK.

### HIV and Pregnancy

It is important that the issues surrounding pregnancy are considered for HIV positive women (and men), in particular the mother-to-child-transmission (MTCT) of HIV (also referred to as vertical transmission). Although HIV does not change how the pregnancy proceeds and does not affect the development of the baby, the risk of MTCT can be reduced if certain preventative interventions are in effect.

MTCT rates vary substantially across the world, and are dependent upon available interventions that decrease transmission. For example, in industrial countries with no preventative interventions given, the overall estimated risk of HIV transmission is 15-20% (about 1 in 7 to 1 in 5 chance of transmitting the virus). However, with all interventions the transmission rates can be as low as 2%. Compare those rates to other countries, such as Africa, where fewer facilities are available, rates as high as, some up to 40% have been observed.

There are three ways in which MTCT can occur:

- (i) During pregnancy
  - Where HIV (in the mother's blood) crosses the placenta and infects the foetus. ART may be administered (see below).
- (ii) During birth
  - Infection to the infant occurs from HIV in the mother's cervical secretions or blood during childbirth. Caesarean section and/or administration of ART may reduce transmission rates.
- (iii) During breast feeding
  - Infection to the infant occurs from HIV in the mother's breast milk or blood during breast-feeding. HIV positive women are advised not to breast feed.

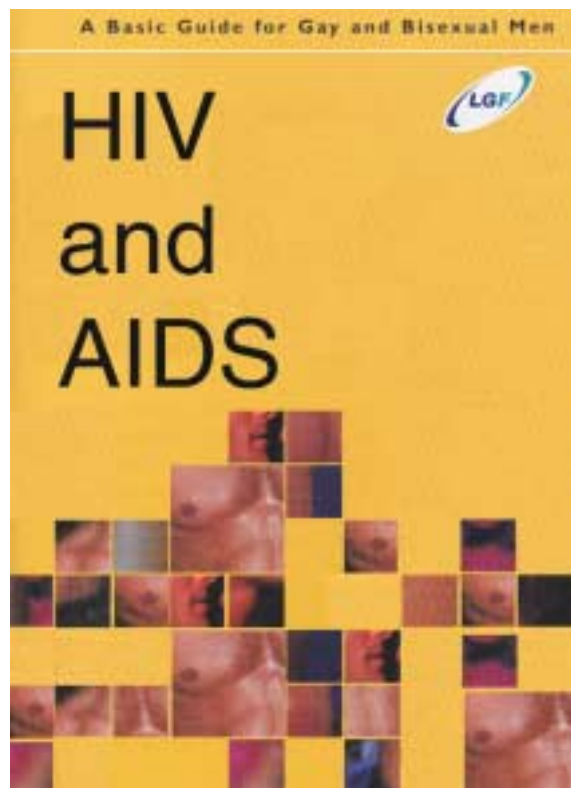
ART may be administered to pregnant women to help her own health as well as to prevent HIV from being passed on to the child. However, the safety and long-term effects of ART in pregnancy are currently unknown. As such, the management of HIV-positive pregnant women requires careful consideration that identifies the mother's own health needs, the need to reduce MTCT and possible adverse

effects of ART to the foetus<sup>9</sup>. Taking ART whilst pregnant is a very individualised decision that requires advice from trained health care professionals.

### Sexual health information for HIV positive people

The majority of sexual health information distributed across the North West Region is in the form of posters, websites and leaflets<sup>10</sup>. Information may be focused towards primary, secondary and tertiary prevention. This ensures that the information is targeting key groups of people and in way that is specific to their needs. The different types of prevention are as follows:

Primary: Preventing uninfected people becoming infected



through safer sex information, condom promotion and needle exchange.

Secondary: Enabling those people living with HIV to remain well for as long as possible. This often includes HIV testing (to know your HIV status), welfare rights and lifestyle changes.

Tertiary: To reduce the effects of HIV related illness on those individuals living with HIV. This includes information on anti-HIV treatments, advice on welfare and social benefits.

The majority of HIV literature falls into the primary HIV prevention category. Therefore, those people already infected with HIV are often, although not always, excluded from prevention literature. Primary prevention literature is important and should be widely available to HIV positive people. However, it should not be at the expense of secondary and tertiary prevention information. Greater emphasis is required for people who are HIV positive about practising safer sex and preventing further transmission.

A study by Clark and colleagues<sup>11</sup> found that HIV positive people did not appear to receive sexual health information routinely from their HIV clinic (if their clinic was outside a GUM setting). The study recommended that those individuals receiving HIV treatment should have access to GUM and other sexual health services in order to provide a holistic service.



## Stigma

Tackling stigma and discrimination is a key component of the Department of Health's action plan that is expected to drive the National Strategy for Sexual Health and HIV<sup>12</sup>. The two aims that specifically address stigma and discrimination are as follows:

1. Improve health and social care for people living with HIV
2. Reduce the stigma associated with HIV and STIs

The stigma attached to HIV is probably one of the toughest problems an individual may have to face in coming to terms with being HIV positive. People who are stigmatised are more likely to be depressed and less likely to seek support. If this occurs, individuals may not talk about their own HIV status or ask other people about theirs and in doing so HIV infection may continue to be transmitted for fear of asking to practice safer sex.

Fear of HIV discrimination can also result in people refusing to take an HIV test because of concern over the outcome. This may result in HIV individuals practising unprotected sex without the knowledge that they are infected.

People diagnosed with HIV can potentially experience stigma and discrimination from family, friends, partners and colleagues. However, there are many agencies that are available for people living with HIV (see below for contact details) to provide support and advice.

## Concluding remarks

The advances in anti-HIV therapy have resulted in a substantial reduction in illness and death among people living with HIV. This means that people infected with HIV can lead a healthy and long life and also plan for their future. They can also have sex, a fact that has often been ignored by those working in HIV prevention. The treatment that is currently available is difficult to take because of the strict regimes and because of both short and long term side effects. However, because of the new strategies that are being developed, improved formulae are being marketed.

People living with HIV will probably know that their health is likely to fluctuate. Some days HIV positive people will be fine and healthy but at other times they may become susceptible to sudden illnesses and/or side effects. Also, there are social, emotional and psychological effects that need to be considered in addition to the physical ones, especially around relationships. For example, evidence suggests that men with low self esteem are more likely to engage in unsafe sexual practices.

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## Support Services

There are numerous reasons why an individual may require support regarding living with HIV. These may include people working with, living with or those who know people with, HIV. Psychological support is routinely offered to all people newly diagnosed with HIV at the clinic/hospital of diagnosis. However, as time goes by there may be many different issues, including sexual health, that need to be addressed. Currently, there are five voluntary agencies working together to develop the provision of a Greater Manchester HIV partnership:

George House Trust	0161 274 4499
Body Positive North West	0161 873 8103
Lesbian and Gay Foundation	0161 235 8000
Black Health Agency	0161 232 5392
Barnardos Health Through Action Project	0161 273 2901

All of the above agencies will provide information regarding sexual health issues or provide a confidential referral to a sexual health counsellor.

## Acknowledgements

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A lot of the information for this bulletin can be found in the HIV & AIDS treatment directory and monthly updates published by NAM (National AIDS Manual) that can be obtained from their website: [www.aidsmap.com](http://www.aidsmap.com)

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