Environmental degradation is not the only non-governmental GAP process impacting on national, regional and international security in the post-Cold War era. Another extremely prominent issue is the spread of disease. The bubonic plague that swept across Europe during the Middle Ages, the smallpox that was carried to the Americas by the Spanish, the influenza outbreak of 1918, which killed 21 million people in a matter of months alone, and the AIDS epidemic that wreaks so much havoc today all bear witness to the enormous damage that infectious diseases can have on a vulnerable society. Through international travel, changing social and behavioural patterns, accelerating urbanisation and ecological destruction, people are inadvertently exposing themselves to a Pandora’s box of emerging microbial threats. More ominously, the growing spectre of biological terrorism highlights the appalling potential of disease organisms being manipulated by political extremists for their own vile ends.¹

Human beings constitute only one species on this planet that must compete with 5000 kinds of viruses and more than 300 000 species of bacteria. Moreover, in the twenty or so years it takes humans to produce one new generation, bacteria can replicate themselves a million times over. These disparities clearly work to the advantage of pathogens, enabling ever more virulent strains to evolve that quickly outstrip human responses to them.² In Lewis Carroll’s *Through the Looking Glass*, the Red Queen tells Alice that she will need to run faster and faster just to sit in the same place.³ As this chapter aims to show, preventing the spread of illness and disease has the potential to be every bit as elusive.
The main diseases

AIDS and HIV

This is one of the most deadly diseases of our time. HIV is a retrovirus, which attacks the white T cells that make up a key part of the human body’s immune response system. Full-blown AIDS occurs when the body is weakened to such an extent by the HIV virus that it can no longer fight off micro-organisms that it would normally be able to resist. The incubation period for HIV can last for as long as ten years. However, once diagnosis is confirmed, death normally results within one year, although the time frame can be much shorter than this.

The early symptoms of HIV disease typically include chronic fatigue or weakness, severe and sustained weight loss, extensive and persistent swelling of the lymph glands, diarrhoea and severe deterioration of the central nervous system. Fully developed AIDS is characterised by the onset of viral, bacterial, fungal or parasitic secondary infections caused by pathogens that the immune system can no longer control. Death is caused not so much from the HIV virus itself as the overall debilitation it causes.

HIV is present in virtually all countries of the world, existing in epidemic proportions in many of them. It has been estimated that, today, more than 33 million people across the planet carry the virus, half of whom are under 25 years of age. In 1997, another 5.8 million people were diagnosed as being HIV positive, while a further 2.3 million died of full-blown AIDS. Present projections are that if an effective vaccine is not developed, an estimated 40 million teenagers and adolescents will have contracted HIV by 2030.

Tuberculosis

Tuberculosis (TB) affects many organs in the body but usually manifests itself as a disease of the lungs (Fig. 5.1). It is a contagious disease and, like the common cold, is transmitted through the air. The incubation period varies but is usually between four and twelve weeks. It is acquired by inhaling *Mycobacterium tuberculosis* bacilli, which are generally suspended in the respiratory droplets of infected people. Symptoms of the disease include fever, weight loss and persistent coughing, often with blood. TB is one of the main opportunistic diseases that affects people infected with HIV. One-third of the increase in disease over the last five years can be attributed to this virus; by the turn of the century, an estimated 15 per cent of all TB cases will be linked to HIV.