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**Introduction**

**HIV and AIDS** is Volume 322 in the ‘Issues in Society’ series of educational resource books. The aim of this series is to offer current, diverse information about important issues in our world, from an Australian perspective.

**KEY ISSUES IN THIS TOPIC**
The AIDS epidemic has spread for almost 30 years. Thirty-three million people are living with HIV worldwide and 28 million have died from an AIDS-related illness since 1981, mostly in Africa. A new HIV infection is diagnosed somewhere in the world every seven seconds and someone dies from an AIDS-related illness every 11 seconds. Almost 17,000 people are living with HIV in Australia, and about 1,000 become infected each year; over 6,700 Australians have died from AIDS during the last 25 years.

**HIV and AIDS** contains an overview of the history and prevalence of AIDS globally and in Australia, and explains the latest developments in HIV prevention and treatment. Key topics include: understanding the causes of transmission; HIV prevention programs for specific communities and populations; HIV and safer sex practices; injecting drug use and needle exchange programs; HIV testing; drug treatments and the search for an AIDS cure; the experience of people living with HIV, including discrimination and disclosure issues.

This book is presented in three chapters: HIV and AIDS around the world; HIV/AIDS prevalence and prevention in Australia; Treatment and living with HIV/AIDS.

**SOURCES OF INFORMATION**
Titles in the ‘Issues in Society’ series are individual resource books which provide an overview on a specific subject comprised of facts and opinions.

The information in this resource book is not from any single author, publication or organisation. The unique value of the ‘Issues in Society’ series lies in its diversity of content and perspectives.

The **content comes from a wide variety of sources and includes:**

- Newspaper reports and opinion pieces
- Website fact sheets
- Magazine and journal articles
- Statistics and surveys
- Government reports
- Literature from special interest groups

**CRITICAL EVALUATION**
As the information reproduced in this book is from a number of different sources, readers should always be aware of the origin of the text and whether or not the source is likely to be expressing a particular bias or agenda.

It is hoped that, as you read about the many aspects of the issues explored in this book, you will critically evaluate the information presented. In some cases, it is important that you decide whether you are being presented with facts or opinions. Does the writer give a biased or an unbiased report? If an opinion is being expressed, do you agree with the writer?

**EXPLORING ISSUES**
The ‘Exploring issues’ section at the back of this book features a range of ready-to-use worksheets relating to the articles and issues raised in this book. The activities and exercises in these worksheets are suitable for use by students at middle secondary school level and beyond.

**FURTHER RESEARCH**
This title offers a useful starting point for those who need convenient access to information about the issues involved. However, it is only a starting point. The ‘Web links’ section at the back of this book contains a list of useful websites which you can access for more reading on the topic.
When AIDS first started, no one could have predicted how the epidemic would spread across the world and how many millions of lives it would change. There was no real idea what caused it and consequently no real idea how to protect against it.

Now we know from bitter experience that AIDS is caused by the HIV virus, and that it can devastate families, communities and whole continents. We have seen the epidemic knock decades off countries' national development, widen the gulf between rich and poor nations and push already stigmatised groups closer to the margins of society. We are living in an ‘international’ society, and HIV has become the first truly ‘international’ epidemic, easily crossing oceans and borders.

However, experience has also shown us that the right approaches, applied quickly enough with courage and resolve, can and do result in lower national HIV infection rates and less suffering for those affected by the epidemic. We have learned that if a country acts early enough, a national HIV crisis can be averted.

It has been noted that a country with a very high HIV prevalence rate will often see this rate eventually stabilise, and even decline. In some cases this indicates, among other things, that people are beginning to change risky behaviour patterns, because they have seen and known people who have been killed by AIDS. Fear is the worst and last way of changing people's behaviour and by the time this happens it is usually too late to save a huge number of that country's population.

Already, more than 25 million people around the world have died of AIDS-related diseases. In 2008, 2.7 million people were newly infected with HIV, and 2 million men, women and children lost their lives. 33.4 million people around the world are now living with HIV.

It is disappointing that the global numbers of people infected with HIV continue to rise, despite the fact that effective prevention strategies already exist.

AFRICA

It is in Africa, in some of the poorest countries in the world, that the impact of HIV has been most severe. At the end of 2007, there were nine countries in Africa where more than one tenth of the adult population aged 15-49 was infected with HIV. In three countries, all in the southern cone of the continent, at least 1 adult in 5 is living with the virus. In Botswana, a shocking 23.9 per cent of adults are now infected with HIV, while in South Africa, 18.1 per cent are infected. With a total of around 5.7 million infected, South Africa has more people living with HIV than any other country.

Rates of HIV infection are still extremely high in sub-Saharan Africa, and an estimated 1.9 million people in this region became newly infected in 2007. This means that there are now an estimated 22 million Africans living with HIV/AIDS. In this part of the world, particularly, women are disproportionately at risk. As the rate of HIV infection in the general population rises, the same patterns of sexual risk result in more new infections simply because the chances of encountering an infected partner become higher.

Although West Africa is less affected by HIV infection, the prevalence in some large countries is creeping up. Côte d’Ivoire is already among the 14 worst affected countries in the world, and in Nigeria around 2.6 million adults and children are infected with HIV.

Infection rates in East Africa, once the highest on the continent, hover above those in the West but have been exceeded by the rates now seen in the southern cone. In 2007, HIV prevalence among adults in Kenya, Tanzania and Uganda exceeded 5 per cent.

Increasing prevalence rates are not inevitable. In Uganda the estimated prevalence rate fell to around 5 per cent from a peak of about 15 per cent in the early 1990s. This trend is thought in part to have resulted from strong prevention campaigns, and there are encouraging signs of the same effect happening in parts of Zambia, Kenya and Zimbabwe. Yet the suffering generated by HIV infections acquired years ago continues to grow, and a drop in HIV prevalence is generally associated with a massive number of AIDS deaths. Under half of those in sub-Saharan Africa in need of antiretroviral treatment were receiving it at the end of 2008. It is widely thought that North Africa managed to sidestep the global AIDS epidemic – perhaps due to its strict rules governing sexual behaviour. However, the latest UNAIDS estimates indicate that 35,000 people in North Africa and the Middle East acquired an HIV infection in 2008, bringing the total number of people living with HIV/AIDS in the Middle East and North Africa to an...
estimated 310,000. AIDS killed a further 20,000 people in this region in 2008.

**ASIA**

The diversity of the AIDS epidemic is even greater in Asia than in Africa. The epidemic of AIDS in Asia appears to be of more recent origin, and many Asian countries lack accurate systems for monitoring the spread of HIV. Half of the world’s population lives in Asia, so even small differences in the infection rates can mean huge increases in the absolute number of people infected.

In 2007, there were 2.4 million people living with HIV in India. Other large epidemics are present in China (700,000), Thailand (610,000) and Myanmar (240,000). The total number of people living with HIV in Asia is thought to be around 4.7 million.

National adult prevalence is under 1 per cent in all Asian countries except Thailand. However some of the countries in this region are very large and national averages may obscure serious epidemics in some smaller provinces and states. India accounts for half of Asia's HIV epidemic.

In most Asian countries the epidemic is centred among particular high-risk groups, particularly men who have sex with men, injecting drug users, sex workers and their partners. However the epidemic has already begun to spread beyond these groups into the wider population. Some Asian countries, such as Thailand, have responded rapidly to the epidemic with extensive campaigns to educate the public and prevent the spread of HIV – and have succeeded in cutting prevalence. Other very populous regions, such as China, have only recently admitted that the spread of HIV threatens their populations, and as a result their prevention work is lagging behind the spread of the virus. Unless rapid and effective action is taken in this part of the world, then the size of the epidemic to come will dwarf the many deaths that have already occurred.

The epidemic in Asia has ample room for growth. The sex trade and the use of illicit drugs are extensive, and so are migration and mobility within and across borders. The fluidity in international markets and especially the lack of economic stability in Asia has erupted into non-stop movement within countries and among countries, facilitating the spread of HIV. India, China, Thailand and Cambodia, to name only a few, have highly mobile populations within their borders, with people moving from state to state and from rural to urban areas. In China, permanent and temporary migrants may total as many as 120 million people.

**EASTERN EUROPE AND CENTRAL ASIA**

The AIDS epidemic in Eastern Europe and Central Asia is rapidly increasing. In 2008, some 1.5 million people were living with HIV, compared to 900,000 in 2001. AIDS claimed an estimated 87,000 lives during 2008, over three times 2001’s figure.

In any country where rates of injecting drug use and needle sharing are high, a fresh outbreak of HIV is liable to occur at any time. This is especially true of the countries in Eastern Europe where the HIV epidemics are still young and have so far spared some cities and sub-populations. Heroin smuggled into the West crosses through a number of Eastern European countries, and its path is marked by a high concentration of injecting drug users, and a high HIV prevalence.

The Russian Federation, Ukraine, and the Baltic states (Estonia, Latvia, and Lithuania) are the worst affected, although HIV continues to spread in Belarus, Moldova and Kazakhstan, and more recent epidemics are emerging in Kyrgyzstan and Uzbekistan. An estimated 940,000 HIV-infected people were living in the Russian Federation at the end of 2007. However, as reporting of HIV cases in many areas of Russia is at best patchy, it is difficult to determine a precise figure. The epidemic in Eastern Europe is primarily driven by injecting drug use, and the criminalisation of this practice makes it difficult to gain an accurate picture of the proportion of drug users who are living with HIV.

The AIDS epidemic in Eastern Europe and Central Asia is rapidly increasing. In 2008, some 1.5 million people were living with HIV, compared to 900,000 in 2001.

**CARIBBEAN**

HIV is ravaging the populations of several Caribbean island states. Indeed some have worse epidemics than any other country in the world outside sub-Saharan Africa. In the most affected countries of the Caribbean, the spread of HIV infection is driven by unprotected sex between men and women, although infections associated with injecting drug use are common in some places, such as Puerto Rico.

The Bahamas is the worst affected nation in the region, with a prevalence of 3 per cent. Haiti, where the spread of HIV may well have been fuelled by decades of poor governance and conflict, has also been hard hit by the AIDS epidemic. An estimated 2.2 per cent of Haitian adults were living with HIV at the end of 2007, though rates vary considerably between regions. HIV transmission in Haiti is overwhelmingly heterosexual, and both infection and death are concentrated in young adults. Many tens of thousands of Haitian children have lost one or both of their parents to AIDS. Among pregnant women in urban areas, HIV prevalence appears to have fallen by half between the mid-1990s and 2003-2004. Probably much of this decline is due to an increase in the AIDS death rate, though behaviour change might also have played a part. There is still an urgent need for intensified prevention efforts in Haiti.

On the Caribbean coast of South America, Suriname and Guyana had adult HIV prevalence rates of 2.4 per cent and 2.5 per cent respectively at the end of 2007. There are only limited data on HIV in Guyana, but it appears the country has a rapidly growing epidemic, which is becoming established within the general population.

The heterosexual epidemics of HIV infection in the Caribbean are driven by the deadly combination of early
sexual activity and frequent partner exchange by young people. A study published in 2005 found that in Trinidad and Tobago, HIV infection levels are six times higher among 15-19 year old females than among males of the same age. In another survey in Barbados, one quarter of 15-29 year old women said they had been sexually active by the age of 15, and almost 1 in 3 men aged 15-29 years reported multiple sexual partnerships in the previous year.

AIDS is now high on the agendas of many governments in this region, as they are beginning to notice the significant impact of the epidemic on their medical systems and labour force. Cuba's comprehensive testing and prevention programmes have helped to keep its HIV infection rate below 0.2 per cent, and the country provides free AIDS treatment to all those in need. In Barbados and Bermuda, wider access to antiretroviral treatment has cut AIDS deaths in half. Other countries are now seeking to emulate such successes.

**LATIN AMERICA**

Around 2 million people were living with HIV in Latin America at the end of 2008. During that year, around 77,000 people died of AIDS and an estimated 170,000 were newly infected. The HIV epidemics in Latin America are highly diverse, and are fuelled by varying combinations of unsafe sex (both between men, and between men and women) and injecting drug use. In nearly all countries, the highest rates of HIV infection are found among men who have sex with men, and the second highest rates are found among female sex workers. The Central American nation of Belize has a well-established epidemic, with the adult HIV prevalence rate above 2 per cent. The virus is mainly spread through unprotected sex, particularly commercial sex and sex between men. Commercial sex and sex between men are the major drivers of smaller epidemics elsewhere in Central America, where national HIV prevalence rates vary between 0.2 per cent and 1 per cent. Men who become infected via these routes are likely to pass the virus on to their wives and girlfriends.

Brazil had an adult HIV prevalence rate of 0.6 per cent at the end of 2007, but, because of its large overall population, this country accounts for nearly half of all people living with HIV in Latin America. In Brazil, heterosexual transmission, injecting drug use and sex between men account for roughly equal numbers of infections.

HIV in Argentina was initially seen as a disease of male injecting drug users and men who have sex with men. Now the virus is spread mostly through heterosexual intercourse, and is affecting a rising number of women. The other Andean countries are currently among those least affected by HIV, although risky behaviour has been recorded in many groups. One of the defining features of the Latin American epidemic is that several populous countries, including Argentina, Brazil and Mexico, are attempting to provide antiretroviral therapy to all those who need it. The governments of these countries have encouraged local pharmaceutical manufacturers to produce cheaper generic copies of patented medicines. This allows them to distribute drugs to a much greater proportion of their population than they would otherwise be able to help.

Treatment coverage still varies widely, but these efforts are having a definite impact. While they are improving both the length and the quality of people's lives, they are also increasing the proportion of people living with HIV, and thus HIV prevalence figures. Some concern has been voiced over the harm that HIV prevention activities may suffer if much effort and money is devoted to providing treatment.

**HIGH-INCOME COUNTRIES**

In high-income nations, HIV infections have historically been concentrated principally among injecting drug users and gay men. These groups are still at high risk, but heterosexual intercourse accounts for a growing proportion of cases. In the United States, more than a quarter of people diagnosed with HIV in 2006 were female, and more than three quarters of these women were probably infected as a result of heterosexual sex. In several countries in Western Europe, including the United Kingdom, heterosexual contact is the most frequent cause of newly diagnosed infections.

Very early in the epidemic, once information and services for prevention had been made available to most of the population, the level of unprotected sex fell in many countries and the demand rose for reproductive health services, HIV counselling and testing and other preventive services. However prevention activities are now lagging behind as the epidemics move beyond their traditional at-risk groups. Prevention work in high-income countries has declined, and sexual-health education in schools is still not universally guaranteed, in spite of the fact that the risks of HIV are well known to governments. Political factors have been allowed to control the HIV prevention work that is done, and politicians are commonly keen to avoid talking about any sexual issues. Furthermore, it is very hard to show that a number of people are not HIV positive who otherwise would be – and politicians like the electorate to see results.

Among gay men, the virus had spread widely before it was even identified and had established a firm grip on the population by the early 1980s. With massive early
prevention campaigns targeted at gay communities, risk behaviour was substantially reduced and the rate of new infections dropped significantly during the mid- and late 1980s. Recent information suggests, however, that risky behaviour may be increasing again in some communities. People think that the danger is over because of lack of media coverage of the issues around HIV and AIDS – and many new infections continue to occur.

In the United States, more than a quarter of people diagnosed with HIV in 2006 were female, and more than three quarters of these women were probably infected as a result of heterosexual sex.

Some communities and countries have initiated aggressive HIV prevention efforts, particularly among high-risk groups such as injecting drug users. But in many places the political cost of implementing needle exchange and other prevention programmes has been considered too high for them to be started or maintained. As a result, there are continuing high prevalence rates among injecting drug users in many high-income countries, particularly Italy, Spain and Portugal.

Many high-income countries suffer from the belief that HIV is something that affects other people, not their own populations. On a national level, this belief prevents policy makers and budget setters from seeing the epidemic on their own doorsteps, looking instead to the situation in areas such as Africa. Some high-income countries fund medication provision for low-income countries whilst failing to provide medicines for their own citizens who have AIDS. For example, many people cannot afford HIV treatment in America.

WHERE DO WE GO FROM HERE?

Spending

Money is finally being spent on both treating the disease and on preventing new infections from occurring. This spending needs to increase both in its magnitude and its effectiveness. Many people fail to realise that actually spending money, in the very large sums the fight against HIV requires, is a difficult task, and one of which many organisations have little experience.

The Global Fund, an organisation created to channel money to where around the world it is most needed, is an already-existing way of effectively spending money. Many governments, however, wish to exert control over how their donations are spent and on what projects, so they prefer to channel their funding through other channels. In January 2003, President Bush announced a bold new initiative known as PEPFAR, through which the USA will spend $18 billion over five years on HIV/AIDS prevention, treatment and care programmes in other countries. In 2008, Bush reauthorised PEPFAR, pledging a further US$39 billion to tackle the global AIDS epidemic.

Prevention and education

Education has already been proved to be effective and necessary, both for people who are not infected with HIV – to enable them to protect themselves from HIV – and for people who are HIV positive – to help them to live with the virus. There is a huge wealth of educational resources available around the world, and yet in many places people still lack the knowledge they need to protect themselves.

AIDS is a preventable disease, but to avoid HIV infection people need more than just factual information. People need empowerment to negotiate safe and responsible sexual relationships; gender inequalities must be confronted; and those who choose to have sex need access to condoms. Needle exchanges should be encouraged, as they have proven highly effective at preventing HIV transmission among injecting drug users.

Medication

Antiretroviral AIDS medication is now being distributed to low-income, high prevalence countries, but it is taking a long time to actually reach the people who need it. Access to HIV treatment must greatly improve if millions of deaths are to be avoided. One of the greatest challenges is a shortage of health workers to carry out HIV tests, administer the medicines, and teach people how to use them.

CONCLUSION

HIV has finally been recognised as a global threat, and people are beginning to take action to prevent it killing many millions more than those who have already died. This action needs to be speeded up considerably. The HIV epidemic is growing, and efforts to fight it need to grow at an even greater rate if they are to be successful.

An ever-growing AIDS epidemic is not inevitable. However, unless action against the epidemic is scaled up drastically, the damage already done will seem minor compared with what lies ahead. This may sound dramatic, but it is hard to play down the effects of a disease that stands to kill more than half of the young adults in the countries where it has its firmest hold. Entire families, communities and countries will begin to collapse if this situation is allowed to occur.
AIDS TIMELINE

This timeline from AVERT features some of the most important developments in the history of HIV/AIDS

Events are divided into five categories as follows

➤ Spread of AIDS
➤ Science and prevention
➤ National action
➤ Treatment
➤ Global action.

Before 1970s

- HIV (the virus that causes AIDS) probably transfers to humans in Africa between 1884 and 1924
- HIV probably enters Haiti around 1966.

1970s

- HIV probably enters the United States around 1970
- African doctors see a rise in opportunistic infections and wasting
- Western scientists and doctors remain ignorant of the growing epidemic.

1981

- AIDS is detected in California and New York
- The first cases are among gay men, then injecting drug users.

1982

- AIDS is reported among haemophiliacs and Haitians in the USA
- AIDS is reported in several European countries
- The name 'AIDS' – Acquired Immune Deficiency Syndrome – is created
- Community organisations in the UK and USA promote safer sex among gay men.

1983

- AIDS is reported among non-drug using women and children
- Experts become more confident that the cause of AIDS is infectious
- Three thousand AIDS cases have been reported in the USA; 1,000 have died.

1984

- Scientists identify HIV (initially called HTLV-III or LAV) as the cause of AIDS
- Western scientists become aware that AIDS is widespread in parts of Africa
- The world’s first needle exchange program is set up in Amsterdam, the Netherlands.

1985

- An HIV test is licensed for screening blood supplies
- AIDS is found in China, and has therefore been seen in all regions of the world.

1986

- More than 38,000 cases of AIDS have been reported from 85 countries
- Uganda begins promoting sexual behaviour change in response to AIDS.

1987

- AZT is the first drug approved for treating AIDS
- The UK and other countries act to raise awareness of AIDS.

1988

- The American government conducts a national AIDS education campaign
- Health ministers meet to discuss AIDS and establish a World AIDS Day.

1989

- Around 8 million people are living with HIV worldwide, according to estimates made later.

1990

- Thailand launches Asia's most extensive HIV prevention programme.

1991

- AZT is shown to be of no benefit to those in the early stages of HIV infection.

1994

- AZT is shown to reduce the risk of mother-to-child transmission of HIV
- Infant HIV infections begin to fall in developed countries, due to use of AZT.

1995

- The Joint United Nations Programme on AIDS (UNAIDS) is established.

1996

- Combination antiretroviral treatment is shown to be highly effective against HIV
- In developed countries, many people begin taking the new treatment
Annual global spending on AIDS in low- and middle-income countries is $300 million.

1997
- AIDS deaths begin to decline in developed countries, due to the new drugs
- Brazil is the first developing country to begin providing free combination treatment
- In other developing countries, only a tiny minority can access treatment for HIV
- Around 22 million people are living with HIV worldwide, according to estimates made later.

2000
- President Thabo Mbeki of South Africa voices support for AIDS dissidents.

2001
- At a UN Special Session, world leaders set long-term targets on HIV/AIDS.

2002
- The Global Fund is established to boost the response to AIDS, TB and malaria
- Botswana begins Africa's first national AIDS treatment programme.

2003
- AIDS drugs become more affordable for developing countries
- The ’3 by 5’ campaign is launched to widen access to AIDS treatment
- The first AIDS vaccine candidate to undergo a major trial is found to be ineffective.

2004
- America launches a major initiative called PEPFAR to combat AIDS worldwide
- After much hesitancy, South Africa begins to provide free antiretroviral treatment.

2006
- Circumcision is shown to reduce HIV infection among heterosexual men
- 28 per cent of people in developing countries who need treatment for HIV are receiving it
- Annual global spending on AIDS in low- and middle-income countries is $8.9 billion
- It is estimated that $14.9 billion would be needed for a truly effective response.

2007
- Around 33 million people are living with HIV, according to revised estimates
- Another major HIV vaccine trial is halted after preliminary results show no benefit.

2008
- A controversial Swiss study claims people adhering to ARVs have a ‘negligibly small’ risk of transmitting HIV through unprotected sex
- PEPFAR is reauthorised, committing $48 billion for the next five years
- Michel Sidibé is named as new head of UNAIDS as Peter Piot steps down.

2009
- President Obama announces the removal of the travel ban that prevents HIV positive people from entering the US
- Four million people in developing and transitional countries are receiving treatment for HIV; 9.5 million are still in immediate need of treatment.
UNDERSTANDING THE EPIDEMIC
An extract from Australia’s international development strategy for HIV by AUSAID

The number of new HIV infections each year (incidence) has been declining globally for close to a decade. After peaking at 3.4 million in 1998, incidence has dropped to 2.7 million in 2007. Increased access to antiretroviral therapy over recent years has contributed to the decline in AIDS-related deaths from 2.2 million in 2005 to 2 million in 2007. Although this is encouraging, HIV epidemics are diverse and this trend is not uniform across all countries. And while, today, more people with HIV are living longer, healthier lives, there is still no cure.

AFRICA

Most epidemics across Africa have stabilised, although at very high levels, and AIDS-related illnesses remain the leading cause of death in the continent. The seven countries in the world with a total number of adults living with HIV (prevalence) exceeding 15 per cent are in Sub-Saharan Africa, the region most affected by the epidemic. It is home to 67 per cent of all people living with HIV and 75 per cent of the world’s AIDS-related deaths in 2007 occurred there.

In Sub-Saharan Africa epidemics are considerably more advanced and most cases of HIV are heterosexually acquired and correlate to having concurrent sexual partners. Women make up 60 per cent of people living with HIV and the region is home to 90 per cent of the world’s children living with HIV.

Africa continues to receive funding for HIV from many key donors and partner countries. Recognising this, and to stay focused on its closest neighbours, Australia’s role in the African response will be relatively small.

In Asia, AIDS is the single-largest cause of death from disease and lost workdays among people aged 15 to 44.

ASIA

In a small number of Asian countries, such as Thailand, Burma and Cambodia, HIV prevalence has peaked and is now stable or been in decline for a number of years. Few other Asian countries, however, are reducing HIV nationally and keeping levels down. Indeed, new infections continue to rise rapidly in some, including Vietnam and China.

In Asia, AIDS is the single-largest cause of death from disease and of lost workdays among people in their productive prime (aged 15 to 44). The impact is acutely felt at the household level, where the burden of illness, loss of income and changes to livelihood are carried by individuals living with HIV and their families, costing Asian households around US$2 billion annually. The effects are most harshly felt in poorer households.

Redefining AIDS in Asia: Creating an Effective Response, by the Commission on AIDS in Asia, reports that at least 75 per cent of new HIV infections occur within three sub-populations: injecting drug users; sex workers and their clients; and men who have sex with men.

While injecting drugs has ignited many Asian epidemics over the last 15 years, sexual transmission is increasingly maintaining these epidemics and is now the major cause of new infections in most countries. Figure 2 shows the number of adults newly infected with HIV each year in key populations at higher risk.

FIGURE 2: PROJECTED NEW HIV INFECTIONS IN ADULTS IN ASIA, BY KEY POPULATION

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push the cumulative total of people living with HIV in the region from approximately 5 million in 2007 to almost 10 million by 2020 (Figure 3).12

In addition, men who have sex with men, a group largely ignored in most HIV responses to date, is emerging as the key population where new HIV infections are accelerating most rapidly in Asia. Projections indicate that unless effective prevention services are intensified, by 2020 around 46 per cent of new infections in Asia will be among men who have sex with men, up from around 13 per cent today (Figure 2).

**Indonesia**

While the overall prevalence of HIV in adults in Indonesia is just 0.2 per cent, the epidemic is growing rapidly, particularly in the provinces of Papua and West Papua where it is approximately 2.4 per cent.14

Injecting drug use is the main way HIV has been transmitted in Indonesia for many years, especially in West Java, East Java and Bali. More recently, however, the majority of new cases are people who have acquired HIV from heterosexual sex,15 with epidemics spreading quickly among sex workers and long-term partners, but also with alcohol misuse, sexual violence and poor knowledge of HIV and its prevention.17

In these provinces, men remain disproportionately affected, with 2.9 per cent prevalence compared to 1.9 per cent among women.18

Extremely high rates of STIs further indicate that unprotected sexual practices are prevalent and that Papua and West Papua are at significant risk of a rapidly escalating epidemic.19

If there is no significant increase in response, predictions are that Indonesia will experience a generalised epidemic by 2025, with adult HIV prevalence in Papua and West Papua rising to 7 per cent and, in the rest of Indonesia, to 1 per cent.20

**PACIFIC**

In the Pacific region where surveillance is limited, HIV prevalence is understood to be very low outside PNG (see Figure 4), with 1,166 people diagnosed with HIV to the end of 2006.21 In Fiji, however, an increase in reported diagnoses indicates...
expanding, although still low-level, HIV prevalence.

HIV transmission in the Pacific region (including PNG) primarily occurs through heterosexual sex, including sex work and other transactional sex. Numerous intersecting social, cultural, economic and political factors are also at play, increasing people’s vulnerability to HIV and making it more difficult to define those at higher risk and reach them with prevention services.

Factors include the prevalence of sex work and other transactional sex, multiple and concurrent sexual partners, gender inequality associated with significant physical and sexual violence, and low condom use. More broadly are factors including the lack of empowerment of women; young populations with limited knowledge about how HIV is transmitted; use of drugs (particularly marijuana) and alcohol (legal and homebrew) associated with sexual violence and failure to use condoms; sex among young people from early ages; high labour mobility (including seafarers); and cultural influences that restrict people’s willingness to talk about sex.

Pacific Island countries cannot afford to be complacent. While these countries currently have low-level epidemics, they are at significant risk of a worsening epidemic. The countries are dealing with very high rates of untreated STIs and have other multiple risk factors in common with PNG, where a generalised epidemic already exists.

### Papua New Guinea

PNG is at a critical point with HIV where the adult prevalence lies at around 1.5 per cent and is expanding. Estimates indicate that HIV is entering a period of unprecedented growth in rural PNG where 85 per cent of the country’s population lives and where, by 2007, HIV prevalence had overtaken urban prevalence (1.65 per cent and 1.38 per cent respectively). While there are roughly equal numbers of men and women living with HIV in PNG, there is a disproportionate number of young women affected, with prevalence more than twice as high in women aged 15 to 29 as men in the same age group. Conversely, the majority of men diagnosed with HIV are between 30 and 34.

It is estimated that in 2007, 954 children (0 to 14 years) were newly infected with HIV in PNG, up from 353 four years earlier. Most of this could have been prevented if prevention of parent-to-child transmission approaches were more widely available to parents.

PNG’s heterosexually driven HIV epidemic is both generalised and concentrated in key populations at higher risk. As in the rest of the Pacific region, its spread is exacerbated by the complex relationship between the factors described above.

Without significantly increased prevention, it is predicted there will be a dramatic increase in prevalence in PNG, with more than 1 in 20 adults living with HIV by 2012, mostly in rural locations (where it is difficult to reach people with services) at 5.74 per cent adult prevalence compared to an urban estimate of 1.44 per cent (Figure 4). "While the epidemic is unlikely to affect national economic output in the short term, if additional measures are not taken immediately, PNG’s national economy is likely to be significantly affected by the many repercussions of HIV in the decade after 2015."
HIV PREVENTION EFFORTS IN PNG MUST ACCOUNT FOR A DIVERSE RANGE OF COMPLEX SOCIAL, CULTURAL, ECONOMIC AND POLITICAL FACTORS

Transmission of HIV in PNG occurs through individual behaviours taking place within a complex social, cultural, economic and political context. To be effective, prevention strategies must take this into account. Also, more research is needed to better inform how these factors link to broader social issues so donors can make more informed decisions on future investment and action.

Factors at play in PNG include:

- High unemployment, leading to the exchange of sex for cash, goods and services
- High mobility of the male workforce, increasing the likelihood of transactional sex and new sexual relationships
- Drug and alcohol use, leading to sexual violence and failure to use condoms
- Gender inequality, leading to a high prevalence of physical and sexual violence (including gang rape)
- Sexual practices, including early sexual debut, polygamous relationships and other concurrent and multiple sexual partnerships
- Sharing of instruments for tattooing and skin-cutting ceremonies
- High prevalence of untreated STIs in the general population, possibly increasing the risk of HIV transmission during unprotected sex
- Stigma and discrimination, contributing to misconceptions and myths about how HIV is transmitted
- Poor facilities and infrastructure at district level, limiting access to services for testing, treatment and care
- Geographical, cultural and language differences, presenting formidable difficulties to delivering prevention, education, treatment, care and support programs

ENDNOTES
6. ibid.
8. ibid.
9. ibid.
10. ibid.
11. Some countries had early success by focusing responses on preventing HIV transmission among sex workers and their clients. However, the lack of adequate prevention efforts within injecting drug users and men who have sex with men has enabled HIV epidemics to continue to expand, producing a second wave of the epidemic, including, as in the case of Thailand, a growing number of women being infected by their husbands and partners who have engaged in unprotected sex or injected drugs.
12. ibid.
14. ibid.
15. Particularly from a network originating from injecting drug users.
16. Generalised epidemics are generally defined by more than 1 per cent of the total population living with HIV.
19. The presence of ulcerative STIs (genital herpes, syphilis and chancroid) is also likely to be associated with increased biological susceptibility to HIV infection, although the evidence is not conclusive.
24. ibid.
25. ibid.
26. ibid.

HUMAN AND SOCIAL IMPACT

People’s lives are affected in many ways which include:

- A wide variety of physical health problems
- Social isolation due to the stigma and misunderstanding of the spread of the disease
- Altered family responsibilities – grandparents caring for large numbers of grandchildren
- Children orphaned, and left to live alone and fend for themselves
- Loss of cultural traditions as parents and key community members die before children are able to absorb their knowledge
- Loss of healthy adults, which means less ability to grow food and earn an income
- Loss of income, which makes people less able to access health care, education, and food, which, in turn, means they are less able to develop fully and protect themselves against exploitation and are likely to fall further into debt.

ECONOMIC IMPACT

Families suffer major economic problems as productive adults become ill, including:

- Loss of income as family members become sick and are unable to work, or have to give up work to care for the sick
- Limited income being consumed by expensive drugs and funerals.
- Countries suffer significant economic impacts including:
  - Loss of investment in education and the knowledge and skills of professionally trained people
  - Reduced ability to produce food
  - Reduced ability generate income from internal sales and exports
  - High costs of treatment and demands on health systems.

The number of people living with HIV worldwide continued to grow in 2008, reaching an estimated 33.4 million [31.1 million-35.8 million]. The total number of people living with the virus in 2008 was more than 20 per cent higher than the number in 2000, and the prevalence was roughly threefold higher than in 1990.

The continuing rise in the population of people living with HIV reflects the combined effects of continued high rates of new HIV infections and the beneficial impact of antiretroviral therapy. As of December 2008, approximately 4 million people in low- and middle-income countries were receiving antiretroviral therapy – a 10-fold increase over five years (World Health Organisation, United Nations Children’s Fund, UNAIDS, 2009). In 2008, an estimated 2.7 million [2.4 million-3.0 million] new HIV infections occurred. It is estimated that 2 million [1.7 million-2.4 million] deaths due to AIDS-related illnesses occurred worldwide in 2008.

The latest epidemiological data indicate that globally the spread of HIV appears to have peaked in 1996, when 3.5 million [3.2 million-3.8 million] new HIV infections occurred. In 2008, the estimated number of new HIV infections was approximately 30 per cent lower than at the epidemic’s peak 12 years earlier.

Consistent with the long interval between HIV seroconversion and symptomatic disease, annual HIV-related mortality appears to have peaked in 2004, when 2.2 million [1.9 million-2.6 million] deaths occurred. The estimated number of AIDS-related deaths in 2008 is roughly 10 per cent lower than in 2004.

An estimated 430,000 [240,000-610,000] new HIV infections occurred among children under the age of 15 in 2008. Most of these new infections are believed to stem from transmission in utero, during delivery or post-partum as a result of breastfeeding. The number of children newly infected with HIV in 2008 was roughly 18 per cent lower than in 2001.

This report summarises the latest data on the epidemiology of HIV. The epidemiological estimates in this report reflect continued improvement in national HIV surveillance systems and estimation methodology. In 2007-2008, national household surveys with anonymous HIV testing components were conducted in 11 countries, including nine in sub-Saharan Africa. Improvements in HIV surveillance and information systems not only provide a clearer, more reliable picture of the epidemic at the global, regional and country levels but are also helping national governments and other stakeholders to tailor AIDS responses in order to maximize the impact on public health.

The epidemic appears to have stabilised in most regions, although prevalence continues to increase in Eastern Europe and Central Asia and in other parts of Asia due to continued high rates of new infections.
Almost 60 million people have been infected and around 25 million people have died since the epidemic began.

“If you look at the number of new infections it certainly gives us all hope. At the same time, it is still a formidable number. It’s about 2.7 million new infections in a year. That translates to about 7,400 infections per day. That is a huge challenge.”

Report co-author Dr Peter Ghys, Director UNAIDS Epidemiology Division

But there is cause for hope:

- Most progress is in sub-Saharan Africa but also in parts of Asia
- About 200,000 children have been prevented from being infected because of the programs, with antiretroviral drugs given to pregnant women
- There has also been substantial progress on treatment for those who have been infected – in the past year about 1 million more people have gone on antiretroviral treatment
- HIV mortality rates have declined by about 10 per cent over the past five years; and about 2.9 million people have been saved
- For every two people that are put on antiretroviral treatment, five people get newly infected.

Sources: 2009 AIDS Epidemic Update
UNAIDS, World Health Organisation
‘Big drop in HIV infection rates’, 25 November 2009
ABC News | www.abc.net.au

to a high rate of new HIV infections. Sub-Saharan Africa remains the most heavily affected region, accounting for 71 per cent of all new HIV infections in 2008. The resurgence of the epidemic among men who have sex with men in high-income countries is increasingly well-documented. Differences are apparent in all regions, with some national epidemics continuing to expand even as the overall regional HIV incidence stabilises.

KEY THEMES OF THE 2009 AIDS EPIDEMIC UPDATE

This report is divided into separate chapters that summarise epidemiological trends in individual regions.

While regional differences remain, several themes are discernible:

- **AIDS continues to be a major global health priority.** Although important progress has been achieved in preventing new HIV infections and in lowering the annual number of AIDS-related deaths, the number of people living with HIV continues to increase. AIDS-related illnesses remain one of the leading causes of death globally and are projected to continue as a significant global cause of premature mortality in the coming decades (World Health Organisation, 2008). Although AIDS is no longer a new syndrome, global solidarity in the AIDS response will remain a necessity.

- **There is geographic variation between and within countries and regions.** Although this report focuses considerable attention on national trends, there are often large variations in HIV prevalence and epidemiological patterns within countries. The substantial diversity of national epidemics underscores not only the need to tailor prevention strategies to local needs but also the importance of decentralising AIDS responses.

- **The epidemic is evolving.** Epidemic patterns can change over time. As the regional profiles in this report highlight, national epidemics throughout the world are experiencing important transitions. In Eastern Europe and Central Asia, epidemics that were once characterised primarily by transmission among injecting drug users are now increasingly characterised by significant sexual transmission, while in parts of Asia epidemics are becoming increasingly characterised by significant transmission among heterosexual couples.

- **There is evidence of successes in HIV prevention.** There is growing evidence of HIV prevention successes in diverse settings. In five countries where two recent national household surveys were conducted, HIV incidence is on the decline, with the drop in new infections being statistically significant in two countries (Dominican Republic and United Republic of Tanzania) and statistically significant among women in a third (Zambia) (Hallett et al., in press). As previously discussed, the annual number of new HIV infections globally has declined, and HIV prevalence among young people has fallen in many countries (UNAIDS, 2008). Globally, coverage for services to prevent mother-to-child HIV transmission rose from 10 per cent in 2004 to 45 per cent in 2008 (World Health Organisation, United Nations Children’s Fund, UNAIDS, 2009), and the drop in new HIV infections among children in 2008 suggests that these efforts are saving lives.

- **Improved access to treatment is having an impact.** Antiretroviral therapy coverage rose from 7 per cent in 2003 to 42 per cent in 2008, with especially high coverage achieved in eastern and southern Africa (48 per cent) (World Health Organisation, United Nations Children’s Fund, UNAIDS, 2009). While the rapid expansion of access to antiretroviral therapy is helping to lower AIDS-related death rates in multiple countries and regions, it is also contributing to increases in HIV prevalence.

- **There is increased evidence of risk among key populations.** While high HIV prevalence has long been documented among sex workers in diverse countries worldwide, evidence was extremely limited regarding the contribution of men who have sex with men and injecting drug users to epidemics in sub-Saharan Africa and parts of Asia. In recent years, studies have documented elevated levels of infection in these populations in nearly all regions. In all settings and for diverse types of epidemics, it is clear that programmes to prevent new infections among these key populations must constitute an important part of national AIDS responses.

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2009 AIDS Epidemic Update
Extract from Introduction, pp.7-9

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HIV and AIDS

Issues in Society | Volume 322
While global prevalence of HIV infection (percentage of persons infected with HIV) appears to have stabilised in recent years, the global number of people living with HIV is increasing because of ongoing accumulation of new infections with longer survival times, measured over a continuously growing general population.

Across the world, a small but growing number of countries have reduced HIV prevalence through sound prevention efforts. The high rates of transmission of HIV result largely from failure to use the available and effective prevention strategies and tools, and poor coverage of HIV prevention programmes. HIV prevention services were only reaching 20 per cent of people in need in 2005, while coverage for key populations at higher risk of exposure to HIV were considerably lower.

Effective HIV prevention programming focuses on the critical relationships between the epidemiology of HIV infection, the risk behaviours that expose to HIV transmission, and also addresses the collective social and institutional factors, such as sexual norms, gender inequality, and HIV-related stigma, that will otherwise continue to fuel HIV epidemic.

Risk behaviours are enmeshed in complex webs of economic, legal,
political, cultural and psychosocial determinants that must be analysed and addressed by policies that are also effectively implemented, and through scaled-up programming.

Comprehensive HIV prevention requires a combination of programmatic and policy actions that promote safer behaviours, reduce vulnerability to transmission, encourage use of key prevention technologies, promote social norms that favour risk reduction and address drivers of the epidemic.

Effective prevention efforts focus on measures that directly support risk reduction by providing information and skills as well as access to needed commodities (such as condoms, sterile injecting equipment, and drug substitution therapy) for the populations most in need. In short, national planners and policymakers must: 1) know their epidemic; and 2) set priorities accordingly.

Prevention and treatment must be scaled up in a balanced way, to capitalise fully on synergies between the two. Comprehensive HIV prevention requires a combination of programmatic interventions and policy actions that promote safer behaviours, reduce biological and social vulnerabilities to transmission, encourage use of key prevention technologies, and promote social norms that favour risk reduction.

HIV prevention includes addressing an array of issues discussed in other thematic areas in the policy section of the website. Forging links among HIV prevention with related programmes and services such as sexual and reproductive health services and legal services for women, can also contribute to intensification of HIV prevention. Strong linkages as well as special efforts to reach those at higher risk and excluded from access to services will result in more relevant and cost-effective programmes with greater impact.

UNAIDS coordinates its own collective efforts on scaling up prevention, within the ambit of universal access to prevention, care, support and treatment, through building on the comparative advantages of the UNAIDS Co-sponsors and Secretariat to support scale up of high quality, comprehensive HIV prevention programmes at all levels. UNAIDS also collaborates with a large number of other stakeholders and promotes and supports the development of strong HIV prevention constituencies.

The main focus of UNAIDS on intensification of HIV prevention is at country level as part of its ongoing efforts to support countries to strengthen their overall national responses to the AIDS epidemic.

**ESSENTIAL POLICY ACTIONS FOR HIV PREVENTION**

1. Ensure that human rights are promoted, protected and respected and that measures are taken to eliminate discrimination and combat stigma.
2. Build and maintain leadership from all sections of society, including governments, affected communities, non-governmental organisations, faith-based organisations, the education sector, media, the private sector and trade unions.
3. Involve people living with HIV, in the design, implementation and evaluation of prevention strategies, addressing the distinct prevention needs.
4. Address cultural norms and beliefs, recognising both the key role they may play in supporting prevention efforts and the potential they have to fuel HIV transmission.
5. Promote gender equality and address gender norms and relations to reduce the vulnerability of women and girls, involving men and boys in this effort.
6. Promote widespread knowledge and awareness of how HIV is transmitted and how infection can be averted.
7. Promote the links between HIV prevention and sexual and reproductive health.
9. Promote programmes targeted at HIV prevention needs of key affected groups and populations.
10. Mobilising and strengthening financial, and human and institutional capacity across all sectors, particularly in health and education.
11. Review and reform legal frameworks to remove barriers to effective, evidence based HIV prevention, combat stigma and discrimination and protect the rights of people living with HIV or vulnerable to HIV.
12. Ensure that sufficient investments are made in the research and development of, and advocacy for, new prevention technologies.
HIV/AIDS: the global outlook

Dennis Altman surveys the key international issues in prevention and treatment of HIV/AIDS

On a balmy night in August this year the president of Indonesia opened the largest regional AIDS conference yet held in Asia. In his speech, little reported in the Australian media, Susilo Bambang Yudhoyono welcomed the partnership and bravery of “positive women; people living with HIV; survivors of injecting drug use; sex workers; and the network of gay, transgenders and men who have sex with men.”

It’s worth remembering that at the large UN General Assembly debates on AIDS in 2001 and 2006 the very acknowledgement of those most vulnerable to HIV – and certainly the use of terms such as sex work, gay and transgender – was among the most controversial issues, with Islamic states, the Catholic church and the Bush administration all opposed to recognising these groups. AIDS remains a disease marked by enormous stigma, which in turn means that prevention and treatment efforts are constantly stymied by moralism triumphing over realism.

The popular image of the epidemic counterposes a controlled and small epidemic in rich countries, largely confined to homosexual men and needle users, with a much larger one, usually identified with women and children, in poor countries. In some ways this is an accurate picture, because the sheer number of infections in sub-Saharan Africa means they account for perhaps 70 per cent of all HIV cases in the world. In many communities in countries like South Africa, Botswana and Zambia, one in four young adults will be positive, and this is reflected in death rates and in large numbers of orphans.

But the realities are somewhat more complex. The fastest-rising epidemics include those among drug users in the former Soviet Union and homosexual men in South-East and East Asia. Both are populations that have been stigmatised by governments and ignored in prevention programs. A reluctance to talk honestly about human behaviour has meant real distortions in public health messages, which are often directed at low-risk but politically safe targets such as ‘youth’.

It is true that outside sub-Saharan Africa, AIDS has not turned out to be the massive pandemic predicted in the 1990s. In our part of the world there are significant increases in Papua, both east and west, and among specific populations, especially injecting drug users and men who have sex with men. In absolute numbers India, and perhaps China, have potentially major epidemics. In China, according to UNAIDS, the United Nations agency, “The number of people who have a high risk of exposure to HIV could be 30-50 million: mainly injecting drug users and their sexual partners, sex workers, their clients and partners as well as men who have unprotected sex with men.” But UNAIDS reports that there are “currently no signs of a generalised epidemic in the country” and the Chinese government “aims to keep HIV estimates below 1.5 million in 2010.”

Globally, HIV infections are rising two to three times faster than the numbers of people who have access to treatments, and this is true even in middle-income countries, such as Thailand, with good access to antiretroviral drugs. AIDS is both a product and a cause of global links. Its spread grows out of existing inequalities and injustice: apartheid in South Africa; civil conflict and the collapse of the state in Rwanda and Kenya; poor governance in Zimbabwe. In some countries HIV/AIDS is clearly a further burden on already overstretched social, economic and political structures. At the same time it is the major cause of premature death in increasing numbers of countries, striking most at infants born to HIV positive mothers and young adults in the most productive years of their lives. A whole generation of AIDS orphans is developing across many parts of the poor world, leaving children growing up in societies in which only they and the old people remain.

In many African communities, one in four young adults will be positive, and this is reflected in death rates and in large numbers of orphans.

The epidemic reverses development: it involves the loss of skilled labour, a decline of industrial and food production, the collapse of family structures and greater stress on social and health services. Its direct political impact is less obvious, although in some African countries there appears to be evidence of a ‘hollowing out’ of institutions, as governing elites become sick and die. There is also a psychocultural impact: mass deaths and illness will trigger a set of irrational responses, such as anger,
denial and scapegoating. Because such effects are hard to measure, and are politically sensitive, most of those who work on the epidemic have been reluctant to explore fully the ways in which AIDS reshapes those who are most affected; but there is a also rich store of personal, literary and cinematic responses to the epidemic.

HIV is now attracting far less global attention than it did in the beginning of the century. More conventional threats – especially those associated with nuclear proliferation and terrorism – and the twin spectres of financial crisis and climate change have taken centre stage. This does not mean that the threat of HIV is less urgent; indeed, the decline of attention has the potential to make it all the more significant.

It is the nature of non-traditional threats to security that they tend to compound each other. Climate change is closely linked to problems of food and water security, which in turn will increase vulnerability to a number of diseases. This is less obvious in relation to HIV than to waterborne infections and malaria, but any increase in impoverishment will make it more difficult to maintain antiretroviral therapies. There is already ongoing research, supported by UNAIDS and the UN Environment Programme, examining the connections between the two crises, although the links seem at this stage to be indirect.

The combination of political instability, climate change, food and water shortages and increasing and uncontrolled movements of people all work against effective HIV prevention and treatment. None in themselves are causes of the spread of the epidemic, yet the ways in which they draw attention away from HIV prevention and care increase the chances of the epidemic continuing to grow.

The move to conceptualise HIV as a security issue dates back to the early 1990s, and emerged as much from a political desire to place it higher on the political agenda as from an analysis of its impact on global stability. There is evidence that officers in the CIA had been urging their superiors to consider the impact of HIV/AIDS on national and international stability since the late 1980s. This view was expressed in several high-level reports, including a study compiled jointly by the Chemical and Biological Arms Control Institute and the Center for Strategic and International Studies, which claimed to “directly link health and global security for the first time.” The report stressed the rapidity with which infections can spread, the threat of biological weapons and the consequences for health of regional conflicts and failing states.

The linkage between HIV and security was taken up publicly by the United States at the end of the Clinton presidency. Largely as a result of American pressure – particularly the efforts of Vice President Al Gore and
The sense of HIV as a major security issue also underlies some of the rhetoric that surrounded the Bush administration's massive commitment of funds to HIV treatments and, on a smaller scale, prevention. To some of its critics the President's Emergency Plan for AIDS Relief was just another example of American determination to exercise global domination. But this view probably underestimates the extent to which altruism was a major factor in US policy making – indeed, AIDS might be seen as an almost paradigmatic case of the American desire to ‘do good’. Despite its imperfection – the emphasis on abstinence education; the hostility to working with sex workers; the support for US-produced pharmaceuticals – the Bush program has undoubtedly saved lives. One study from Stanford suggests that the program has averted 1.2 million deaths and in its first four years (2003-07) had cut the HIV/AIDS death toll by 10.5 per cent in targeted countries.

A failure to continue this funding, which is possible if the United States makes major budget cuts in coming years, would be tragic. Unlike its predecessors, the most recent conference of the G8 industrialised countries failed to make any specific commitments to meeting the target of universal access to treatments for HIV by next year, one of the specific pledges in the UN's Millennium Development Goals.

The other part of the MDG promise was to “halt and begin to reverse the spread of HIV/AIDS” by 2015, and the fiercest debates now going on within the AIDS world are about the intersections of treatments and prevention. Some medicos are attracted to the idea of ‘treatment as prevention’ – in other words, if everyone who might be infected is tested and where necessary put on antiretroviral drugs, the overall infection rate would fall dramatically. The sheer practical difficulties of doing this in many parts of the world raise deep concerns about whether it is an effective replacement for the more complex programs – peer education, providing condoms and clean needles, and attempting to change sexual cultures – that accompany the successful behavioural interventions that have limited the spread of HIV among many groups internationally.

Part of the attraction of the ‘treatment as prevention’ approach is that it hands control to the medicos and avoids the bitter moral arguments that have bedevilled so many programs directed at groups seen as deviant and immoral. Yet in both rich and poor countries there have been remarkable successes in lowering infection among sex workers, homosexual men and drug users where appropriate information and resources are made available.

If the prejudices and barriers thrown up in the name of religion, culture and tradition can be overcome, preventing HIV is not that difficult. The major obstacle comes from fundamentalists who preach against condoms and needle exchange in the name of morality, a key issue in parts of Papua New Guinea.

This is why the honesty in President Yudhoyono’s August speech was so significant. Only when governments, churches and international organisations are able to accept the diversity of human behaviours without imposing ideological strictures will a successful set of global prevention programs be able to halt the spread of HIV.
THE ENDEMIC PROBLEM

The best chance for reducing and ultimately removing HIV/AIDS lies with a renewed commitment by governments of the world to HIV policy, asserts the Lowy Institute’s Bill Bowtell.

Over 25 years since the emergence of the HIV/AIDS virus, some 25 million people have perished from AIDS. The global caseload of HIV cases is approaching 35 million. In 2008 alone, the rolling holocaust of the pandemic claimed another 2 million people and 2.7 million were newly infected with HIV. The lives of tens of millions of people, their families and communities have been blighted by the disease.

Unsustainable financial and logistical burdens have been imposed upon the health systems and budgets of weak and fragile states, including those of our nearest neighbours Papua New Guinea and Timor-Leste. While the developed world, apart from the United States of America, acted swiftly and effectively to contain HIV infection rates, the pandemic is continuing to advance in many parts of central Africa, Latin America and some parts of Asia.

Even in Australia, where our initial response to HIV/AIDS was bold, radical and right, the number of new cases of HIV infection has increased at an unacceptably high rate over the past four years or so. So the situation we confront in 2009 is as serious and as grave as it has ever been. Yet it is by no means hopeless. If we choose to act wisely and responsibly, we may yet bring the worst excesses of the pandemic under sustained control and management. But effective global HIV/AIDS containment first requires us to understand how and why we got into this mess.

While the HIV virus is a product of natural viral evolution, the HIV pandemic itself occurred as a consequence of a series of misguided and often malicious political decisions taken by many national governments and international institutions over the past two decades. The rate at which the HIV virus spread had very little to do with its inherent infectiousness, which is low compared to say influenza or tuberculosis. Rather its transmission was greatly accelerated by those governments and societies who misguided their response to the emergence of HIV on faith and fear, rather than science and evidence.

The relentless stigmatisation of those initially at greatest risk of HIV infection – gay men, sex workers, itinerant workers and injecting drug users – transformed what was a completely manageable outbreak of a new disease into a global catastrophe. HIV is not a natural disaster, like a tsunami, nor is its spread inevitable or unstoppable. Thanks to a tremendous scientific effort, we now have a range of highly effective antiretroviral therapies (ART) with which to treat HIV infection and greatly delay the onset of AIDS.

In Ethiopia, I have seen the astounding difference that ART can make to the health of a mother and child with HIV. In just three months, the mother and child were transformed from virtual sacks of skin and bones on the verge of death to happy, thriving human beings again. With the creation in 2002 of the Global Fund to Fight AIDS, Tuberculosis and Malaria and the United States government’s $US50 billion funding of the President’s Emergency Program for AIDS Relief (PEPFAR), well over 2 million people have been placed on ART treatments in less than a decade.

We know ART works. But globally, we are still a long way short of universal access to ART. To make sure that everyone who requires ART has access to these life-saving therapies is just a question of money and distribution.

In 2010, the Global Fund will go cap in hand to the international community (including Australia) to seek more funding to continue to distribute ART therapies to the poorest and neediest countries. At the last Global Fund replenishment in 2007, the Global Fund raised $US10 billion for the period 2007-10, of which about half went to HIV-related programs. Next year, the Fund will seek well in excess of that $US10 billion figure to support and expand its highly successful and rigorously-supervised HIV interventions throughout the developing world.

But containing HIV is about far more than just providing treatment for all those with HIV infection. We must avoid falling into what I call the ‘treatment trap’. The provision of treatment is costly, hard to sustain and very difficult to provide in countries such as Papua New Guinea where primary healthcare systems are fragile or non-existent. In the commendable rush to treat, the international community has lost focus on prevention.

There is no prospect of an HIV vaccine being developed in the immediate future, much less being made available at scale throughout the world. We know from bitter experience that if people are provided with honest information about how HIV is transmitted and with the simple and cheap technologies of condoms and clean needles, they will eagerly make the small, sustained changes in sexual and drug-using behaviours that will protect them and their families from HIV infection. We must give them this information and these simple tools.

The toll of death, pain and suffering caused by the HIV pandemic is all the more appalling because it was avoidable and preventable. The politics of fear, victimisation, intolerance and prejudice brought about the HIV pandemic. As the bigoted anti-gay legislation presently before the Ugandan Parliament demonstrates, religious fundamentalists will not be deterred by evidence as they try to use HIV control as an excuse to indulge their prejudices and hatreds.

A renewed commitment by the governments of the world to HIV policies based on compassion, the respect of human rights and dignity and, above all, the provision of adequate funds for care, treatment, research and prevention offers our best chance of reducing and ultimately removing the scourge of HIV/AIDS from our planet. The choice is ours.
N
atasha is a young mother living with HIV in Zambia. Her newborn son Fanwick was born HIV negative thanks to medicines Natasha received while pregnant and during birth to stop the transmission of the virus. Unemployed and alone, Natasha lives with her mother, siblings and the orphaned children of her brother who died of AIDS. For many women like Natasha the challenge of supporting themselves and their children is daunting.

Natasha’s plight reflects both a good news story in the global fight against HIV as well as an illustration of the new challenges facing those living with AIDS in the wake of a global food crisis and the fall-out from the worldwide economic meltdown. The fact Natasha was able to receive vital medication to ensure she did not pass on the disease to her son reflects a major success story. New research by UNICEF shows we are now closer than ever to witnessing the first generation of children to be born HIV-free since the epidemic first emerged.

In 2008, in low- and middle-income countries, 45 percent of pregnant women living with HIV received antiretroviral drugs to keep them from passing the virus to their babies. That represents an increase from 35 per cent in 2007 – and from just 10 per cent in 2004.

Yet despite this success the economic challenges are now mounting for low- and middle-income countries such as Zambia. While the economic outlook in Zambia has been brightening over the past few years, many Zambians have yet to share in the benefit. Two thirds of the population lives on less than one dollar a day.

The World Bank predicts that the economic recession will bring a drop in the remittances that workers send home to their families, along with a decline in economic growth for developing countries. For those with too little already, that can add up to even less money available for essential health services and education.

Zambia is among the countries benefiting from Australia’s generosity towards people living with HIV/AIDS in the developing world. Funding from AusAID’s overseas aid program, is contributing to the health and survival of children like Fanwick.

They and their families are affected by an epidemic so vast that its scope is difficult to imagine. Around the world, an estimated 15 million children have lost one or both parents to the HIV/AIDS epidemic. Twelve million of them live in sub-Saharan Africa. As of 2007, nearly 2 million children under 15 were themselves HIV positive and will at some stage need to access lifesaving medicines and care.

The epidemic makes poverty worse by adding the cost of medicine and care to household budgets already stretched thin.

The epidemic makes poverty worse by adding the cost of medicine and care to household budgets that are already stretched thin. It forces families to choose between necessities such as food and long-term investments in children, including education. And if a working parent falls ill, the children may have to leave school and support the family themselves.

Fortunately, we know what it takes to protect and safeguard the rights of children in this period of economic crisis, because of our experience in dealing with the impact of HIV and AIDS. We have seen that when people are already poor, it only takes one major setback to leave them with nothing.

But an approach to aid known as social protection can give families the traction they need to keep from being pushed to the edge. Social protection uses a mix of interventions tailored to individual and country circumstances. Cash payments, food stamps and pensions can help children and families avoid destitution. Community workers can assist in connecting families with life-saving health and social services.

And simply by ensuring that every child has a birth certificate, we can increase their chances of attending school.

However, measures to care for children affected by HIV and AIDS – including child-sensitive social protection programs – are only as strong as the funding they receive through overseas aid from countries like Australia. It is critical that during this global financial crisis that industrialised countries, such as Australia, do not reduce their commitment to overseas aid. Australia, as a nation that has weathered the financial crisis better than most, can play a key role in ensuring overseas aid funding is maintained.

To its credit the Australian government has committed to boost aid to 0.5 per cent of gross national income by 2015. It is still short of the United Nations target of 0.7 per cent but it does represent a significant increase.

UNICEF is currently engaged in social protection programs around the world. Australia is among the donors supporting these programs, and UNICEF is grateful for that support. Funding from AusAID is providing much-needed assistance in Asia and the Pacific Islands, including countries such as Papua New Guinea, where UNICEF supports the government in delivering life-saving services.

Australia’s compassionate response also reaches across the globe, to sub-Saharan Africa – the region hardest hit by the HIV/AIDS epidemic. Zambia is not alone in receiving AusAID assistance to support the health, survival and wellbeing of its children. Malawi and Mozambique benefit as well.

The current economic climate unquestionably poses challenges, but it also presents opportunities. Among them is the chance to strengthen our backing for those most in need.

Jimmy Kolker is chief of the HIV/AIDS Section at UNICEF in New York.

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HIV and AIDS 19
HALTING THE SPREAD OF HIV

The executive summary from Australia’s international development strategy by AusAID

Intensifying the response: Halting the spread of HIV is the Australian Government’s new strategy on HIV, which will guide the country’s international development assistance on the epidemic. It builds on the lessons learned and the significant changes that have taken place in the HIV arena since 2004, when Australia’s first international development strategy for HIV, Meeting the Challenge, was launched.

Most countries are tracking well behind schedule to achieve the Millennium Development Goal for HIV by 2015. Most countries are tracking well behind schedule to achieve the Millennium Development Goal (MDG) for HIV by 2015. In addition, the target set by the Political Declaration on HIV/AIDS, which states that every person who needs it should have access to comprehensive prevention services, treatment, care and support by 2010 is unlikely to be met.

Combined, these realities make it clear that the global response to HIV must be dramatically scaled up. Australia’s goal is to make a significant and sustained effort to achieve the MDG target of halting and beginning to reverse the spread of HIV and AIDS by 2015, by assisting partner countries to achieve universal access to HIV prevention, treatment, care and support.

This is not just a question of doing more, but also doing it better. It is about making more effective use of limited resources. And it underlines the importance of supporting inclusive, country-led and managed responses and of donors prioritising support within an agreed division of labour to ensure a harmonised approach (in line with the Accra Agenda for Action).

Australia will deliver its international HIV development assistance by focusing on six priorities.

These priorities will support partner countries to:

➤ Intensify HIV prevention

FIGURE 1: SUMMARY OF ‘INTENSIFYING THE RESPONSE: HALTING THE SPREAD OF HIV’
AUSTRALIA’S INTERNATIONAL DEVELOPMENT STRATEGY FOR HIV (2009)

<table>
<thead>
<tr>
<th>GOAL</th>
<th>Make a significant and sustained effort to achieve the MDG target of halting and beginning to reverse the spread of HIV and AIDS to 2015, by assisting partner countries to achieve universal access to HIV prevention, treatment, care and support.</th>
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<tbody>
<tr>
<td>PRIORITIES</td>
<td>Australia will support partner countries in ... Australia will ...</td>
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<tr>
<td>Intensifying HIV prevention</td>
<td>Support partner countries to increase and better target HIV prevention activities that focus on the populations at higher risk, and key behaviours and settings that impact on the spread of HIV</td>
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<tr>
<td>Optimising the role of health services within HIV responses</td>
<td>Support partner countries to improve integration of HIV services into other health services, including primary healthcare. Support Papua New Guinea to improve HIV treatment and care programs</td>
</tr>
<tr>
<td>Strengthening coordination and capacity to scale up HIV responses</td>
<td>Support partner countries to strengthen the systems that are essential to overcome the barriers to universal access</td>
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<tr>
<td>Reviewing legal and policy frameworks to enable effective responses to HIV</td>
<td>Support partner countries to review and improve laws and policies to prevent discrimination against people on the basis of HIV status or higher risk behaviours, and to address gender inequality and the empowerment of women</td>
</tr>
<tr>
<td>Building the evidence base for an effective HIV response</td>
<td>Support partner countries to develop national HIV research agendas to better understand the epidemics and the impacts of HIV responses</td>
</tr>
<tr>
<td>Demonstrating and fostering leadership on HIV</td>
<td>Demonstrate leadership on HIV, drawing on Australian expertise and increasing engagement with key multilaterals. Support leadership on HIV within partner countries, including from within government, key community-based organisations and the private sector, and by encouraging high-profile local champions</td>
</tr>
</tbody>
</table>
Optimise the role of health services within HIV responses
Strengthen coordination and capacity to scale up HIV responses
Review legal and policy frameworks to enable effective responses to HIV
Build the evidence base for an effective HIV response
Demonstrate and foster leadership on HIV.

An overview of Intensifying the response: Halting the spread of HIV is at Figure 1.

The principle focus for Australia's support to the global HIV effort will continue to lie with the Asia Pacific region, particularly Papua New Guinea (PNG), East and South Asia and the Pacific Island countries. The role in the African response will be relatively small in comparison.

**PRIORITY ONE: INTENSIFYING HIV PREVENTION**

While HIV prevention is the cornerstone of an effective response, current efforts are falling far short of the scale needed and not adequately reaching the people most at risk.

A key priority for Australia will therefore be to assist partner countries to increase and better target HIV prevention activities that focus on populations at higher risk of infection, and key behaviours and settings that impact on the spread of HIV.

In PNG, Pacific Island countries and the Indonesian provinces of Papua and West Papua, the populations at higher risk are less defined than in the rest of the Asia Pacific region. This requires a broad approach to address issues such as concurrent sexual partners, sex work, men who have sex with men, mobility, and gender inequalities. In PNG specifically, preventing parent-to-child transmission also requires additional support.

In Asia, Australia will focus its prevention efforts on the needs of two key populations at higher risk – injecting drug users and men who have sex with men. Preventing HIV transmission among injecting drug users has been the main focus of Australia’s support to date. However, men who have sex with men, a group largely ignored in most HIV responses, are emerging as the key population where new infections are accelerating most rapidly. Australia has significant technical expertise in these areas and can add value in both, especially with injecting drug users where some other donors have faced policy constraints, creating gaps in the response.

**PRIORITY TWO: OPTIMISING THE ROLE OF HEALTH SERVICES WITHIN HIV RESPONSES**

HIV services are frequently established as stand-alone, specialised services. While this can be justified in some circumstances, it is usually more effective – in terms of quality, accessibility and cost – to integrate them into primary healthcare. Where this is not feasible, an appropriate system of referrals should be implemented.

Australia will therefore support the integration of HIV services into primary healthcare. Stronger linkages will also be promoted between services for HIV and services for health issues that share risk factors or cross-over user groups. These include tuberculosis, maternal and child health, and sexual and reproductive health (including sexually transmissible infections, STIs).

Australia will not usually provide direct assistance for treatment and care in Asia. However, in the Pacific region, including PNG, where Australia is a major donor, Australia will support comprehensive responses that include treatment and care as well as prevention.

**PRIORITY THREE: STRENGTHENING COORDINATION AND CAPACITY TO SCALE UP HIV RESPONSES**

Scaling up HIV responses to achieve universal access is placing significant burdens on countries. Therefore, Australia is assisting partner countries to strengthen the systems needed to implement comprehensive, multisectoral HIV responses. One way Australia is doing this is to work with countries to strengthen their health systems by improving workforce development and health financing systems.

Australia is also providing technical assistance and support to help priority countries improve their capacity...
to successfully apply for, manage and report on Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) grants, recognising the prominent role the Fund now plays as a key funder of HIV responses.

Australia is committed to supporting an inclusive approach in all aspects of developing and implementing HIV responses and this includes involving people living with HIV. The growing number of government and non-government stakeholders and the large number of other donors involved makes it even more important to work in a coordinated way. It also makes it important for governments to lead the way to avoid fragmentation of responses and improve efficiency and sustainability of outcomes.

**PRIORITY FOUR: REVIEWING LEGAL AND POLICY FRAMEWORKS TO ENABLE EFFECTIVE RESPONSES TO HIV**

The legal and policy environments have become more supportive of HIV responses in many countries in the Asia Pacific region over recent years. Nonetheless, gaps remain that inhibit people from wanting to know their HIV status, accessing condoms and clean needles and syringes, and receiving treatment. Likewise, improvements to laws can help reduce people’s vulnerability to HIV infection and its impacts. Australia therefore will support governments to review and improve their laws and policies, and their implementation.

**PRIORITY FIVE: BUILDING THE EVIDENCE BASE FOR AN EFFECTIVE HIV RESPONSE**

The success of HIV responses depends on quality of knowledge about the epidemics and the evidence of what works as well as the ability to use it to greatest effect. Understanding the local epidemic and context means decision makers can make more informed choices about where to focus effort. Without better understanding, responses will remain constrained and unable to adequately reach target populations. However, HIV surveillance remains limited and surprisingly little is still known about the social, political, cultural and economic factors that influence HIV epidemics, particularly in the Pacific region. Australia will therefore encourage partner countries to establish national HIV research agendas, including on the factors that impact on HIV transmission and behaviour change.

**PRIORITY SIX: DEMONSTRATING AND FOSTERING LEADERSHIP ON HIV**

Australia will encourage leadership on HIV issues globally and regionally, as well as demonstrate leadership – including through the position of Ambassador for HIV – in driving debates and advocating for policy or programming change in neglected or arising areas, particularly those important for the Asia Pacific region.

Local leadership is key to driving change and to ensuring responses are inclusive and meet local needs. Australia will therefore support approaches to engage political, business and community leaders at the national, sub-national and community level.

**Australia is committed to supporting an inclusive approach in all aspects of developing and implementing HIV responses and this includes involving people living with HIV.**

**TRACKING PROGRESS, ACHIEVEMENTS AND CHALLENGES**

Australia is committed to increasing its focus on performance to help managers improve development effectiveness and account for results. The Australian Agency for International Development (AusAID) will therefore continue to strengthen its monitoring and review processes to more accurately determine the progress, achievements and challenges in implementing HIV assistance.

Performance of Australia’s HIV development assistance is measured through a number of complementary reporting processes that will together be used to assess implementation of this strategy. This will include ongoing assessments at the activity, country, regional and thematic levels to assess quality, progress, impact and relevance.

Executive summary from *Intensifying the response: Halting the spread of HIV, Australia’s international development strategy for HIV*

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FACTS ABOUT HIV AND AIDS
An information sheet from the AIDS Action Council of the ACT

What are HIV and AIDS? What’s the difference? How is HIV transmitted? How is it treated? How can the transmission of HIV be prevented?

WHAT IS HIV?
HIV stands for Human Immunodeficiency Virus. A virus can only survive by living in the cells of another organism. HIV is a type of virus called a retrovirus: it incorporates itself into the genetic material of cells called ‘CD4 white blood cells’, which are part of the immune system. This process is called ‘reverse transcription’, and it enables HIV to replicate. This leads to destruction of the CD4 cells and damages the immune system.

The syndrome of AIDS is caused by HIV. However a person infected with HIV may not necessarily progress to having AIDS.

WHAT IS AIDS?
AIDS stands for Acquired Immune Deficiency Syndrome. A syndrome is a set of signs and symptoms that occur together, as a result of a specific cause. The syndrome of AIDS is caused by HIV. However a person infected with HIV may not necessarily progress to having AIDS.

HIV causes AIDS by damaging the immune system and making the body vulnerable to ‘opportunistic infections’. These are called ‘opportunistic’ because the weakened immune system gives them the ‘opportunity’ to take hold. These infections can cause death in people with a severely weakened immune system.

AIDS was first diagnosed in 1981. Since then HIV and AIDS have spread rapidly and cases have been reported in more than 150 countries. At the beginning of 2004, it was estimated that nearly 42,000,000 people were living with HIV and AIDS.

In Australia at the beginning of 2004, more than 20,000 people have been diagnosed with HIV infection. Over 8,000 of these have been diagnosed with AIDS, and nearly 6,000 people have died from AIDS-related illnesses.

HOW IS HIV TRANSMITTED?
Unprotected sexual contact or sharing drug injecting equipment are the most common causes of HIV transmission. Sexual contact that may transmit HIV includes vaginal and anal sex, and with lower associated risk, oral sex.

In some cases, HIV can be transmitted from pregnant mother to child. This is called ‘vertical transmission’. The risk of vertical transmission can be reduced if the mother uses anti-HIV drugs during pregnancy and delivery. In Australia breastfeeding is not recommended for mothers infected with HIV because of the risk of HIV being transmitted through breast milk.
Healthcare workers and emergency personnel are at low risk of acquiring HIV from workplace exposure to HIV (for example by needlestick injury). A drug treatment regime called Post Exposure Prophylaxis ('PEP') has been shown to be effective in preventing seroconversion to HIV in these circumstances.

Blood products have been screened for HIV in Australia since 1985 and receiving transfusions of blood products is considered safe.

There is no evidence of transmission of HIV through ordinary social contact. HIV is not transmitted through sharing of plates, cups, cutlery, swimming pools or toilets, kissing, coughing, sneezing or spitting. The necessary conditions for HIV transmission (see below) are not present in these situations.

Blood products have been screened for HIV in Australia since 1985 and receiving transfusions of blood products is considered safe.

THE PRINCIPLES OF HIV TRANSMISSION
Transmission of HIV is dependent on a number of conditions being fulfilled. Understanding these conditions gives a better understanding of how HIV is transmitted:

Firstly there must be a source of HIV infection. HIV exists in certain bodily fluids of persons infected with HIV. These include blood, semen, vaginal fluid and breast milk.

Secondly, there must be a way for HIV to be transmitted to the bloodstream of an uninfected person. Sexual contact, or sharing drug-injecting equipment are the most common routes of HIV transmission.

Thirdly, there must be a person susceptible for infection. HIV transmission only takes place from one human to another. Mosquitoes, for instance cannot become infected with HIV and pass it on to humans.

Finally, a sufficient amount of HIV must enter the blood of an uninfected person for infection to be established. If insufficient HIV enters the bloodstream, transmission of HIV infection will not occur.

If these conditions are not fulfilled, HIV transmission does not take place.

STAGES OF HIV INFECTION

Seroconversion and primary illness
Some people can become infected with HIV without knowing it. Other people may experience a short ‘seroconversion’ illness between two and six weeks after becoming infected. The symptoms of this illness may be quite non-specific and include tiredness, fever, diarrhoea, rash, and flu-like symptoms. These symptoms are common in other illnesses and so may not be remarkable at the time of the illness.

Asymptomatic HIV infection
Following seroconversion there may be a period of months or years during which HIV infection damages the immune system but does not manifest in outward signs or symptoms. Some people may however experience a persistent swelling in the lymph nodes. This period is known as ‘asymptomatic infection.’ During this time there is a constant battle taking place between the immune system and HIV.

Symptomatic HIV infection
Indications of symptomatic HIV infection may include lack of energy, fevers and night sweats, persistent thrush in women and prolonged bouts of diarrhoea.

HIV INFECTION STATISTICS

- By 31 December 2009, 29,395 diagnoses of HIV infection, 10,446 diagnoses of AIDS and 6,776 deaths following AIDS had occurred in Australia
- An estimated 20,171 people were living with diagnosed HIV infection in Australia at the end of 2009
- The number of new HIV diagnoses in Australia in 2009 was 1,950 – the highest number of new HIV infections since 1993. The annual number of new HIV diagnoses has remained relatively stable at around 1,000 over the past four years
- Trends in newly diagnosed HIV infection have differed across State and Territory health jurisdictions. New South Wales recorded a stable population rate at around 5.7 per 100,000 population in 2005-2009 whereas Queensland recorded its highest rate of HIV diagnosis in 2009 of 4.7 per 100,000 population. The rate of HIV diagnosis in Victoria peaked in 2006 at 5.5 and declined to 5.2 per 100,000 population in 2009
- HIV continued to be transmitted primarily through sexual contact between men
- Of 5,069 new diagnoses of HIV infection in 2005-2009, 1,443 (28.5 per cent) had been acquired in the 12 months prior to HIV diagnosis
- The per capita rate of HIV diagnosis in the Aboriginal and Torres Strait Islander population was similar to that in the non-indigenous population. Higher proportions of Aboriginal and Torres Strait Islander cases of HIV infection were attributed to heterosexual contact (21 per cent compared with 15 per cent) and injecting drug use (20 per cent compared with 3 per cent) than in non-indigenous cases
- Of 1,185 cases of HIV infection newly diagnosed in 2005-2009, for which exposure to HIV was attributed to heterosexual contact, 58 per cent were in people from high prevalence countries or their partners.

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Late stage disease (equivalent to AIDS)
During advanced stages of HIV infection, a person may develop any of a number of infections which are considered as indicators of AIDS. These are the conditions on which a diagnosis of AIDS, in a person who has HIV, is based.

They include:
➤ Kaposi’s Sarcoma (KS)
➤ Pneumocystis Carinii Pneumonia (PCP)
➤ Toxoplasmosis
➤ Cytomagalovirus disease (CMV)
➤ Candidiasis (thrush) in the oesophagus, throat or lungs.

TESTING AND DIAGNOSIS OF HIV
HIV infection is detected by a blood test for HIV antibodies. Antibodies to HIV will not be detectable immediately after HIV infection, because it takes a while for measurable quantities of HIV antibodies to be produced by the immune system (up to three months). This period is known as the ‘window period’. An antibody test taken during the window period therefore may not be accurate. This is important to remember, especially when making decisions about safe sex.

HIV transmission only takes place from one human to another. Mosquitoes, for instance cannot become infected with HIV and pass it on to humans.

It is standard procedure to offer people pre- and post-HIV test counselling to the seeking an HIV antibody test. This is regardless of the outcome of the test. Counselling is done to explain the implications of the test results.

TREATING HIV AND AIDS
In Australia, treatment of HIV and HIV-related illnesses have usually followed four principles:
➤ Targeting the virus itself, using antiviral drugs
➤ Treating and where possible preventing the individual opportunistic infections which result from damage to the immune system caused by HIV
➤ Restoring or rebuilding the damaged immune system
➤ Treating and alleviating the symptoms of HIV disease.

In the 1980s and the early 1990s there were not a wide range of drugs available to target HIV itself, and those that were available often had limited effectiveness and unpleasant side effects. In the latter 1990s there was a surge in the variety and effectiveness of anti-HIV drugs available in Australia, and the outlook since then has been more optimistic.

It is now common practice to combine several different classes of anti-HIV drugs in a treatment regime. This has significantly improved the outlook for people living with HIV and AIDS, although problems with side effects are still reported.

Treatments are also available to reduce the risk of HIV transmission from pregnant mother to child, and where exposure to the risk of HIV transmission has occurred. A significant addition to effective anti-HIV drugs has been the development of accurate tests to monitor the activity of HIV in a person’s body. CD4 cell counts measure the number of CD4 cells in the blood. Viral load tests measure the amount of HIV in the blood. Together these have been very useful in determining how to best use anti-HIV drugs in treatment.

PREVENTING TRANSMISSION OF HIV
HIV transmission can be prevented by:
➤ Practising safe sex: this means using condoms with water-based lubricant for vaginal and anal intercourse. Oral sex presents a lower risk for HIV transmission, and this can be reduced by using condoms and dental dams
➤ Not sharing drug injecting equipment: this includes syringes, spoons, filters, water, water containers and tourniquets. Sterile equipment for injecting drugs is freely available through needle exchange programmes
➤ PEP (Post-exposure prophylaxis): this is a course of anti-HIV drugs which may prevent transmission of HIV after a risk exposure
➤ Infection control in health and care settings: there are a number of standard guidelines that are followed in these settings to prevent infection (not just with HIV). These are effective in preventing HIV transmission
➤ Infection control in other settings: tattooing, body piercing and hairdressing procedures are required to comply with infection control guidelines, and standards for sterilising equipment
➤ Prevention is better than cure: understanding the information in this document can help you to practice HIV prevention.
1. WHAT IS HIV?

HIV is Human Immunodeficiency Virus, the virus that has been identified as the cause of AIDS (Acquired Immune Deficiency Syndrome, or Acquired Immunodeficiency Syndrome). Untreated, people who have HIV infection are likely to develop AIDS as a result.

HIV belongs to a group of viruses called retroviruses. Like all viruses, retroviruses can only reproduce within a host cell. Retroviruses do this by copying their genetic blueprint onto the genes of a person’s cells.

There are two types of HIV that we currently know about: HIV-1 and HIV-2, as well as numerous subtypes of the virus. It’s likely that researchers will uncover new subtypes of the virus in the future.

Globally, HIV-1 is the most common type of virus, with HIV-2 infection found most commonly in Africa.

Both HIV-1 and HIV-2 are transmitted in the same ways and both can cause AIDS. The difference is that HIV-2 is less easily transmitted than HIV-1 and it takes longer for illness to appear after infection with HIV-2, compared with HIV-1.

2. SOME PEOPLE SAY THAT HIV IS NOT REALLY THE CAUSE OF AIDS: WHAT’S THE TRUTH?

Some people question the validity of the HIV/AIDS link and continue to believe that HIV is not the cause of AIDS. HIV and AIDS have become political subjects, involving social issues such as poverty and drug use, and the lifestyle of the homosexual community, and some people like to believe that their ‘normal’ lifestyle makes them ‘immune’.

However, it has been shown that, throughout the world, the only common link between diverse groups of people with AIDS is the fact that they are all infected with HIV.

Different groups of AIDS patients, such as babies born to infected mothers, homosexual men, sexual partners of infected people, people who have had blood transfusions, including people with haemophilia (a type of hereditary blood disease that prevents blood clotting), and healthcare professionals who have been exposed to the virus, all have HIV in common.

After many years of research, the scientific community has firmly established that HIV is the cause of AIDS.

3. WHAT IS AIDS?

AIDS is a condition known as Acquired Immune Deficiency Syndrome (or Acquired Immunodeficiency Syndrome).

AIDS is not a single condition; it’s a range of conditions that can occur after a person’s immune system becomes damaged by attacks from HIV. Although AIDS is a progression from HIV infection, they are not the same thing. Someone can be infected with HIV, but that does not necessarily mean they have AIDS. However, everyone who has AIDS has been infected with HIV.

4. HOW DOES HIV LEAD TO AIDS?

Basically, HIV damages the body’s immune system, making the body vulnerable to other diseases and infections. HIV works by destroying a kind of blood cell that is vital in helping the body’s immune system to function. These cells are CD4+ T cells (known as helper T lymphocytes). Helper T lymphocytes help to activate and coordinate some of the other cells of the immune system so that the body can fight off invading organisms and cancerous cells.

The HIV virus copies itself (replicates) inside the CD4+ T cells, destroying them in the process, and releasing new virus particles. These new virus particles then infect and destroy other lymphocytes.

People with HIV lose CD4+ T cells over months or years, and a low CD4+ T cell count is an indicator of a person’s vulnerability to infection.

For example, the normal count of CD4+ T cells for an adult is about 500 to 1,400 CD4+ T cells per microlitre of blood (i.e. per millionth of a litre of blood, or 0.5-1.4 x 10^9/L).

A person who is open to AIDS symptoms may have a cell count of less than 200 CD4+ T cells per microlitre of blood (i.e. less than 0.2 x 10^9/L).

In this way the body’s defence system is weakened, leaving an HIV-infected person open to other infections and cancers.

5. HOW IS HIV INFECTION DIAGNOSED?

HIV is usually diagnosed by means of a blood test that checks for HIV antibodies. The body’s immune system produces specific antibodies to each type of infection it
HIV antibody tests are more than 98 per cent effective and reliable, but it can take up to three months for high enough levels of HIV antibodies to be detected in the blood.

6. HOW IS HIV SPREAD?

HIV can be transmitted from one person to another through sexual activity involving bodily fluids and also through contact with infected blood.

Things that can spread HIV: Semen, pre-ejaculate (the fluid secreted by a man’s penis when he is sexually aroused), vaginal fluid, breast milk, blood and other body fluids containing blood have all been identified as helping to spread HIV from one person to another.

Anyone who practises risky behaviour (such as sharing needles or syringes while taking intravenous drugs or having unprotected sex with an infected person or a person whose HIV status is unknown) is at risk of becoming infected with HIV.

A woman who is infected with HIV can pass HIV to her baby during pregnancy, during delivery or via her breast milk if she breastfeeds.

The most common way that the virus is spread is through infected people having unprotected sex. During sex, whether homosexual or heterosexual, the virus can enter the body via the lining of the vagina, vulva, penis, rectum or mouth.

Healthcare professionals might also become infected if they come into contact with bodily fluids from an infected person, such as the fluid surrounding an unborn baby, fluid surrounding the joints, or fluid surrounding the brain and spinal cord.

Things that don’t appear to spread HIV: So far, studies of people infected with HIV have not found any evidence that the virus is spread through the saliva when kissing, and it’s not known for certain whether deep kissing, involving the exchange of lots of saliva, increases the risk of infection.

Studies have shown that HIV is not spread through casual contact with an infected person, such as via swimming pools, toilet seats, telephones, or by sharing eating utensils, and it’s not spread via biting insects such as mosquitoes.

Research has also shown that HIV is not spread through faeces, or through bodily fluids such as sweat, tears or urine.

7. WHAT ARE THE SYMPTOMS OF HIV INFECTION?

The first few months: When first infected with the virus, many people have no symptoms. Others experience what appear to be flu symptoms, such as a fever, headache, tiredness, and swollen glands in the neck and groin (swollen lymph nodes), a month or two after being infected.

Quite often, these symptoms then go away after about one to four weeks, and might be mistaken for another illness or infection. A person with HIV is very infectious during this time as there are lots of virus particles circulating in the body.

Later: The length of time in which an infected person is asymptomatic (displaying no symptoms) varies from person to person. It might be 10 years or more before other symptoms appear, or symptoms might appear after only a few months.

Some signs that the immune system is getting weaker include having swollen lymph nodes (‘swollen glands’) that may be enlarged for more than three months, fevers, weight loss, lack of energy, yeast infections such as thrush in the mouth or vagina, skin rashes or flaky skin, short-term memory loss, and pelvic inflammatory disease in women.

During the later stages of HIV infection, a person might develop any of a number of infections which are medically categorised as AIDS-defining illnesses, such as certain types of pneumonia, or certain cancers.

8. WHAT ARE THE SYMPTOMS OF AIDS?

A person is medically defined as having AIDS if they have HIV infection and display one or more of the range of conditions known as AIDS-defining illnesses. Doctors in the USA also include people who have proven HIV infection with a low CD4+ lymphocyte cell count of less than 200 cells per microlitre of blood.

Here are some examples of AIDS-defining illnesses. Many of the infections are opportunistic infections: these infections generally don’t cause illness in a person with an undamaged immune system, but can be life-threatening to a person with HIV, because their immune system is compromised.

- Candidiasis (infection with the fungus Candida albicans) in the oesophagus, lungs or throat
- Cytomegalovirus (CMV) infection, which can occur in the retina of the eyes, causing loss of vision
- Kaposi’s sarcoma, a type of tumour that appears as raised, reddish-purplish patches on the skin
- Pneumocystis carinii pneumonia (PCP), often the first serious opportunistic infection to develop
- Recurrent pneumonia, which can be caused by infection with fungi such as Histoplasma capsulatum
or *Coccidioides immitis*
- Tuberculosis, which is more frequent in people with HIV infection than other people
- Invasive cervical cancer
- Certain lymphomas (tumours of the immune system, which may appear in the brain or other internal organs)
- Progressive multifocal leukoencephalopathy, a viral infection of the brain
- Infection with *Mycobacterium avium* complex, a common cause of fever, diarrhoea and weight loss in people with AIDS
- Coccidioidomycosis, a fungal infection caused by the fungus *Coccidioides immitis*, which can cause pneumonia but can affect almost any part of the body, causing symptoms such as cough, fever, joint pains, weight loss and anorexia

... only a few people with AIDS die from the direct effects of HIV infection. Instead, most people with AIDS die as result of the effects of the many infections and tumours to which they are exposed ...

- Cryptococcosis, infection with the fungus *Cryptococcus neoformans*, which can cause lung infections and meningitis
- Cryptosporidiosis, a gastrointestinal illness characterised by severe, chronic diarrhoea, caused by infection with the parasite *Cryptosporidium parvum*
- Histoplasmosis, infection caused by the fungus *Histoplasma capsulatum*, which causes pneumonia, and can spread to other parts of the body such as the liver, spleen, bone marrow, and gastrointestinal tract
- Infection with herpes simplex virus which causes prolonged problems with the skin
- Toxoplasmosis: chronic infection with the parasite *Toxoplasma gondii*, which causes severe infection of the tissues, often in the brain
- HIV wasting syndrome, which causes weight loss, muscle wasting, fever and diarrhoea.

The HIV infection itself and opportunistic infections and cancers can produce symptoms of AIDS. However, only a few people with AIDS die from the direct effects of HIV infection. Instead, most people with AIDS die as result of the effects of the many infections and tumours to which they are exposed because of their compromised immune system.

9. HOW LONG DOES IT TAKE FOR AIDS SYMPTOMS TO DEVELOP AFTER INFECTION WITH HIV?

A minority of people can be infected for more than 15 years without displaying any AIDS symptoms but, on the other hand, some people develop AIDS symptoms really quickly after becoming infected, taking only a few months to show signs of illness.

However, studies have shown that most people who have not received therapy against HIV (antiretroviral therapy) show symptoms of AIDS about eight to 10 years after infection with HIV, on average.

10. HOW CAN YOU AVOID GETTING AIDS?

The way to avoid getting AIDS is to avoid becoming infected with HIV. This means avoiding taking part in risky behaviour.

For example, when having sex:
- Don’t have unprotected sex
- Always use a condom or, when practising oral sex on women, a dental dam
- Use water-based lubricant, as oil-based products can weaken the condom
- Reduce the numbers of sexual partners you have, and
- Practise lower-risk sexual behaviour, such as mutual masturbation, rather than penetrative sex.

When using injecting drugs:
- Use your own equipment, including your own needles, syringes, spoons, filters, water, citric acid, vinegar or lemon juice, and mixing equipment.

In some cases, a person might be exposed to HIV by accident, for example, a condom might break during sex, or a healthcare professional might accidentally be pricked by an infected needle (needlestick injury).

In these cases, doctors can evaluate the exposed person and may recommend what is known as post-exposure prophylaxis (PEP). This involves taking a short course of antiretroviral medications as soon as possible after exposure with the aim of reducing the risk of transmission of HIV.

11. WHAT TREATMENTS ARE AVAILABLE FOR PEOPLE WITH HIV/AIDS?

There is no ‘cure’ for HIV infection or AIDS. However, there are treatments available to help combat the damage to the body being done by HIV.

**Antiretroviral therapy**

Because HIV is a retrovirus, it is combated by medications known as antiretrovirals, or antivirals.

There are five main types of antiretroviral therapy:

- **Nucleoside/nucleotide reverse transcriptase inhibitors (NRTIs, also known as nucleoside analogues)**
  These include abacavir, didanosine (ddl), lamivudine (3TC), stavudine (d4T), zidovudine (AZT), emtricitabine, and tenofovir
- **Non-nucleoside reverse transcriptase inhibitors (NNRTIs)**
  These include delavirdine (DLV), efavirenz, and nevirapine (NEV)
- **Protease inhibitors (PIs)**
  These include indinavir (IDV), nelfinavir (NFV), ritonavir (RTV), lopinavir/ritonavir, saquinavir (SQV) amrenavir, atazanavir, tipranavir, darunavir, and...
Pneumocystis carinii pneumonia (PCP) can be treated with anti-infectives such as pentamidine.

Kaposi’s sarcoma or other cancers can be treated with radiation therapy, chemotherapy or injections of interferon.

HIV can become resistant to medication so HIV doctors are most likely to recommend a combination of medications (known as highly active antiretroviral therapy or HAART) to help slow the spread of the virus.

HIV/AIDS healthcare professionals are best placed to offer advice about therapies, as there are many different combinations, and recommended therapies can change as new agents are developed.

12. IS THERE A VACCINE AGAINST HIV INFECTION?

Not yet, however, research is continuing.

Scientists hope to produce a preventive vaccine that will help control the spread of HIV infection. Such a vaccine would not be a cure for AIDS. However, some researchers are exploring the possibility of a therapeutic vaccine which could be used in addition to current therapies to help treat people with AIDS or HIV infection in the future.

One problem with a possible preventive HIV vaccine is that with different subtypes of the virus being discovered, one universal HIV vaccine may not be effective. It could be that any future HIV vaccine needs to be modified regularly to keep up with the different ‘strains’ of the virus, in much the same way that today’s flu vaccines are updated to fight off any variations in the flu virus.

The development of an effective HIV vaccine depends on the outcomes of ongoing research, and when a promising vaccine is eventually produced, it will be tested for safety and effectiveness before becoming widely available.
Targeted HIV prevention targeting priority communities and populations

It is recognised that individuals have a responsibility to prevent themselves and others from acquiring HIV infection and preventing further transmission of HIV. Australia’s targeted HIV prevention and health promotion response should be improved. To respond to rises in infections, prevention will be revitalised as the cornerstone of the national response.

Targeted HIV prevention is cost effective, and is cost saving to the national economy.

Investment in HIV prevention shows higher returns than other comparable health promotion programs, including tobacco control and prevention of heart disease. An economic model measuring the impact of investment in HIV prevention in New South Wales projected that at least 44,500 infections had been avoided in that state through HIV prevention programs and that for every dollar spent, $13 was saved.²

Prevention will focus on populations experiencing resurgent epidemics, while also strengthening efforts focused on populations where the epidemic has largely to date been prevented (particularly sex workers, people who inject drugs and people in custodial settings), and guarding against emerging epidemics (particularly Aboriginal and Torres Strait Islander people who inject drugs and people from priority Culturally and Linguistically Diverse [CALD] backgrounds).

The evidence internationally for concentrated epidemics is conclusive that effective HIV prevention must be focused towards those communities and populations most at risk and most affected by HIV rather than spread evenly throughout the population.³

Targeted resourcing of the prevention response is highly efficient and critical to the success of the national response, but may need increased support to reach highly marginalised populations. Poorly targeted investment and dis-investment in prevention have led to a resurgence of HIV in some states.⁴

In regard to young people, the focus will be on those most at risk of HIV who fall within the priority groups identified above. Universal programs for youth in the general population will be implemented through the STI Strategy.

Investment in HIV prevention shows higher returns than other comparable health promotion programs, including tobacco control and prevention of heart disease.

New complexities need to be addressed including changing community perceptions about HIV, the impacts of new therapies, increasingly diverse and diffuse gay communities, a growing and ageing population of people living with HIV and challenges in reaching particular populations where emerging or re-emerging epidemics may be a problem. A continued strong focus on gay men will be coupled with recognition of increasing diversity in the populations most at risk of HIV.

It is important to ensure that a comprehensive package for HIV prevention is delivered to those most at risk, including:

➤ Provision of information and equipment to support safe sex and safe injecting practices
➤ Skills building in individuals around the range of HIV risk reduction strategies
➤ Community development, social change and peer-based health promotion
➤ Tackling STIs that act as a co-factor in HIV transmission
➤ Working with mainstream services to address the health factors that compound HIV vulnerability including alcohol and other drug use, depression and other mental health issues among people living with HIV and priority populations

➤ Attention to the social determinants of health that affect HIV prevention efforts, including social marginalisation, access to health promotion and health services, and law and policy frameworks, and

➤ Reduction of HIV-related stigma and discrimination.

New technological developments should be considered for their relevance and value to the Australian HIV response.

Areas of current interest include:

➤ Communication and biomedical technologies that are relevant to specific prevention and health promotion interventions, and

➤ Prevention agents such as microbicides and vaccines.

Over the term of this strategy the expertise and analysis available across these various fields will be monitored to ensure that a coordinated, considered and evidence-based approach to potential implementation of these technologies is achieved.

The following populations are priorities for prevention. These populations are not mutually exclusive.

Gay and other men who have sex with men

An upgraded prevention program focusing on gay and other men who have sex with men should be conducted to address rises in new infections. The program will reflect a partnership approach and will be led by affected communities.

It should be acknowledged that some gay men are at higher risk than others and, therefore, HIV prevention...
programs should include programs targeted toward specific groups of gay men. These include sexually adventurous or highly sexually active gay men living in the major cities and men in HIV sero-discordant relationships.

Consistent condom use is the most effective strategy for preventing HIV transmission and acquisition, and is particularly important with casual partners. Social research indicates that the majority of gay men consistently use condoms with casual partners. However there is also evidence that gay men’s engagement in risk practices is influenced by a complex range of factors including circumstance, partner, salience of HIV as a health threat and epidemiological virological evidence. Targeted prevention messages should therefore acknowledge this complexity and incorporate information regarding the evidence base for risk reduction strategies to promote informed decisions.

The effectiveness of peer-based responses to HIV has been clearly demonstrated in gay communities. The challenge is to promote risk reduction and safe behaviour among gay and other men who have sex with men in the broader context of the changing nature of gay communities. Programs implemented will respond to the cultural diversity of gay men including Aboriginal and Torres Strait Islander gay men, transgender people, sistergirls, gay men from CALD backgrounds, male sex workers and men with cognitive, intellectual or psychiatric disability.

People living with HIV

Programs that support and affirm HIV positive people as partners in HIV health promotion and prevention strategies are critical. HIV prevention interventions will focus on preventing the transmission of HIV, as well as the health and prevention needs of HIV positive individuals. Preventing HIV transmission is a shared responsibility of all individuals, irrespective of HIV status.

Sexual and reproductive rights, regardless of HIV status, must be recognised. Further analysis of the role of treatment in preventing HIV transmission and close monitoring and evaluation of new perspectives on early anti-retroviral therapy as an element in prevention should be undertaken.

Aboriginal and Torres Strait Islander people

Some Aboriginal and Torres Strait Islander communities have very high rates of STIs, which amplify the likelihood of HIV transmission. There is potential for a rapid-spreading epidemic initiated by injecting and sustained by high rates of STIs as has occurred overseas among indigenous peoples and injecting drug users.

The National Aboriginal and Torres Strait Islander Blood Borne Viruses and Sexually Transmissible Infections Strategy places a high priority on harm reduction interventions to reduce HIV and hepatitis C transmission associated with unsafe injecting drug use practices. Ensuring that a wide range of strategies to distribute sterile injecting equipment, including NSPs, are available in Aboriginal and Torres Strait Islander communities is a priority. Bacterial STIs will be addressed through detection and treatment.

The HIV Strategy will complement those efforts. Both Strategies will seek to address the high levels of stigma associated with HIV and STIs, particularly in remote communities, which leads to fears of disclosure and heightened secrecy and to protect Aboriginal and Torres Strait Islander women from HIV.

Health promotion and harm reduction services can be difficult for Aboriginal and Torres Strait Islander populations to access. Strategies will be put in place to provide services that are accessible, culturally appropriate and which better meet their health needs. This includes support for retaining an appropriately trained clinical, prevention and health promotion workforce. Cultural awareness and sensitivity to indigenous practices and beliefs are required as well as capacity development in sexual health promotion, community development, peer education, clinical care and research.

Cross-border issues with Papua

Editor’s Note

The Sixth National HIV Strategy is the first national HIV strategy to be endorsed by all health ministers from the Commonwealth, states and territories in over 10 years. While the HIV epidemic in Australia remains concentrated among men who have sex with men, there are clear indications of smaller but significant epidemics emerging among Australians travelling and working in high prevalence countries, some culturally and linguistically diverse communities and among injecting drug users in some Aboriginal and Torres Strait Islander communities.

Source: Media release, 18 May 2010
Australasian Society for HIV Medicine (ASHM)
www.ashm.org.au
New Guinea are a significant concern affecting Torres Strait Island communities. This issue has received increasing attention since 2007 and is addressed in the National Aboriginal and Torres Strait Islander Blood Borne Viruses and Sexually Transmissible Infections Strategy. The HIV Strategy acknowledges the heightened risk of HIV, STI and tuberculosis transmission associated with the movement and interaction of people between Australia and the Western Province of Papua New Guinea, and the importance of continued efforts to address the increased burden on health services and the need for improved coordination of public health programs.

**People who inject drugs**

Ensuring a supportive and enabling environment to both maintain and expand access to harm reduction and peer-based services and programs will help prevent any further increases in HIV infection rates among people who inject drugs. The identification, monitoring and resolution of problems in relation to the quality, coverage and accessibility of NSPs are therefore supported.

**People in custodial settings**

In the correctional environment, there are often impediments to best practice blood borne virus (BBV) prevention. These problems are exacerbated by higher levels of co-infection with HIV and hepatitis C in this population. Effective HIV and other BBVs prevention and health promotion requires a whole-of-government approach enlisting those concerned with juvenile detention centres as well as adult prisons.

Each state and territory has its own separate, independent system of police, courts, prisons and juvenile institutions. Health services are provided variously by health or justice jurisdictions and supplied directly, or contracted, by public and private custodial facilities.

Australia’s prison systems are relatively small and isolated from each other. This presents challenges for the coordination of policy development, implementation and evaluation, research and education. However these challenges have been overcome within the custodial environment to enable effective responses to a number of key issues within Australia including Papua New Guinea communities in far north Queensland and people working and studying in Australia and overseas. There are also opportunities for collaboration between domestic and regional organisations working in the HIV area, as well as across portfolios with migrant and settlement services and through AusAID and other development partners.
public health issues including BBV and STI initiatives such as provision of condoms, access to bleach, provision of opioid pharmacotherapies, the National Prison Entrants BBV & Risk Behaviour Survey, etc.

The provision of sterile injecting equipment in Australian prisons is a controversial issue for some in the community. An increasing number of international jurisdictions have implemented or are actively contemplating the implementation of needle and syringe programs in prisons. To date there is no evidence of adverse outcomes associated with these programs.

However, several positive or beneficial outcomes have been documented from programs that have undergone evaluation, including: no documented increase in illicit or injecting drug use; significant reductions in equipment reusing/sharing; no documented attacks or violence; no documented seroconversion for HIV or hepatitis; and acceptance of the program by staff and prisoners.

In view of the well documented return on investment and effectiveness of Australian community-based needle and syringe programs, combined with the international evidence demonstrating the effectiveness of prison needle and syringe programs it is appropriate throughout the life of this strategy for State and Territory Governments to identify opportunities for trialing the intervention in Australian custodial settings.

In addition to identifying opportunities for trialing needle and syringe programs in prisons, it is also essential that the full range of BBV and STI prevention strategies are maintained in Australian custodial settings, including:

- Increasing the provision of, and access to bleach and disinfectants where no other safer alternatives are provided for decontaminating spills, surfaces or equipment
- Easily accessible education and counselling including peer education and support on HIV and STIs, hepatitis B and hepatitis C and injection drug use as a fundamental health promotion technique to support risk reduction practices, and
- Increasing access to drug treatment programs including opioid pharmacotherapy programs which have been demonstrated to reduce blood borne virus transmission in custodial settings as well as detoxification and drug rehabilitation programs.

Strategies should also be explored for developing and promoting Australian infection control standards for tattooing and body art to reduce the risk of transmission of blood borne viruses via those means in custodial settings.

**Sex workers**

Ensuring sex workers are equipped to maintain safe sex practices, while adapting to a changing industry, requires complex education and community development approaches by sex worker organisations within the context of occupational health and safety in the sex industry. Support for community-based sex worker organisations to provide peer education and outreach, particularly to workers who work individually and to migrant and CALD sex workers should continue to be provided. Innovative access, education and community development approaches are required to engage with a diverse and highly transient community including male (gay-identified and otherwise), people from CALD backgrounds, people who inject drugs, Aboriginal and Torres Strait Islander and street-based workers.

Implementation of a National Training Project has provided important national support and development opportunities to sex worker peer educators to extend and receive accreditation for their skills. Attention will continue to be given to the professional development needs of the sex work organisation workforce.

**Priority actions in HIV prevention**

- Using the expertise of community sector agencies within the partnership, develop and implement an expanded and comprehensive national program aimed at:
  - Reversing the resurgent epidemic among gay men through the use of national media, new communication technologies and other relevant strategies, and
  - Maintaining low rates of HIV among priority groups (sex workers and drug users) through the implementation of peer education and community led health promotion
- Continue to invest in and monitor prevention programs for priority risk populations
- Monitor research developments to inform policy and program development on new prevention technologies prior to their introduction to local populations
- Continue professional development of the HIV prevention and health promotion workforce, including investing in a new generation of peer education and prevention workers
- Invest in evaluation and evidence-building approaches to support evidence-based and innovative policy and program decisions.
HIV/AIDS AND SAFER SEX

The more people you or your partner have unprotected sex with, the more risk you have of becoming infected. WA AIDS Council provides some preventative advice with the following fact sheet.

HIV is found in sexual fluid. It is present in the semen of men with HIV and in vaginal fluids and menstrual blood of women with HIV.

SEXUAL INTERCOURSE (PENETRATIVE SEX)

The more people you have unprotected penetrative sex with, the more risk you have of becoming infected. The same applies to your partner. Some ways of having sex carry a higher risk than others.

These are:
➤ Unprotected penetrative anal sex (anal sex without a condom), and
➤ Unprotected penetrative vaginal sex (vaginal sex without a condom).

Like most things in life, sex is not risk free! Condoms make sex safer. Used properly, condoms can help protect against many STIs, including HIV.

ORAL SEX

Oral sex is a lower risk than penetrative sex. Awareness of oral hygiene is important in assessing the risk around oral sex.

SAFER SEX

Safer sex means preventing the exchange of semen (or pre-ejaculatory fluid), vaginal fluids or blood in any sexual contact. If you have unprotected sex, you may also become infected with other Sexually Transmissible Infections (STIs) like Gonorrhoea, Herpes, Chlamydia and Hepatitis B, or transmit these on to someone else. If you or your partner has an STI, this may increase the risk of becoming infected with HIV.

Safer Sex = Using A Condom Or No Penetration

PROTECT YOURSELF

Like most things in life, sex is not risk free! Condoms make sex safer. Used properly, condoms can help protect against many STIs, including HIV.

DID YOU KNOW THAT …?
➤ It’s best to use a brand of condom which meets Australian quality standards
➤ Most condoms are latex, not rubber
➤ Most condoms are lubricated and roll on easily
➤ Oil and grease can damage the latex, so don’t use oil-based lubricants such as petroleum jelly (e.g. vaseline), butter or other oils or fats to lubricate condoms – ALWAYS use a water-based lubricant such as KY, and Wet Stuff
➤ Other contraceptive methods, such as the pill, do not protect against HIV and other STIs
➤ Condoms come in all shapes and colours – try using ‘extra strong’ condoms for anal intercourse, and
➤ Some condoms marked ‘extra safe’ are lubricated with spermicides such as nonoxynol 9. These chemicals can sometimes cause irritation and as a result may not be ‘extra safe’.

Don’t forget!!
➤ Never re-use condoms, always use a new one
➤ Check the expiry date
➤ Keep a supply handy, where they cannot be damaged by heat, light or damp
➤ Take the condom out of its pack carefully, making sure the foil, fingernails or jewellery do not damage the condom
➤ Make sure you squeeze any air out of the ‘teat’ at the top of the condom before putting it on
➤ Only use water-based lubricants e.g. KY Jelly (not Vaseline, hand cream or butter)
➤ Dispose of condoms carefully. Wrap them in a tissue and place them in a bin
➤ Two condoms don’t increase the safety – friction between the condoms can make this a less safe option.

NEGOTIATING SAFER SEX WITH A PARTNER

Some people may not feel comfortable talking about condoms and safer sex with a partner.

This can happen for lots of reasons, for example:
➤ It’s just too embarrassing to talk about
➤ That by raising the subject they may insult their partner, or
➤ That talking about condoms implies that one or the other has an STI.
Support and information is available to help with this, please refer to the services below. The first step may be to practice negotiating with someone that you trust and feel comfortable with and explore ways of raising the subject of safer sex. Be assertive, be persistent, and practice how to say ‘no condom, no sex’.

**It is important to remember that sexual health is a personal responsibility – don’t rely on your partner to take the initiative and responsibility alone.**

**WHEN TO HAVE A SEXUAL HEALTH CHECK-UP**

- Every 6-12 months, depending on your sexual activity, as part of your total health care
- If you suspect or know that you have been at risk of being infected with an STI or HIV. This includes if you have had unprotected vaginal or anal sex with someone and/or if you have shared drug injecting equipment – remember that for many STIs (including HIV) you may not have symptoms
- If you are aware your partner is, has, or could be, having unsafe sex or injecting with other people, and
- If you are starting a new relationship and you would like yourself and your new sexual partner to be tested.

There are good reasons for you to consider having STI and HIV tests:

- Your health! The earlier something is detected, the sooner it can be treated
- An opportunity to explore issues around any behaviours which may have put you at risk (e.g. sexual and/or drug taking behaviour)
- Early diagnosis of the presence of HIV may provide more treatment options – drug combinations can be effective in inhibiting HIV in your body, and
- You could be passing the infection on to people you care about.

It’s important to find a medical practitioner who has expertise and skills in sexual health.

**You should never be tested for HIV without your full knowledge and consent.**

**If you do decide to have a test then it is important that you receive BBV test discussion before and after testing.**

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The Human Immunodeficiency Virus (HIV) and Hepatitis C Virus (HCV) may be transmitted if you share needles, syringes or other drug using equipment with others. HIV and other Sexually Transmissible Infections (STIs) can be transmitted by having unprotected sex, that is, sex without a condom.

Blood is one of the body fluids which contains enough HIV and HCV to be infectious. Traces of blood may be left in used syringes or needles and in, or on, other injecting equipment such as tourniquets; therefore, sharing any injecting equipment places you at risk.

Other ways HIV and STIs can be transmitted include:
➤ Unprotected penetrative sex (anal and vaginal sex)
➤ Unprotected oral sex, and
➤ HIV positive mother to child transmission, before and during birth or by breastfeeding.

The use of drugs (including alcohol) can affect your judgement and alter your ability to negotiate safe behaviours that may reduce your risk of contracting HIV and HCV.

What’s safe and what’s not?
Safer strategies include:
➤ Not using or injecting drugs
➤ If you do use drugs – administering them in ways that don’t involve injecting, such as smoking or snorting, and
➤ If you do inject, then ALWAYS using new, sterile equipment.

Cleaning equipment and syringes IS NOT A RELIABLE way of preventing infection with HIV or HCV. NEW KIT EVERY HIT!

Staying safe if you do inject
HIV and HCV are blood-borne viruses, as are some other viruses such as Hepatitis B.

If you do inject:
➤ Use your own injecting equipment, this includes the filters, spoon, tourniquets, water or syringes, vein care cream, needles, and
➤ Never share any of your injecting equipment, no matter how healthy the other person seems or how well you know them. You can’t tell by appearances if someone has HIV or HCV and it is possible for people to have HIV or HCV without knowing it.

Sterile injecting equipment and information/advice can be found by phoning the numbers list on the back of this sheet or talking to someone at a Needle and Syringe Exchange Program.

Safe disposal of needles and syringes
There are Needle and Syringe Exchange Programs (NSEP) operating at various locations throughout metropolitan areas.

If you are not able to access a needle exchange venue, then the safest way to dispose of needles is to:
➤ Put the needle or syringe in a puncture proof container with a well secured lid (rigid plastic containers with lids are the best)
➤ Do not use glass (which may break) or drink cans (which may be squashed)
➤ Make sure the container is tightly sealed, and
➤ Put the sealed container into a bin.

What to do if you find a used needle and/or syringe
DON’T PANIC!
1. To avoid unnecessary handling, bring the container to the syringe, not the syringe to the container
2. Pick up the syringe with your hands, using tongs may place you at greater risk if the syringe falls or is flicked in the air
3. Pick up the syringe by the end opposite to the needle. Do not attempt to re-cap the syringe
4. Place the needle or syringe in a puncture proof container as described above
5. Seal the lid and dispose of the container safely.
Needle exchanges prevented 32,000 HIV cases

A new report has found needle and syringe exchange programs have directly prevented tens of thousands of cases of HIV and hepatitis C. Brendan Trembath reports for AM

There are nearly 1,000 sites around the country where clean needles and syringes are handed out to drug users.

Researchers from the University of New South Wales, who authored the report, say it is also saving on health costs. For every $1 spent on needle and syringe exchange programs, state and federal governments save $4.

In the heart of Sydney’s Kings Cross there are two spots where clean needles and syringes are handed out.

The director of the Kirketon Road centre, Dr Ingrid van Beek, says the range of people who come to needle syringe programs is quite surprising.

“Of course [there’s] the more drug-dependent person that you see on the streets, and I think most people assume that’s the only sort of person that injects drugs,” she said.

“But we see people from tradesmen through to professionals, people from the arts. It’s really very wide.”

The report has found the 30 million needles and syringes distributed every year in Australia since 2000 have directly prevented more than 32,000 cases of HIV infection and close to 100,000 cases of hepatitis C, representing a saving in healthcare costs of more than $1 billion.

Associate Professor David Wilson led the team which completed the report.

“Not only do these programs save people from dying, but they also save Australians a load of money,” he said.

“Hepatitis C can lead to cirrhosis of the liver, can lead to cancer and so forth, and eventually one might require a liver transplant. A liver transplant costs between $110,000 and $120,000 just for a single transplant.”

Professor Wilson says the findings should provide good evidence and strong support for needle and syringe programs.

“We’ve also shown that these programs can extend further and there should be a demand for that,” he said.

“We will actually get greater health outcomes and more economic return if we can expand the programs even further, by another 50 per cent or so.”

Dr Van Beek says the report will help the work at Kirketon Road.

“I think it’s really important evidence for us at the community coalface,” she said.

... the 30 million needles and syringes distributed every year in Australia since 2000 have directly prevented more than 32,000 cases of HIV infection and close to 100,000 cases of hepatitis C, representing a saving in healthcare costs of more than $1 billion.

“It’s important for us to be able to explain to the community the benefits to them that these sorts of programs have.”

The report was commissioned by the Federal Government and it will not please everyone.

The Christian Democratic Party opposes needle and syringe exchange programs.

The party’s leader, Fred Nile, did not return several phone calls but in the past the party has said exchange programs have contributed to an increase in the number of addicts and facilitated the spread of Hepatitis C.

But Dr van Beek says the people they see would be injecting anyway. She is convinced it is better to give them clean needles and syringes.

“Before, you know, we just didn’t see these people necessarily because they might have been in back lanes or squats, or other sorts of situations,” she said.

“Now ... they’re coming to a health service and by being able to engage with them of course we are able to also talk to them about their drug dependency, that’s a problem, and to refer them to drug-treatment programs.

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AIDS incubators we can do without: HIV

Twenty-nine years after the announcement of a new pandemic, the world still struggles to come to terms with HIV. Sometimes logic, rationality and compassion have prevailed in our responses, but all too often emotion has triumphed over evidence, writes Alex Wodak

Earlier this month in Sydney the National Centre for HIV Social Research held its biennial conference to review responses to this infection. Former High Court judge Michael Kirby spoke about a recent meeting he attended in The Netherlands where leaders of the world’s religions discussed this challenging epidemic.

Kirby described how most participants were moved by compassion for vulnerable minorities, but a few steadfastly refused to approve any declaration that acknowledged the minority groups at highest risk in the West.

One of the speakers at the Sydney conference wept while describing her two decades of hard work spent trying to achieve more humane responses to drug users. Kirby, noting her tears, rejoiced that there were some among us who still felt great passion about this epidemic at a time of growing HIV fatigue and the increasing dominance of newer concerns and threats.

The number of people in the world newly infected with HIV has started declining. But an estimated 2.7 million people are expected to get infected this year.

Complacency is a problem. When authorities in Queensland and Victoria relaxed their vigilance, decreasing education campaigns and high-level committees, it didn’t take long before HIV infection rates started rising.

Given the volatility of this epidemic, wherever possible we should act decisively with effective programs.

Australia’s first needle syringe programs started almost a quarter-century ago. The community owes a great debt of gratitude to the courageous politicians who took the long-term view. Needle syringe programs have proved highly effective in cutting HIV without increasing injecting drug use. For every dollar spent, they save up to $27 in total costs.

Needle syringe programs have been endorsed by the UN and even controversial Salvation Army figure Brian Watters, former chairman of the Australian National Council on AIDS. Yet there are still critics of these programs, just as there are still sceptics who question the link between smoking and lung cancer.

One area where needle exchange programs have not been permitted in Australia is our jails. Yet if we are to experience an epidemic of HIV starting among injecting drug users and spreading to the community, chances are that’s where it will begin.

Australia has more than 29,000 prisoners, with about half serving sentences for drug-related offences or having a history of injecting drug use. Half of these inmates will inject drugs while in jail.

While in the community they’d share their injecting equipment each year with an average of six people from a small social network. But in jail they’ll share their injecting equipment with many more inmates every time they inject.

It would not be hard for an inmate serving a one-year prison sentence to have more than 100 sharing partners drawn from diverse social, demographic and geographic networks.

Moreover, in the community needles and syringes are used only a few times. But in jail inmates use the same needle and syringe perhaps thousands of times. As the rubber plungers wear out, they’re replaced by a piece carved from the sole of a thong. Jails are a very efficient – and very expensive – way to spread an HIV epidemic.

Why not just keep drugs out of jails? If it was as easy as that, all jails would be drug-free by now. The fact is, the more money spent on detecting drugs in jail and the more severe the penalties for drugs in jail, the higher the price and the more profitable drug trafficking into jails becomes.

Authorities don’t like to admit it, but keeping drugs out of jails unfortunately is not achievable.

Needle syringe programs have proved highly effective in cutting HIV without increasing injecting drug use.

Jail staff are at risk, working in a correctional environment where drugs and injection equipment are available but the same prevention strategies accepted in the community are not accepted there. This means the loved ones and families of jail staff and officers are also at risk. Consequently, this isn’t just a public health concern. It’s also an important occupational health and safety issue.

Yet the prison officers’ unions have been implacably opposed to jail needle exchange programs. So far no state or territory government has been willing to take them on.

The unions argue that a NSW prison officer was stabbed with a needle and syringe containing HIV-infected blood. Tragically, in 1990 prison officer Geoffrey Pearce contracted HIV and later died from this infection.

All this is true. But the missing fact is that this happened in a jail where there was no needle exchange program. If Pearce had been stabbed in a jail with a needle exchange program, it’s possible he might still be alive.

Today, 77 countries have needle exchange programs and programs are provided in more than 60 prisons in 11 countries. The same sorts of benefits have been reported in jails as in community programs. No serious adverse complications have been reported from any jail needle exchange program.

How can Australia ensure that rationality prevails over emotions in deciding how to protect jail inmates, prison officers, their loved ones and the general community?

Alex Wodak is a physician, director of the alcohol and drug service at Sydney’s St Vincents Hospital and president of the Australian Drug Law Reform Foundation.

The HIV antibody test is a blood test to detect HIV infection. Some common questions are answered in this fact sheet from the AIDS Action Council of the ACT.

HIV stands for ‘Human Immunodeficiency Virus’. HIV is transmitted from one person to another in bodily fluids such as blood, semen, vaginal secretions and breast milk.

Common causes of HIV infection include unprotected sex or sharing drug-injecting equipment with a person who has HIV. HIV infection causes AIDS (Acquired Immune Deficiency Syndrome) by damaging the immune system and making the body vulnerable to a range of infections.

What is the HIV antibody test?
The HIV antibody test is a blood test to detect HIV infection. A small amount of blood is taken from you and sent to a laboratory where it is tested for antibodies to HIV. HIV antibodies are produced by the immune system in response to HIV infection. A person’s HIV antibody status is usually determined by two different blood tests. If the first test (called the ‘ELISA’ test) is ‘positive’, and this is then confirmed by the second test (called the ‘Western Blot’ test), an ‘HIV positive’ result is recorded.

The use of the two different tests gives a very reliable result.

When to consider having an HIV antibody test
You may consider having an HIV antibody test for several reasons. You may have had unprotected sex, or shared drug injecting equipment with, someone who may be HIV positive. Perhaps you are pregnant, or starting a new sexual relationship. Some people seek a test because they feel unwell and suspect HIV infection is the cause. Your practitioner can talk to you about your reasons for seeking a test and explain the various risk factors for HIV infection. This can help you to decide whether or not you need to have a test.

What are the benefits of testing?
Testing and confirming an ‘HIV negative’ result can save you worry and anxiety about your HIV status. There may be medical advantages in knowing an ‘HIV positive’ result sooner rather than later. It may be possible to preserve your immune system more effectively with earlier intervention to treat HIV infection. Early detection and treatment intervention can also reduce the risk of HIV positive women passing on the virus to their babies during pregnancy, at birth, or through breastfeeding.

If you test and get an ‘HIV positive’ result, you are also able to ensure that you take steps to reduce the risk of passing on HIV to others.

Worried?
It is common for people to feel anxious, worried or afraid about having a test, and a possible ‘HIV positive’
The test results

It can take more than a week for test results to come back from the laboratory. It is recommended that your practitioner give the test results to you in person, even when the result is 'HIV negative'. Your practitioner should be able to explain the full implications of your test result.

In a small number of cases, a ‘negative’ test result may need to be confirmed by a re-test at a later date. Your practitioner will explain to you the reasons for this if a re-test is necessary.

What about confidentiality?

The HIV antibody test is confidential. Your practitioners should be able to explain confidentiality procedures and answer any concerns about this before you decide to take an HIV antibody test.

PEP (Post Exposure Prophylaxis)

PEP is a course of drugs started as soon as possible after a possible exposure to HIV infection. It is thought that PEP may reduce the risk of HIV infection occurring after exposure to HIV infection. Exposure can result from unprotected sex or a broken condom with a partner who is HIV positive, sharing drug injecting equipment or ‘needlestick’ injury.

PEP should be started as soon as possible following exposure, preferably within 1-2 hours, and certainly within 24-72 hours of exposure. PEP is available from hospital emergency departments outside normal business hours.

This fact sheet is designed to provide some basic information about the HIV antibody test and answer some common questions. It is not a replacement for medical advice, and your medical practitioner should be able to answer further questions about your specific circumstances.

What is involved?

The HIV antibody test is a blood test. A small amount of blood is taken from you and sent to the laboratory where it is tested for antibodies to HIV.

Ideally, your practitioner should provide counselling before you are tested and when giving your test results. Counselling beforehand can help you to decide whether or not you need to have a test. Your practitioner can talk to you about what the test is for, what it would mean to you if the test were either positive or negative, and about safe sex and, if relevant, safe injecting. They can also help you to get support while you are waiting for the test result.

Where can you get tested?

Free and confidential HIV testing is available from the Canberra Sexual Health Centre at The Canberra Hospital. Testing can also be organised by your doctor.
Chapter 3

Treatment and living with HIV/AIDS

HIV TREATMENT

Treatment options have a huge impact on the lives of people with HIV and their carers. The Better Health Channel provides some facts

Drug treatments for HIV offer many people the chance to control the virus and stay healthy for much longer. Treatment options have had a huge impact on the lives of people with HIV and those who care for them. They can reduce AIDS-related illnesses, admissions to hospital and death rates. Treatment has also enabled some people with HIV to go back to work and plan for the future.

HIV drug treatment is known as combined antiretroviral therapy (CAR) or, sometimes, highly active antiretroviral therapy (HAART). Treatments do not work equally as well for everyone. They can have side effects and some people develop what is called drug resistance. Drug treatment does not prevent transmission of the virus.

TYPES OF TREATMENT

There are five main groups of drugs involved:

- Nucleoside reverse transcriptase inhibitors (NRTIs)
- Non-nucleoside reverse transcriptase inhibitors (NNRTIs)
- Nucleotide reverse transcriptase inhibitors
- Protease inhibitors
- Fusion inhibitors.

Usually, three different drugs from at least two of these groups are taken together, two to four times a day. Some tablets now contain two or three different drugs. The advantage of these combination drugs is that people do not need to take as many tablets each day.

HOW TREATMENT WORKS

When the HIV virus gets into a body cell, it generally starts to make copies of itself. These copies then spread out of that cell and into another. Drug treatments control the virus by interfering with the chemicals it uses to make copies of itself inside the body cells. The fusion inhibitors stop the HIV binding onto a new cell so it can no longer enter.

Over time, the virus can become resistant to the drugs, which means that they won’t work as well. The treatment may then have to be changed to a different combination of drugs.

People taking drug treatment for HIV will probably need to take it for the rest of their lives. Stopping drug treatment, even for short periods of time, can cause the virus to become resistant to those drugs.

People taking drug treatment for HIV will probably need to take it for the rest of their lives. Stopping drug treatment, even for short periods of time, can cause the virus to become resistant to those drugs.

Drug treatment does not work well for everyone. Even when it is working well, it cannot control all of the virus, so the person will still have HIV in their body. Treatment does not stop someone with HIV from being able to pass on the virus through unprotected sex or sharing needles or injecting equipment.

THE IMPACT OF TAKING HIV TREATMENT

HIV treatment is usually taken in tablet form. The tablets have to be taken at the right times, because missing doses makes it more likely that the virus will become resistant. Some tablets have to be kept in the fridge and some cannot be taken with certain kinds of food. The person with HIV has to be very organised about remembering to take tablets and fitting them in with their meals.
Tablets may have to be taken in public, such as at work. People may feel very uncomfortable about taking tablets for HIV at work. Others may prefer to tell their work colleagues so they can learn a little about HIV and provide support. Some combinations of drugs may be more suitable if they don’t need to be taken during working hours.

**SIDE EFFECTS**

Some of the most common side effects of HIV treatment are:

➤ Nausea (feeling sick)
➤ Diarrhoea
➤ Tiredness
➤ Difficulty sleeping
➤ Headaches
➤ Peripheral neuropathy (problems with the nerves in the legs, such as pain)
➤ Skin rashes
➤ Lipodystrophy (changes in the way body fat is distributed around the body).

People taking HIV treatment have to go to their doctor at least every three months. They need to have regular blood tests to make sure that the treatment is working and that it is not having serious side effects.

**COMPLEMENTARY THERAPIES**

Some people with HIV use other types of therapy, either alone or with their drug treatments.

It is important to tell your HIV specialist doctor if you are seeking out alternative therapies, as some drugs and treatments may have contraindications or unwanted side effects.

Some of the most popular complementary therapies are:

➤ Vitamin and mineral supplements
➤ Massage
➤ Meditation
➤ Herbal remedies
➤ Traditional Chinese medicine
➤ Acupuncture.

**NEW DRUG TREATMENTS**

New drugs and types of drugs are being developed all the time. Trials of these treatments are being conducted in specialist HIV/AIDS treatment and research centres.

**WHERE TO GET HELP**

➤ A doctor who specialises in HIV.
➤ HIV and Sexual Health Connect Line, Tel. 1800 038 125.
➤ HIV, Hepatitis and STI Education and Resource Centre, Alfred Health, Tel. (03) 9076 6993.
➤ Melbourne Sexual Health Centre, Tel. (03) 9341 6200, 1800 032 017 or TTY (for the hearing impaired), (03) 9346 8619.
➤ Positive Women, Tel. (03) 9076 6918.
➤ Straight Arrows (heterosexual men, women and children), Tel. (03) 9076 3792.
➤ Victorian AIDS Council/Gay Men’s Health Centre (Treatment officer), Tel. (03) 9865 6700 or 1800 134 840.
➤ Victorian HIV/AIDS Service, Alfred Health, Tel. (03) 9076 6076.
➤ Victorian Infectious Diseases Service, Royal Melbourne Hospital, Tel. (03) 9342 7212.

**THINGS TO REMEMBER**

➤ Deciding to take treatment is a big lifestyle decision. Spend time to think through the issues.
➤ Discuss treatment with your doctor and with other HIV positive people. Early treatment is recommended.
➤ HIV treatment does reduce AIDS and death rates.
➤ HIV treatment can cause side effects and may be less affective for some people.
➤ Treatment does not prevent the virus from being passed to other people.

*This page has been produced in consultation with, and approved by HIV, Hepatitis & STI Education + Resource Centre www.hivhepsti.info*

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Data from an AIDS vaccine trial in Thailand was recently presented to scientists for the first time, confirming the prototype as only a partial shield against HIV but still a pioneering achievement. A report from AFP Global Edition

Volunteers who received the vaccine had a 31.2 per cent reduction in the risk of infection by the human immunodeficiency virus (HIV), Thai and US researchers told an international conference.

It marks the first piece of solid good news in the quest for a vaccine against AIDS, which has claimed more than 25 million lives since 1981 and left some 33 million people infected, a tally rising by around 7,400 new cases per day.

The researchers cautioned that the vaccine was still far from the mark — generally considered to be at least 50 per cent protection — by which it could be distributed to the public. But, they said, it was an important morale-booster, proving there were ways to prime the immune defences against a stealthy foe.

“From a scientific standpoint, it’s definitely a breakthrough. But this is definitely not a public-health breakthrough,” Nelson Michael of the US Military HIV Research Programme, who co-led the trial, told AFP.

He added, though: “There was a lot of introspection in the field, up until these results were initially announced and today in detail, about whether or not you would ever have a vaccine that worked.

“I think that those doubts have been dispelled to some degree. The question now is can we actually make one that can become a public-health tool.”

It marks the first piece of solid good news in the quest for a vaccine against AIDS, which has claimed more than 25 million lives since 1981 and left some 33 million people infected, a tally rising by around 7,400 new cases per day.

Results from the three-year, 105-million-dollar trial were presented to the media in Bangkok on September 24, but had to cross a key credibility hurdle in the scientific community. The study was published simultaneously in the peer-reviewed New England Journal of Medicine as Michael and his Thai counterpart, Supachai Rerks-Ngarm, made their presentation at the AIDS Vaccine 2009 conference in Paris.

The study recruited 16,395 HIV-negative volunteers, of which 8,197 received the vaccine while the 8,198 others received a harmless lookalike called a placebo. The vaccine combines two vaccines, ALVAC and AIDSVAX, that were designed some 15 years ago and in separate trials were previously found to be safe but of negligible effectiveness.

The conclusion of 31.2 per cent effectiveness derives from the number of people who became infected: 51 in the vaccinated group, against 74 in the placebo group. The researchers acknowledged that the number of infections overall was low, but said the outcome was still statistically significant.

Protection also appears to be rather lower for people at higher risk of HIV infection and seemed to wane after the first year following vaccination, according to the trial data.

“This is a vaccine with a limited or modest effect. It was designed for use in Thailand, so we don’t know whether it can be used in other parts of the world. It was designed and tested in a population that is at lower risk of HIV infection. Whether it can be used in high-risk populations is also unknown.”

Seth Berkley, president of a New York-based advocacy group, the International AIDS Vaccine Initiative (IAVI), said the vaccine field was now generating “a lot of excitement”.

In addition to the Thai vaccine, scientists were advancing on identifying potent antibodies that could intercept the AIDS virus as soon as it entered the body, he said. Two big worries are prioritising this sudden flurry of knowledge and mustering funds for AIDS vaccine research, which fell 10 per cent last year to 868 million US dollars, he said.

Berkley said the mounting cost of keeping millions of people alive on anti-HIV drugs highlighted the need for a vaccine.

“We can’t treat our way out of this epidemic,” he said.

THE SEARCH FOR A CURE

* A cure for AIDS could be found within the next decade, according to some experts
* Many researchers believe the best hope for eradicating HIV infection lies in combining antiretroviral treatment with drugs that flush HIV from its hiding places. The latest generation of anti-HIV drugs can’t attack HIV when it is hiding in a resting T-cell
* Other promising approaches included using gene therapy to manipulate patients’ cells to make them resistant to HIV, bone marrow transplantation, working out how to wake up the ‘sleeping virus’ and then kill it, and finding ways of boosting AIDS patients’ immune systems
* Another major challenge would be to make such a cure accessible and affordable.

Sources:
BEING HIV POSITIVE

Finding out you are HIV positive may be a shock but there are choices you can make to help you live a full and healthy life. You can remain sexually active, continue working, be involved in sport and have children.

Along with the right to these choices you also have a responsibility, morally and legally, not to put anyone else at risk of getting HIV.

HEALTH

Choice
A person with HIV has the same rights to appropriate care and treatment as anyone with a serious illness. You should have a doctor you trust and feel comfortable with, as you may need to see them regularly.

You also need to stay as healthy as possible, so a good diet and regular exercise are both important. Ideally, quit smoking and reduce your alcohol and other recreational drug use.

It is important to have a good support network. A natural reaction may be to become anxious and depressed, so you may need someone you trust to talk to.

To stay healthy, it’s a good idea to talk with your doctor about getting vaccinated against some infections such as the flu, and hepatitis A and B. However, some other vaccinations are not recommended for people with HIV.

Responsibility
If you need medical attention, you should tell your doctor and dentist that you have HIV so they can ensure that you receive the right treatment.

If you are thinking of donating blood, sperm or any other body tissue or organ, you need to discuss this with your doctor.

HOME

Choice
You can live quite safely with other people including sharing the kitchen and bathroom as usual. You can’t get HIV just by living with someone who is HIV positive.

Responsibility
Family members, housemates and friends are not at risk unless you have unsafe sex or blood-to-blood contact with them. Never share razors, toothbrushes or anything else that could have your blood on it. Be extra careful with blood spills and clean them thoroughly.

WORK

Choice
You can still work, and no one can discriminate against you because you have HIV.

Responsibility
There are a small number of jobs where your HIV status may affect what you can do or the way you work (for example, where there is regular exposure to blood or other bodily fluids).

Local support groups (e.g. AIDS Council, substance users’ group) can help you find out if your HIV will affect your work.
**LEISURE AND SPORT**

**Choice**
You can participate as usual in sport and leisure activities.

**Responsibility**
You may have heard of the ‘blood rule’ in sport. This means if you get cut or bleed in any way while playing sport, stop playing until the bleeding ceases and the wound is cleaned and well covered.

**SEX**

**Choice**
You can still have a satisfying sex life.

**Responsibility**
You have a responsibility to protect others from HIV. You must tell your sex partner that you have HIV before you have sex, and always use a condom and lubricant when having sex. If something goes wrong and you have unsafe sex or if the condom breaks, there are special anti-HIV drugs that may lower the risk of your partner getting HIV.

These drugs (PEP or post-exposure prophylaxis) need to be taken as soon as possible and within 72 hours of having sex.

Having unsafe sex can also put you at risk of getting other infections.

**CHILDREN**

**Choice**
You can still have children if you wish.

**Responsibility**
HIV positive men and women who want to have children need to talk to a specialist doctor before trying to have a baby. There are ways of lowering the chance of both your partner and your baby getting HIV.

**DRUGS**

**Choice**
If you choose to take recreational and illegal drugs they can have harmful effects on your health and there may be legal implications. There is less risk of HIV transmission if you swallow, smoke, snort, sniff or use suppositories to take drugs instead of injecting the drug.

**Responsibility**
If you inject drugs never share needles or syringes. If you must share injecting equipment this may put you at risk of getting other infections. Before you share equipment with others, you must tell them that you have HIV. There are cleaning precautions you should take for shared injecting equipment.

Along with the right to choices you also have a responsibility, morally and legally, not to put anyone else at risk of getting HIV.

If you snort drugs or use suppositories with others, use your own equipment (such as a straw or suppository applicator) and keep it for your use only.

PEP or post-exposure prophylaxis may help prevent someone getting HIV in the case of an accident or injury involving a needle with HIV positive blood. PEP drugs need to be taken as soon as possible and within 72 hours of the injury.

**LAW**

**Choice**
By law, you can’t be discriminated against or treated differently from others in the areas of work, housing and the provision of goods and services. With very few exceptions, no one can tell others about your HIV status. If you think you have been treated differently or that your privacy has been broken, you can get help from some legal and other services.

**Responsibility**
By law, the Department of Health has to protect the public from certain infectious diseases, including HIV. The Department’s Case Management Program exists to help HIV-positive people who put others at risk of infection. They have the legal power to stop these people from acting in an unsafe way.

If you know you have HIV and you infect another person, then you can be charged by the police with grievous bodily harm. This includes having unsafe sex or sharing needles and not telling your partner you have HIV. If found guilty, you could go to jail for several years.


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Innovating for life: HIV/AIDS

New medicines are playing a significant part in achieving good health outcomes, explains pharmaceutical industry key body, Medicines Australia

PETER’S STORY

Peter was diagnosed with HIV (Human Immunodeficiency Virus) in January 1986, pretty much soon after the first HIV tests became available. But what originally could have been a death sentence has become for Peter a life-affirming experience. “Every extra day is fantastic,” Peter says. And he has had many such days since 1986 with the help of innovative therapies, the support of friends, family and doctors and his positive attitude and practical approach to dealing with HIV.

Time to retire

Soon after diagnosis, Peter was prescribed AZT (azidothymidine), the first antiviral treatment for HIV. However, AZT was far from perfect and had many side effects. By 1993, Peter’s virus had become resistant to all available treatments and his health was slowly going downhill. Peter was 37 when his doctor told him it was time to retire from work.

“Don’t expect to reach 40,” he was told and with that, Peter went home to die. He had worked for 18 years in the banking industry, reaching a senior position which demanded, as he says, “110%.”

Now it was time to take stock. Peter took a month off work with his T-cell (immune system white cells) count plummeting. Peter finished work in October 1993, cashed in his superannuation and with his partner, took off on a final, first-class trip around the world.

New treatments

In early 1994, new treatments became available and although Peter started on them, he was still preparing for the end. But Peter’s health improved and for the next two years, despite bouts of crippling side effects from some of his treatments, Peter says, “I was bored and broke.” Ironically, his superannuation was all but gone and his health was coming back.

New direction

Peter celebrated his 40th birthday in style and then in 1997 returned to work. But instead of a high-powered banking career, he decided to try a new career. Living with HIV had taught Peter that if a situation or a job doesn’t work out, don’t waste time, move on and try something new.

A questioning attitude

Peter is justifiably proud of being among the first Australian gay men living with HIV who have worked on surviving their disease by constantly asking questions and being prepared to engage with their doctors and trying new treatments – some of which gave them sickening side effects.

The questioning attitude of Peter and others has led doctors, researchers and pharmaceutical companies on the journey over the last decades of experimenting with new treatments and combining them. This should ultimately help them work towards a vaccine.

A fitting celebration

Peter’s goal to reach his 50th birthday was fulfilled with his dream party. He and his partner organised a family group of eight friends to fly to Melbourne for a night of fine food and wine on a gloriously restored vintage tram restaurant. Thanks to a positive attitude and a combination therapy with no less than 11 different medicines, Peter had reached his goal of 50 with a wonderfully fitting celebration. That was now a few years ago and Peter continues to live positively with HIV, working towards his next goals in life.

MORE AUSTRALIANS SURVIVING AIDS

HIV-related deaths in Australia

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<th>Deaths</th>
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<td>1994</td>
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</tr>
<tr>
<td>1996</td>
<td>515</td>
</tr>
<tr>
<td>2004</td>
<td>91</td>
</tr>
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<td>2007</td>
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NB: HAART Introduced in 1996.
Source: National Centre for Epidemiology and Research Annual Report 2008

Probability of death at 5 years after becoming HIV positive, Australia

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<th>35-44 yr</th>
<th>45+ yr</th>
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<td>25%</td>
<td>20%</td>
<td>15%</td>
<td>10%</td>
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What is HIV?

The Human Immunodeficiency Virus (HIV) is an infection which suppresses the immune system. This leaves the person living with HIV susceptible to infection from many other organisms. The cause of death in a patient with HIV is usually as a result of these opportunistic infections and not of HIV itself.

Acquired immunodeficiency syndrome (AIDS) is the most severe form of HIV infection. This occurs when the person has at least one complicating illness that would normally be controlled by the body’s immune system.

Transmission of HIV

The HIV virus is a tiny package of proteins and genes held together by a membrane as fragile as a soap bubble. Outside the body, it rapidly disintegrates and becomes harmless. Infection is virtually impossible without blood-to-blood contact. Transmission is most commonly through sexual contact and sharing needles.

Once inside the body, HIV begins to multiply within white blood cells called CD4. These cells normally help coordinate the body’s immune response and as the infection progresses over years these cells are destroyed and the CD4 count falls, reducing the ability of the immune system to fight off infection. Someone living with HIV can often live for years without any ill effects providing their body replaces the CD4 cells destroyed by the virus. This period of survival can be extended with antiviral drugs.

Treatment for HIV

The first anti-HIV drug, AZT (azidothymidine), was introduced in Australia in 1987 and, along with subsequent antiviral drugs, has helped to dramatically extended the life expectancy of people living with HIV. The current drugs do not cure the infection, but extend the time before the development of AIDS.

Pharmaceutical companies and other researchers are working towards improving the design of medicines which will mean that HIV/AIDS will become a manageable disease with tolerable side effects.

In 1995, more than 50,000 people died from the effects of HIV/AIDS in the US. In 1996, the first protease inhibitor was introduced. In 2006 the deaths fell to under 37,000. Similarly in Australia, with the introduction of highly active anti-retroviral therapy, the numbers of deaths fell from 734 in 1994 to just 67 in 2007.

Introduction of combination therapy

The existing medicines for HIV work by disrupting the replication process of the virus long enough for the body to replace its crucial supply of infection-fighting CD4 (T4) cells.

In 1996, the first protease inhibitors were introduced. Shortly thereafter it was discovered that taking two or more different medicines at the same time was highly effective in inhibiting the activity of the virus.

Thus combination therapy was introduced. This Highly Active Antiretroviral Therapy (HAART) has been hugely successful and is responsible for a dramatic reduction in HIV mortality in Australia.

Unfortunately, existing therapies have drawbacks. Up to a third of patients can suffer side effects and some people living with HIV have developed resistance to these medicines.

In Australia, we are fortunate to have a system which alleviates the cost of these drugs, as it has been estimated that every HIV infection in Australia costs the healthcare system over $100,000.

Future treatments

New treatments like the Non-Nucleotide Reverse Transcriptase Inhibitors (NNRTI) and new combination treatments are giving people hope and many are defying early predictions and living relatively normal lives. Medical researchers are working to discover new treatments and hope to discover one that will keep HIV dormant in the body. This will convert what would otherwise have been a death sentence into a chronic disease similar to Hepatitis C or diabetes, whose side effects can be largely controlled.

Ultimately, the treatment goal for HIV is a vaccine as current antiviral medicines can only slow the development of HIV into AIDS. Many researchers are currently working towards an HIV vaccine, but this is proving difficult to achieve and may not be available for many years.
**DISCRIMINATION**

Discrimination is when someone is treated differently because of a particular characteristic that they may possess that others do not i.e. being HIV positive. There are several different types of discrimination including direct and indirect discrimination.

**DIRECT DISCRIMINATION**

Direct discrimination means treating someone unfairly based on the fact that they are HIV positive. An example of this might be when an employer refuses to hire someone because of their HIV positive status.

**INDIRECT DISCRIMINATION**

Indirect discrimination is described as equal treatment that produces an unlawful outcome. An example of this would be if an employer requires all employees to donate blood. This would discriminate against someone with HIV as it is against the law for them to do so.

There are many laws – both Federal and State, which govern the circumstances in which discrimination is deemed unlawful.

It is important that if you feel you have been discriminated against because of your HIV status, you seek further information from places such as the Equal Opportunity Commission or AIDS Council in your state.

**CONFIDENTIALITY**

The professional codes of doctors and other health workers require them to keep the personal and medical information of patients and clients confidential. This is important in relation to HIV (and other blood-borne viruses such as hepatitis C) primarily because of the stigma and discrimination faced by people who are known or believed to be HIV (or hepatitis C) positive.

Other people, such as employers and landlords, are not subject to professional codes like those applying to health care workers. However, even if there is no professional code that covers your particular area of concern, there could be privacy laws that protect your personal information.

It is very important as an HIV positive person to be aware of both your rights and obligations.

**DISCLOSURE**

Disclosure means whether or not you choose to let people know that you are HIV positive, who you tell, and what you say.

Remember:

You are under no obligation to tell anyone that you are HIV positive unless:

- You are filling out a form to donate blood
- You are applying for Health Insurance or Life Insurance.

By law you are required to advise your sexual partners if you are HIV positive and having unprotected sex. This law also applies to any Sexually Transmissible Infections (STIs).

Take your time thinking about whether or not to disclose, and who to tell – these are important decisions and may have an impact on your relationships with your partner, family, friends and others with whom you come into contact.

There are many agencies that provide information and support for HIV positive people (see list on page 59).
EXPLORING ISSUES

ABOUT THIS SECTION

‘Exploring issues’ features a range of ready-to-use worksheets relating to the articles and issues raised in this book.

The activities and exercises in these worksheets are suitable for use by students at middle secondary school level and beyond.

As the information in this book is gathered from a number of different sources, readers are prompted to consider the origin of the text and to critically evaluate the questions presented.

Does the source have a particular bias or agenda? Are you being presented with facts or opinions? Do you agree with the writer?

The types of ‘Exploring issues’ questions posed in each Issues in Society title differ according to their relevance to the topic at hand.

‘Exploring issues’ sections in each Issues in Society title may include any combination of the following worksheets: Brainstorm, Research activities, Written activities, Discussion activities, Quotes of note, Ethical dilemmas, Cartoon comments, Pros and cons, Case studies, Design activities, Statistics and spin, and Multiple choice.

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WORKSHEETS AND ACTIVITIES
Brainstorm, individually or as a group, to find out what you know about HIV/AIDS.

1. What is Human Immunodeficiency Virus (HIV)?

2. What is Acquired Immune Deficiency Syndrome (AIDS)?

3. Define the following terms and consider how their meanings differ from one another.
   - **Virus:**
   - **Retrovirus:**
   - **Antibody:**
   - **Epidemic:**

4. How is HIV transmitted?

5. How is HIV transmission prevented?

6. How does HIV lead to AIDS?
RESEARCH ACTIVITIES

1. Research the history of the HIV/AIDS pandemic and provide an overview of important developments since the first detection of AIDS to the present. Consider the following categories of events: the spread of AIDS; science and prevention; national action; treatment; and global action.
Complete the following activities on a separate sheet of paper if more space is required.

1. Who are the key groups of people at risk of contracting HIV in Australia?

2. Choose one of the population groups most at risk of acquiring HIV in Australia and design a targeted health promotion campaign aimed at preventing further transmission within that group. It may be in the style of a full-page newspaper advertisement or a poster, using text and images. What are the practical and lifestyle issues for this population? How would you highlight the risks and encourage safe behaviours?
1. Imagine you are HIV positive, and look at the choices you would need to make to ensure that you live a full and healthy life. Discuss the implications of your HIV status on the following areas of your life: your health care and treatment; living at home with other people; your work; leisure and sport participation; your sex life; having children; illegal drug use; and your legal rights and responsibilities in relation to disclosure of your condition and control of its transmission.
EXPLORING ISSUES worksheets and activities

Complete the following multiple choice questionnaire by circling or matching your preferred responses. The answers are at the end of the next page.

1. What is HIV?
   a. Bacterium
   b. Virus
   c. Fungus
   d. Hereditary condition

2. What is the difference between HIV and AIDS?
   a. There is no difference between HIV and AIDS
   b. HIV is a virus and AIDS is a bacterial disease
   c. HIV is the virus that causes AIDS

3. Is there a cure for AIDS?
   a. No
   b. Yes
   c. Yes, but only on prescription

4. When was the terms ‘AIDS’ first defined?
   a. 1976
   b. 1979
   c. 1982
   d. 1984

5. Which practice is most at risk of causing HIV infection?
   a. Kissing
   b. Unprotected vaginal sex
   c. Anal sex with a condom
   d. Using the same toilet as an HIV-infected person

6. What is abstinence?
   a. Having only one sexual partner
   b. Loss of virginity
   c. Refraining from sex
   d. Having only safe sex

7. Can insects transmit HIV or AIDS?
   a. Yes
   b. No
   c. Only mosquitoes

8. How can you tell if someone has HIV or AIDS?
   a. They are openly homosexual
   b. They look like a drug user
   c. There is no easy way to tell
   d. They look tired and ill
Complete the following multiple choice questionnaire by circling or matching your preferred responses. The answers are at the end of this page.

9. Can you get HIV or AIDS from sharing a cup with an HIV-infected person?
   a. Yes
   b. No
   c. Yes, but only if you do not wash the cup

10. Respond to the following statements by circling either ‘true’ or ‘false’:
   a. You can become infected with HIV by sleeping around.
   b. Injecting drugs will give you HIV.
   c. You can get HIV from toilet seats.
   d. If you are fit and healthy you won’t become infected with HIV.
   e. Married people don’t become infected with HIV.
   f. If you stick with one partner you won’t become infected with HIV.
   g. Women are safe from HIV as long as they use a contraceptive.
   h. You can become infected with HIV from sharing toothbrushes.
   i. If you have sex with people who look healthy, you won’t become infected with HIV.
   j. If you only have sex with people you know, you won’t become infected with HIV.
   k. Anal sex between two men is more risky than anal sex between a man and a woman.
   l. You can become infected with HIV from kissing.
   m. A man can become infected with HIV if he has oral sex with a woman.
   n. A woman can become infected with HIV if she has oral sex with a man.
   o. Condoms can stop you becoming infected with HIV.

MULTIPLE CHOICE ANSWERS

1. True – condoms used properly will help to prevent HIV transmission – but they are not 100% safe.
2. True – HIV is present in seminal fluid, so transmission is possible.
3. False – no evidence of transmission in this way although occasional cases of HIV infection following unprotected sex between two men who have had anal sex.
4. False – same risk as ordinary sexual transmission of HIV.
5. False – most people with HIV will look healthy; so looks are a useless way of assessing risk.
6. False – no evidence of transmission via this route.
7. False – any condom offers some protection and every condom can offer complete safety.
8. False – depends on the person involved, their sexual practices, their reproductive capacities, and whether he or she is unprotected sex.
9. True – depends on the person involved, what they did before they met, whether he or she is unprotected sex, unless he or she is monogamous.
10. False – depends on the person involved, what they did before they met, whether he or she is unprotected sex.

MULTIPLY CHOICE ANSWERS

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Consider the visual and textual content of the cartoon below and comment on the themes it raises involving HIV positive living.

Key issues include community attitudes (discrimination, stereotyping), living a healthy life (coping with illness, the effectiveness of treatment), and responsible lifestyle practices (safe sex, etc).
More than 25 million people around the world have died of AIDS-related diseases. (p.1)

33.4 million people around the world are now living with HIV. (pp.1,11)

At the end of 2007, there were 9 countries in Africa where more than one tenth of the adult population aged 15-49 was infected with HIV. (p.1)

There are now an estimated 22 million Africans living with HIV/AIDS. (p.1)

The total number of people living with HIV in Asia is thought to be around 4.7 million. (p.2)

The AIDS epidemic in Eastern Europe and Central Asia is rapidly increasing. In 2008, some 1.5 million people were living with HIV, compared to 900,000 in 2001. (p.2)

Around 2 million people were living with HIV in Latin America at the end of 2008. (p.3)

In the United States, more than a quarter of people diagnosed with HIV in 2006 were female, and more than three quarters of these women were probably infected as a result of heterosexual sex. (p.3)

The name ‘AIDS’ – Acquired Immune Deficiency Syndrome was created in 1982. (p.5)

Scientists identified HIV (initially called HTLV-III or LAV) as the cause of AIDS in 1984. (p.5)

The number of new HIV infections each year has been declining globally for close to a decade. After peaking at 3.4 million in 1998, incidence dropped to 2.7 million in 2007. (pp.7,11)

It is estimated that 2 million deaths due to AIDS-related illnesses occurred worldwide in 2008. (p.11)

Sub-Saharan Africa remains the most heavily affected region, accounting for 71% of all new HIV infections in 2008. (p.12)

HIV is an uncommon type of virus called a retrovirus, and drugs developed to disrupt the action of HIV are known as antiretrovirals or ARVs. (p.13)

One study from Stanford University suggests that the PEVAR program averted 1.2 million deaths and in its first 4 years (2003-07) cut the HIV/AIDS death toll by 10.5% in targeted countries. (p.17)

Over 25 years since the emergence of the HIV/AIDS virus, some 25 million people have perished from AIDS. (p.18)

In 2008, in low- and middle-income countries, 45% of pregnant women living with HIV received antiretroviral drugs to keep them from passing the virus to their babies. (p.19)

Around the world, an estimated 15 million children have lost one or both parents to the HIV/AIDS epidemic – 12 million of them live in sub-Saharan Africa. (p.19)

The syndrome of AIDS is caused by HIV. A person infected with HIV may not necessarily progress to having AIDS. (p.22)

Unprotected sexual contact or sharing drug injecting equipment are the most common causes of HIV transmission. (p.23)

There is no evidence of transmission of HIV through ordinary social contact. HIV is not transmitted through sharing of plates, cups, cutlery, swimming pools or toilets, kissing, coughing, sneezing or spitting. (p.24)

By 31 December 2009, 29,395 diagnoses of HIV infection, 10,446 diagnoses of AIDS and 6,776 deaths following AIDS had occurred in Australia. (p.24)

The number of new HIV diagnoses in Australia in 2009 was 1,050 – the highest number of new HIV infections since 1993. (p.24)

HIV infection is detected by a blood test for HIV antibodies. (pp.25,26)

There are 2 known types of HIV: HIV-1 and HIV-2, as well as numerous subtypes of the virus. (p.26)

Globally, HIV-1 is the most common type of virus, with HIV-2 infection found most commonly in Africa. (p.26)

HIV damages the body’s immune system, making the body vulnerable to other diseases and infections. (p.26)

HIV antibody tests are more than 98% effective and reliable, but it can take up to 3 months for high enough levels of HIV antibodies to be detected in the blood. (p.27)

HIV can be transmitted from one person to another through sexual activity involving bodily fluids and also through contact with infected blood. (p.27)

A woman who is infected with HIV can pass HIV to her baby during pregnancy, during delivery or via her breast milk if she breastfeeds. (p.27)

Research has also shown that HIV is not spread through faeces, or through bodily fluids such as sweat, tears or urine. (p.27)

There is no ‘cure’ for HIV infection or AIDS. However, there are treatments available to help combat the damage to the body being done by HIV. (p.28)

There are 5 main types of antiretroviral therapy: nucleoside/nucleotide reverse transcriptase inhibitors (NRTIs), non-nucleoside reverse transcriptase inhibitors (NNRTIs), protease inhibitors (PIs), fusion inhibitors, and integrase inhibitors. (pp.28-29,41)

The Human Immunodeficiency Virus (HIV) and Hepatitis C Virus (HCV) may be transmitted if you share needles, syringes or other drug using equipment with others. (p.36)

The 30 million needles and syringes distributed each year in Australia since 2000 have directly prevented more than 32,000 cases of HIV infection and close to 100,000 cases of hepatitis C. (p.37)

Australia has recorded less than 30,000 diagnoses of HIV since records began, and there are about 1,000 cases of new transmission detected every year. (p.40)

People taking drug treatment for HIV will probably need to take it for the rest of their lives. (p.41)

By law, HIV positive people can’t be discriminated against or treated differently from others in the areas of work, housing and the provision of goods and services. (p.45)

Deaths due to AIDS have dropped by over 90% since the introduction of new medicines to combat HIV. (p.47)

By law you are required to advise your sexual partners if you are HIV positive and having unprotected sex. (p.48)
**Acquired Immune Deficiency Syndrome (AIDS)**
AIDS is not a single condition; it is a range of conditions that can occur after a person’s immune system becomes damaged by attacks from HIV. Although AIDS is a progression from HIV infection, they are not the same thing. Someone can be infected with HIV, but that does not necessarily mean they have AIDS. However, everyone who has AIDS has been infected with HIV. There are two types of HIV that we currently know about: HIV-1 and HIV-2, as well as numerous subtypes of the virus.

**Antiretroviral therapy (ART)**
Treatment for the HIV virus which can slow down the progress of the illness and delay it from becoming AIDS. Those who have access to ART treatment can live a lot longer than those who don’t, but many people with HIV in developing countries are not often able to get the medicine.

There are five main types of antiretroviral therapy – nucleoside/nucleotide reverse transcriptase inhibitors (NRTIs, also known as nucleoside analogues), non-nucleoside reverse transcriptase inhibitors (NNRTIs), protease inhibitors (PIs), fusion inhibitors, and integrase inhibitors.

**Asymptomatic phase**
During this phase a person who is HIV positive does not show any major symptoms related to HIV infection – the average is 9-10 years but varies considerably from individual to individual.

**Epidemic**
When new cases of a certain disease in a given human population, and during a given period, substantially exceed what is expected based on recent experience.

**Highly active antiretroviral therapy (HAART)**
Sometimes also known as combined antiretroviral therapy (CAR). Aggressive treatment regimens used to suppress HIV viral replication and the progression of HIV disease. The usual HAART regimen combines three or more different drugs. These HAART regimens have proven to reduce the amount of active virus and in some cases can lower the level of active virus until it is undetectable by current blood testing techniques.

**HIV antibody test**
A blood test to detect HIV infection. A person’s HIV antibody status is usually determined by two different blood tests. If the first test (called the ‘ELISA’ test) is ‘positive’, and this is then confirmed by the second test (called the ‘Western Blot’ test), an ‘HIV positive’ result is recorded. The use of the two different tests gives a very reliable result.

**HIV positive**
If a person’s blood test shows that they have been infected with HIV, they are sometimes referred to as ‘HIV positive’.

**Helper cells**
Also called T4-cells or CD4+ cells. These cells are activated to help start the rest of the immune system response. They tell other parts of the immune system (B-cells) to produce antibodies, specifically instructing ‘killer’ cells what to do.

**Human Immunodeficiency Virus (HIV)**
HIV belongs to a group of viruses called retroviruses. Like all viruses, retroviruses can only reproduce within a host cell. Retroviruses do this by copying their genetic blueprint onto the genes of a person’s cells. It has been identified as the cause of AIDS.

**Killer cells**
Also called cytotoxic T lymphocytes or CTLs. These are white blood cells that recognise and destroy abnormal or infected cells.

**Millennium development goals (MDGs)**
A set of goals adopted by world leaders in 2000 which range from halving extreme poverty to halting the spread of HIV and providing universal primary education by 2015. The targets of goal 6 of the MDGs, ‘Combat HIV/AIDS, malaria and other diseases’ include the aim of halting and beginning to reverse the spread of HIV/AIDS by 2015.

**Pandemic**
Like an epidemic, except a pandemic is not confined to a certain region: a disease pandemic can spread very quickly across large areas such as continents.

**Post exposure prophylaxis (PEP)**
A course of drugs started as soon as possible after a possible exposure to HIV infection. It is thought that PEP may reduce the risk of HIV infection occurring after exposure to HIV infection.

**Seroconversion**
When antibodies have been produced and detected, then seroconversion has taken place.

**Suppressor cells**
Also called T8 or CD8+ cells. These cells instruct ‘helper’ cells to stop once the foreign bodies have been destroyed.

**Window period**
This is the time lag between when the immune system produces HIV antibodies, and when these antibodies can be detected by an HIV antibody test.
Websites with further information on the topic

AIDS Action Council  www.aidsaction.org.au
AIDS Council of South Australia  www.acsa.org.au
Australian AIDS Fund Incorporated  www.aids.net.au
Australian Federation of AIDS Organisations  www.afao.org.au
Australasian Society for HIV Medicine  www.ashm.org.au
AVERT  www.avert.org
Department of Health and Ageing  www.health.gov.au
HIV/AIDS Legal Centre Inc (NSW)  www.halc.org.au
National Association of People Living with AIDS  www.napwa.org.au
Positive Life NSW  www.positivelife.org.au
UNAIDS – the Joint United Nations Programme on HIV/AIDS  www.unaids.org
Western Australian AIDS Council  www.waids.com.au
World Health Organisation  www.who.int/hiv/en/
Worlds AIDS Day Australia  www.worldaidsday.org.au

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