

HIV INFECTION AND AIDS 1: THE EVOLVING EPIDEMIOLOGY

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This is the first of a two-part unit on HIV and Aids. This part reviews the global epidemiology of the HIV/Aids pandemic.

INTRODUCTION

Since its recognition as a new communicable disease in the early 1980s, HIV infection and Aids increased rapidly in many regions throughout the world.

In some countries, particularly sub-Saharan Africa, progress made in previous decades in reducing infant mortality, improving maternal and child health and extending life expectancy has been eradicated by national epidemics of HIV infection.

Over the past 25 years, the global number of people estimated to have HIV infection has risen every year (Fig 1) (UNAIDS, 2007). However, some encouraging changes are being seen in the epidemiological direction of this maturing pandemic.

LEARNING OBJECTIVES

1. Describe the changing global epidemiology of the HIV/Aids pandemic.
2. Discuss the current status of the HIV epidemic in the UK.

EPIDEMIOLOGY

In 2007 an estimated 33.2 million people in the world were living with HIV (67% of them in sub-Saharan Africa); men and women were equally affected. Add to this the 25–30 million people who have already died from Aids, and the magnitude of the pandemic becomes startling.

Each day during 2007 more than 6,800 people became infected with HIV, 50% of them under the age of 25. Every day last year, more than 5,700 people died from Aids (Table 1) (UNAIDS, 2007).

Although the percentage of people in the world who are infected with HIV (the global prevalence) has stabilised since 2001, the actual number living with the infection is increasing each year. This is because of the accumulation of new

infections in people with longer survival times in a continuously growing general world population. This has resulted in the annual global increase in the estimated number of people living with HIV (Fig 1) (UNAIDS, 2007).

During 2007 there were reductions in prevalence in some countries. There was also a reduction in both HIV-associated deaths (owing to better availability of and access to antiretroviral treatment) and in the number of annual new HIV infections globally (UNAIDS, 2007).

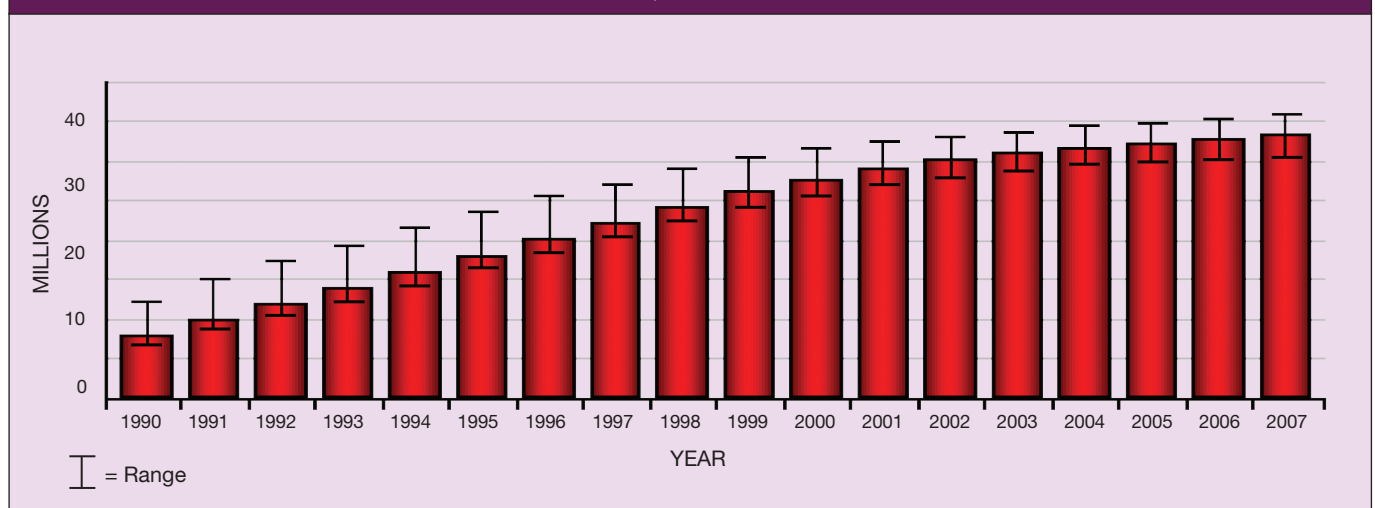
Two patterns

An analysis of epidemiological trends by UNAIDS (2007) has indicated that this maturing global pandemic has developed into two broad patterns.

Generalised epidemics sustained in general populations is the pattern seen in many sub-Saharan African countries, especially in the southern part of the continent, and in some countries that are outside of Africa such as Haiti and Papua New Guinea.

In the rest of the world, epidemics are mainly concentrated among populations most at risk of exposure and infection, for

FIG 1. ESTIMATED NUMBER OF PEOPLE WITH HIV GLOBALLY, 1990–2007



Source: UNAIDS/WHO (2007)



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example men who have sex with men, drug users who inject, sex workers and the sexual partners of these groups.

Regional epidemics

Sub-Saharan Africa, where an estimated 22.5 million adults and children were living with HIV in 2007, is the most severely affected region in the world. Aids remains the leading cause of death there. More than two out of every three people and 90% of children infected with HIV live in this region. More than three in four (76%) of Aids-associated deaths occurred in this area.

Other regions with large numbers of people living with HIV are southern and South-east Asia (4 million), South America (1.6 million), eastern Europe and central Asia (1.6 million) and the US (1.3 million) (UNAIDS, 2007).

China and India together are home to almost one-third of all the people in the world. As relatively new national epidemics continue to expand in these two countries, it is disturbing to contemplate the impact that they will have on the course of the global pandemic.

Europe

The number of adults and children who were living with HIV infection in western and central Europe in 2007 was estimated

to be 760,000 (UNAIDS, 2007). The countries with the largest number of cases are the UK, France, Italy and Spain (UNAIDS, 2008).

UK incidence

In the UK, the annual number of newly diagnosed HIV infections has more than doubled from 4,154 in 2001 to 8,925 in 2006. The UK has one of the highest rates of new HIV diagnoses in western and central Europe (149 per one million population in 2006), exceeded only by Portugal's 205 per one million population (UNAIDS 2008; EuroHIV, 2007). An estimated 73,000 people were living with HIV in the UK in 2006 (121 people per 100,000 population) (Health Protection Agency, 2007).

Although London continues to be the centre, accounting for 41% of new HIV diagnoses in 2006, significant increases in diagnoses have occurred in the East Midlands, Northern Ireland and Wales (HPA, 2007).

CONCLUSION

HIV infection is present all over the world and the long-term consequences of this pandemic will affect every country one way or another over time.

This is an evolving pandemic. It is likely to be with us for generations to come, threatening global public health and healthcare provision, as well as political and economic stability.

Although maturing and stabilising in the UK and in other western countries, HIV infection continues to expand in other regions, notably Asia, Africa and eastern Europe.

KEY REFERENCES

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● **The full reference list for this unit is available in Portfolio Pages at nursingtimes.net**

The impact of this expansion on individuals, communities, health services and nations will be severe and is yet to be fully realised. ■

● *Part 2, to be published in next week's issue, examines trends in viral transmission in different parts of the world, and concepts in diagnosis and antiretroviral treatment.*

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TABLE 1. GLOBAL SUMMARY OF THE AIDS EPIDEMIC, DECEMBER 2007

Number of people living with HIV in 2007	Total	33.2 million (30.6–36.1 million)
	Adults	30.8 million (28.2–33.6 million)
	Women	15.4 million (13.9–16.6 million)
	Children under 15 years	2.1 million (1.9–2.4 million)
People newly infected with HIV in 2007	Total	2.5 million (1.8–4.1 million)
	Adults	2.1 million (1.4–3.6 million)
	Children under 15 years	420,000 (350,000–540,000)
Aids deaths in 2007	Total	2.1 million (1.9–2.4 million)
	Adults	1.7 million (1.6–2.1 million)
	Children under 15 years	290,000 (270,000–320,000)

Source: UNAIDS/WHO (2007)